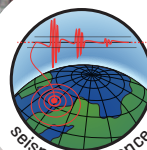


MASTER CATALOGUE | 2023

# MERKUR<sup>2</sup>

The most widespread  
cable duct system  
in the Czech Republic



**ARKYS**

pathways for energy





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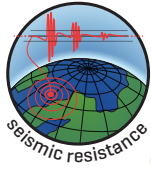


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# MERKUR<sup>2</sup>

**flexible**  
**robust**  
**resistant**  
**economic**





# Some introductory words

## MERKUR 2 cable carrier system

The MERKUR 2 carrying system for cable routes is intended for cable routes of high-current, lighting and motor distributions, low-current distributions, measurement and regulation distributions, and distributions of other media.

Almost immediately after its launch on the market in 2010, the MERKUR 2 system became a favourite choice of experienced professionals who, in addition to the quality of processing, especially appreciate its flexibility and functionality in a wide range of conditions for which it is intended.



The optimized design of the cable ducts of the MERKUR 2 system repeatedly proves its properties in load tests, fire resistance tests and finds application in the highly monitored environment of transport constructions, nuclear power plant operations, aggressive chemical industry environments, super clean operations in the food industry and electronics production.

The popularity of the MERKUR 2 system makes it the most widely used carrier system for cable routes on the Czech market and thus puts ARKYS in the position of the largest Czech manufacturer of cable carrier systems.

## What can you find in this catalogue?

In this publication, you will find a complete overview of all the elements of the MERKUR 2 system, their description and determination, examples of the use of elements and the possibilities of cable routes of the system. An integral part of the catalogue also includes instructions for preparing the route, information for dimensioning and load control of the cable route, including information for the effective/economical selection of the appropriate surface treatment of the system elements.

# Why choose the MERKUR 2 system



▲ Cable routes for lighting distribution, which also carry light fittings.

## Efficient and economical

### Fast and easy installation

The low weight of the MERKUR 2 ducts, including their optimal production length, the great variability and flexibility of the system, the easy and quick realization of the shape elements of the route as needed directly at the installation site, these are the main characteristics of the MERKUR 2 system, which make its installation very efficient. With the MERKUR 2 system, cable routes with complicated shapes can be resolved with minimal financial costs for shaped elements and with common tools.

### Simple logistics

The MERKUR 2 system does not need shape elements (elbows, T-pieces, crosses, reduction parts, vertical elbows, etc.). These parts are formed directly at the

installation site from standard duct components which are shaped as needed using simple connecting components. Thanks to this, it is easy to handle even unexpected situations on the spot. The duct components are used to create any necessary fittings and to adjust duct routing based on the current situation.

### Easy cable branching

Simplicity and security is one of the basic features of MERKUR 2 ducts. It is possible to exit the ducts at any point, without drilling and without the use of special tools and cable glands.

### Minimum maintenance requirements

The open design of the MERKUR 2 ducts eliminates the accumulation of powdery substances, which results in less demand for regular maintenance. Therefore, this type of ducts is popular in operations with increased requirements for cleanliness [e.g. food industry].



✓ The large capacity of the ducts is an advantage in data network distributions.



installation and contributes to the safety and comfort of handling.

### **Solutions for every situation**

The MERKUR 2 system has solutions for all standard types of mounting (wall, spatial routing, riser mounting, etc.). The system is very flexible for non-standard mounting types and for special route design requirements.

## **Robust and durable**

### **Corrosion resistance**

The MERKUR 2 system is produced in several versions of anti-corrosion protection. The basic version is galvanized, suitable for normal use in the interior, in which most of the production is made. On the other side of the range of options is the AISI 316L stainless steel design, suitable for very aggressive environments and for high requirements for cleanliness and durability. More on the topic of corrosion protection and design options can be found on the following pages.

### **Fire resistance**

The MERKUR 2 system has long been widely used in the implementation of routes with a requirement for functionality in case of fire. The wire construction of the MERKUR 2 ducts shows itself positively in tests of functional integrity in case of fire, and based on the many tests carried out, the system has certifications for a wide range of assembly types. More on the topic of fire-resistant routes can be found in our special publication "Fire-Resistant Routes Within the MERKUR 2 System", which is available for download on our website, or you can obtain a printed version on request from our sales and technical managers.

## **High-quality and well thought-out**

### **High load capacity**

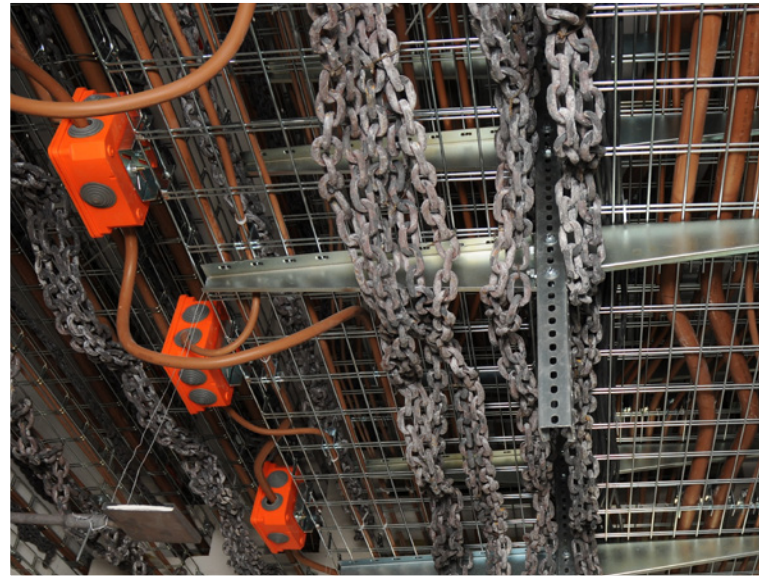
By using a patented design solution with double cross members and an optimized layout of the support wires of the MERKUR 2 ducts, an increase in load capacity was achieved not only compared to the previous generation of MERKUR 1 ducts.

### **High current carrying capacity**

The open design of the ducts allows good air access to the cabling, resulting in better cooling of the cables compared to closed all-sheet-metal ducts.

### **Gentle on more than just cables**

The overall round design of the edges of the ducts eliminates the risk of damage to the cables during their



## Resistance, resistance, resistance... against fire, earthquake...

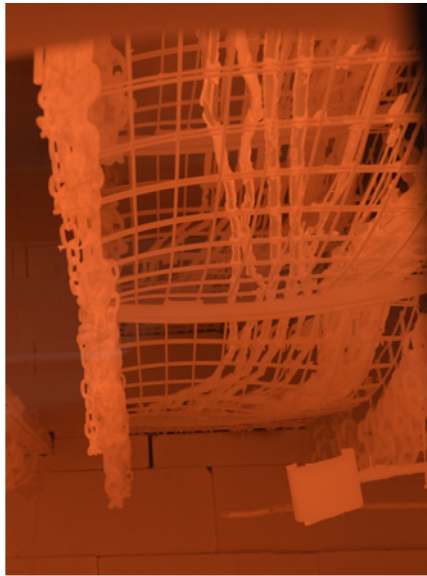
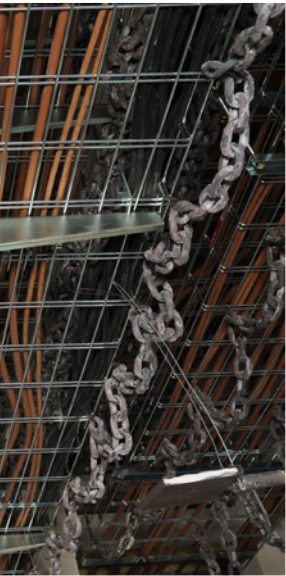
The ability of buildings to withstand extreme situations and thereby protect people and equipment from danger is one of the basic requirements of the construction industry today. For these borderline situations, buildings are equipped with a number of subsystems serving for early warning and facilitating safe evacuation. These are, for example, automatic fire extinguishing systems, emergency ventilation, evacuation and fire elevators, but also evacuation radio, emergency and anti-panic lighting, electric fire alarm and others. All these devices need an electrical power supply for their function and often also a communication link with other elements of security systems. Therefore, it is imperative that even in such situations the functionality of these electrical distributions is maintained for as long as possible.

### Fire resistance

The MERKUR 2 system repeatedly proves its qualities in fire resistance tests. More than fifteen years of testing and application experience in the realization of routes with a fire resistance requirement translates into a comprehensive set of solutions for fire resistant routes, covering all common installation requirements and providing a functional and efficient fire resistant route solution.

The MERKUR 2 system was tested with a large number of types of fire-resistant cables from various cable companies within the Czech and Slovak markets. When using these types of cables, the so-called non-standard cable route of the MERKUR 2 system is functionally equivalent and, at the same time, a more economically advantageous solution compared to a route in a standard design.





◀ A view of the tested cable routes in the test chamber before and during the fire resistance test.



### Seismic resistance

The MERKUR 2 system has passed also seismic suitability tests per ČSN standards for use in the Czech nuclear power plant buildings of Temelín and Dukovany. Based on these tests, MERKUR 2 system is approved for wire mesh cable tray installations with seismic functionality requirements. Successful completion of tests of this type testifies to the exceptional durability and functionality of the MERKUR 2 system, which can be used in a number of other applications.



### FIRE RESISTANT ROUTES WITHIN THE MERKUR 2 SYSTEM

The current catalogue "Fire-Resistant Routes..." can be downloaded from our website, or request it in a printed version from our sales-technical managers.



▶ The MERKUR 2 system was approved for the seismically resistant cable routes of the Temelín and Dukovany nuclear power plants.

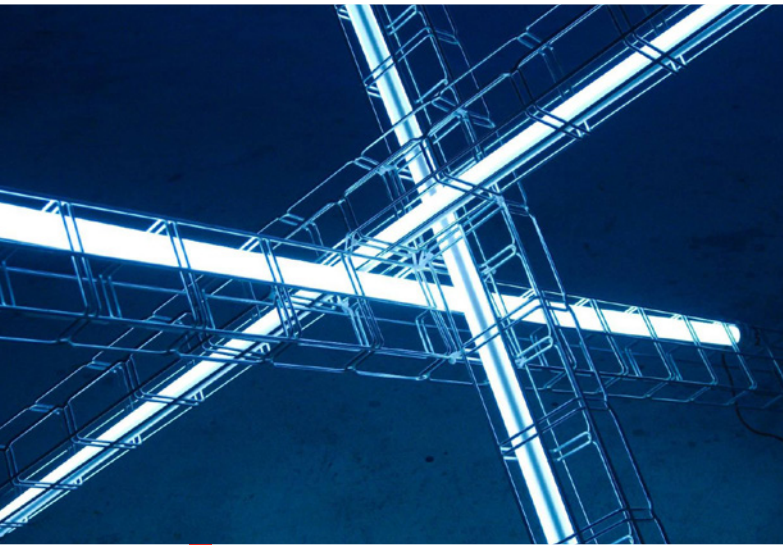


# A wide variety of applications and possibilities of using the MERKUR 2 system

The MERKUR 2 cable support system has been proven today by more than ten years of experience in the most diverse situations, starting with the most common installations, such as standard distributions in industrial buildings, technological units, production sections and the like, where it forms the support of high-current distributions. The MERKUR 2 system is also successfully

used in the implementation of transport structures such as tunnels, parking garages and other linear structures. It is used for distribution of data networks of office complexes, equipment of server rooms, and other networks of a weak current nature. Due to its lightness and robustness, it is used in the implementation of self-supporting lighting systems in industrial halls, or in the construction of photovoltaic farms.

The design qualities of the MERKUR 2 system wire ducts and also the optical lightness of the route with the use of wide possibilities of its shaping are significantly applied in visually recognized installations. In these cases, it forms part of standard electrical distributions, but it is also used in other atypical installations.



Art installations during a theatrical performance.



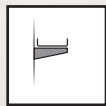
PV charging stations.



Technological background of the engine room.



# An overview of the basic mounting options within the MERKUR 2 system



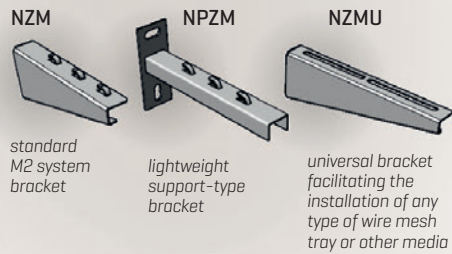
## Standard wall mounting

### Applications

for horizontal cable duct installations with one or more floors. The number of floors is not limited. Each floor of such a duct is anchored separately and can therefore be considered as a separate duct.

### Installation

the following types of beams can be used for the duct:



standard M2 system bracket  
lightweight support-type bracket  
universal bracket facilitating the installation of any type of wire mesh tray or other media



## Combined wall mounting

### Applications

for horizontal cable routes installations over several floors, or routes in situations where there is reduced load-bearing capacity of the masonry into which the wire mesh tray is anchored. The grouping of wall-mounted wire mesh trays to the supporting element of the stand is effective in terms of multi-storey installations and ensures better anchoring, especially for ducts with larger widths.

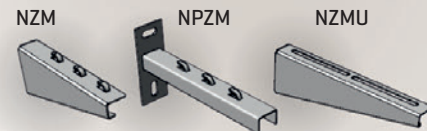
### Installation

the following strut channels can be used for the duct:



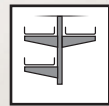
low-profile rail strut  
free-standing rail strut

the following types of beams can be used for the duct:



NZM  
NPZM  
NZMU

wall mounting



## Suspended spatial mounting

### Applications

for horizontal cable route installations with one or more floors leading through the space and where greater cable route load-bearing capacity is required.

### Installation

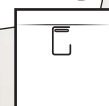
the wire mesh tray is installed on an STPM free-standing rail strut fixed to the ceiling using DZM, STP, or DZM STPU holders.



STPM  
DZM STP  
DZM STPU  
NZM  
NPZM  
NZMU

spatial mounting

## attached mounting



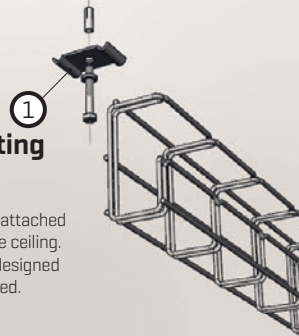
## Ceiling surface-mount mounting

### Applications

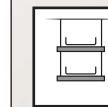
for simplified horizontal cable route installations attached directly to the ceiling structure or anchored to the ceiling. A special construction of M2-G wire mesh trays designed specifically for this type of route installation is used.

### Installation

the wire mesh tray is installed directly using DZM 12 holders



1



## Suspended mounting

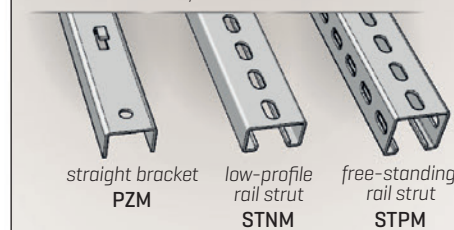
### Applications

for horizontal cable duct installations with one or more floors through a space. Suitable for ducts with standard load capacity requirements.

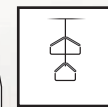
### Installation

the route is installed on threaded rods anchored to the ceiling structure using dowels or the holders supplied with the system.

the following types of load-bearing elements can be used for the wire mesh trays:



straight bracket PZM  
low-profile rail strut STNM  
free-standing rail strut STPM



## Suspended mounting

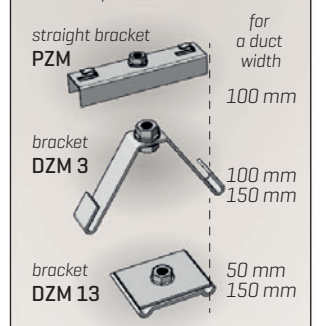
### Applications

for simplified horizontal cable route installations with one or more floors through a space.

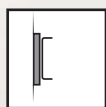
### Installation

the route is installed on threaded rods anchored to the ceiling structure using dowels or the holders supplied with the system.

the following types of load-bearing elements can be used for the wire mesh trays:



straight bracket PZM for a duct width 100 mm  
bracket DZM 3 100 mm 150 mm  
bracket DZM 13 50 mm 150 mm



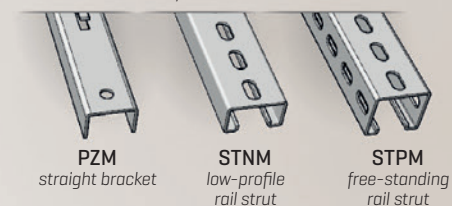
## Flat mounting

### Applications

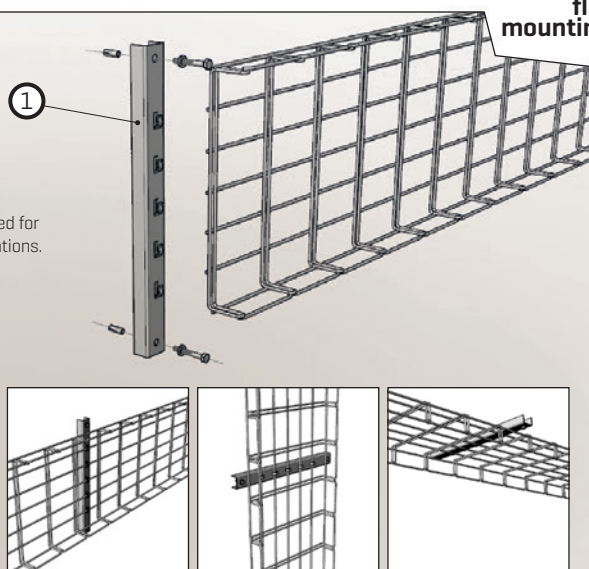
for vertical cable route risers. At the same time, it can also be used for flat wall or ceiling surface-mounted wire mesh cable tray installations.

### Installation

the following types of load-bearing elements can be used for the wire mesh trays:



PZM straight bracket  
STNM low-profile rail strut  
STPM free-standing rail strut



1

flat mounting



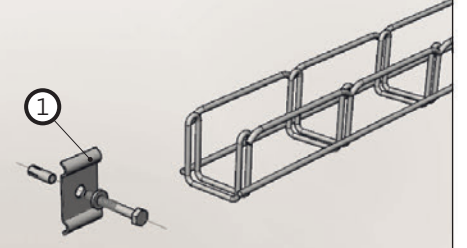
## LIGHT wall mounting

### Applications

for simplified wall cable route installations attached directly to the wall. This mounting is suitable for wire mesh trays 50 and 100 mm wide.

### Installation

the wire mesh tray is installed directly using DZM 12 holders



1

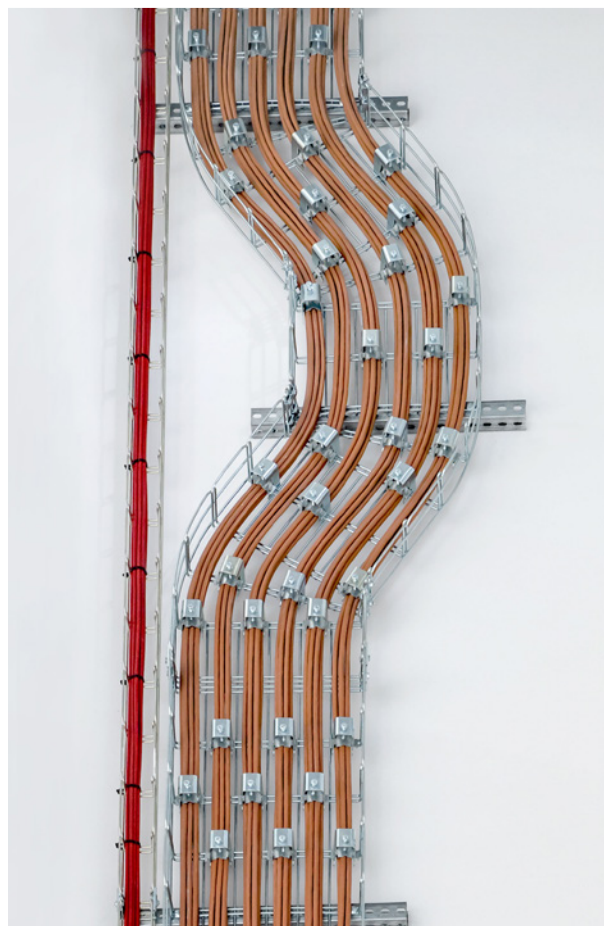




Logistic storage halls.



Underground parking spaces.



Riser route with functional integrity.

## Certifications and warranties for quality and workmanship

The MERKUR 2 system has a number of certifications and tests, starting with load-bearing and durability tests (you will learn more in the section on dimensioning and load control of the cable route), electrical continuity tests, which are important from the point of view of overall electrical compatibility with other parts of the building. Additionally, there are finish durability testing certificates (see the Environmental Resistance section for more details) that relate to warranties on the functionality and finish of system components. The MERKUR 2 system also has a number of other certifications and test reports that have been carried out for a variety of special purposes.

This entire set is available to all users of the MERKUR 2 system. For specific construction actions, we issue certificates of consent to the use of these documents on request so that system users can use these certifications on their specific installations.



### CERTIFICATES AND TEST PROTOCOLS

All current certificates and test protocols for the MERKUR 2 system can be found on our website.



## The extraordinary flexibility of the system when shaping the route

Wire cable ducts provide unsurpassed freedom in the possible shapes and designs of shape elements of routes such as elbows, T-pieces, crossings, spatial passing of obstacles and the like.

### Shaping is easy

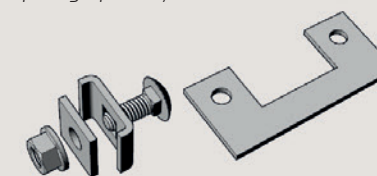
Shaping MERKUR 2 wire mesh cable ducts is very simple. SZM 4 fittings and TPM strips [and even the SZM 4 fitting set can be replaced with TPM shaping tapes] are all that are required to create a cable route in practically any shape. Bolt cutters are the only less common tool required [MERKUR lever-action cutters with side blades suitable for separating wire mesh trays at the cross welds are delivered with the system]. **For the creation of the shape elements of the routes of the MERKUR 2 system, a clear manual is available that captures the design of the basic shape elements.** For each duct size, the manual shows the design of the rectangular elbow, variants for different radii of successive elbows [rectangular elbow with a larger radius], T-joints. The manual also describes the design of cable routes crossings, connections and spatial passing of obstacles. The manual covers all standard situations, but as mentioned, there are no limits to your imagination and it is possible to create practically any shape from ordinary MERKUR 2 wire mesh trays.

Wire cable ducts provide unsurpassed freedom in the possible shapes and designs of shape elements of routes such as elbows, T-pieces, crossings, spatial passing of obstacles and the like. The main advantage, however, is flexibility. You can create any shape element right on the spot, at the moment you need it and precisely tailored to the given situation.

## You won't need anything else to shape...

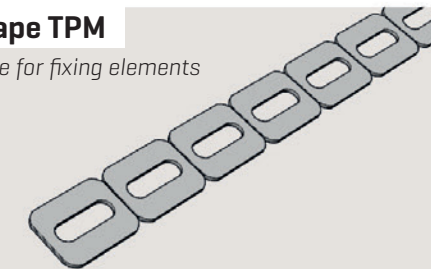
### Shape fitting SZM 4

Basic shape fitting of the system



### Shaping tape TPM

Universal tape for fixing elements



### Divider clamp SPM

Bolt and nut set

coach bolt M6x16

collar nut M6



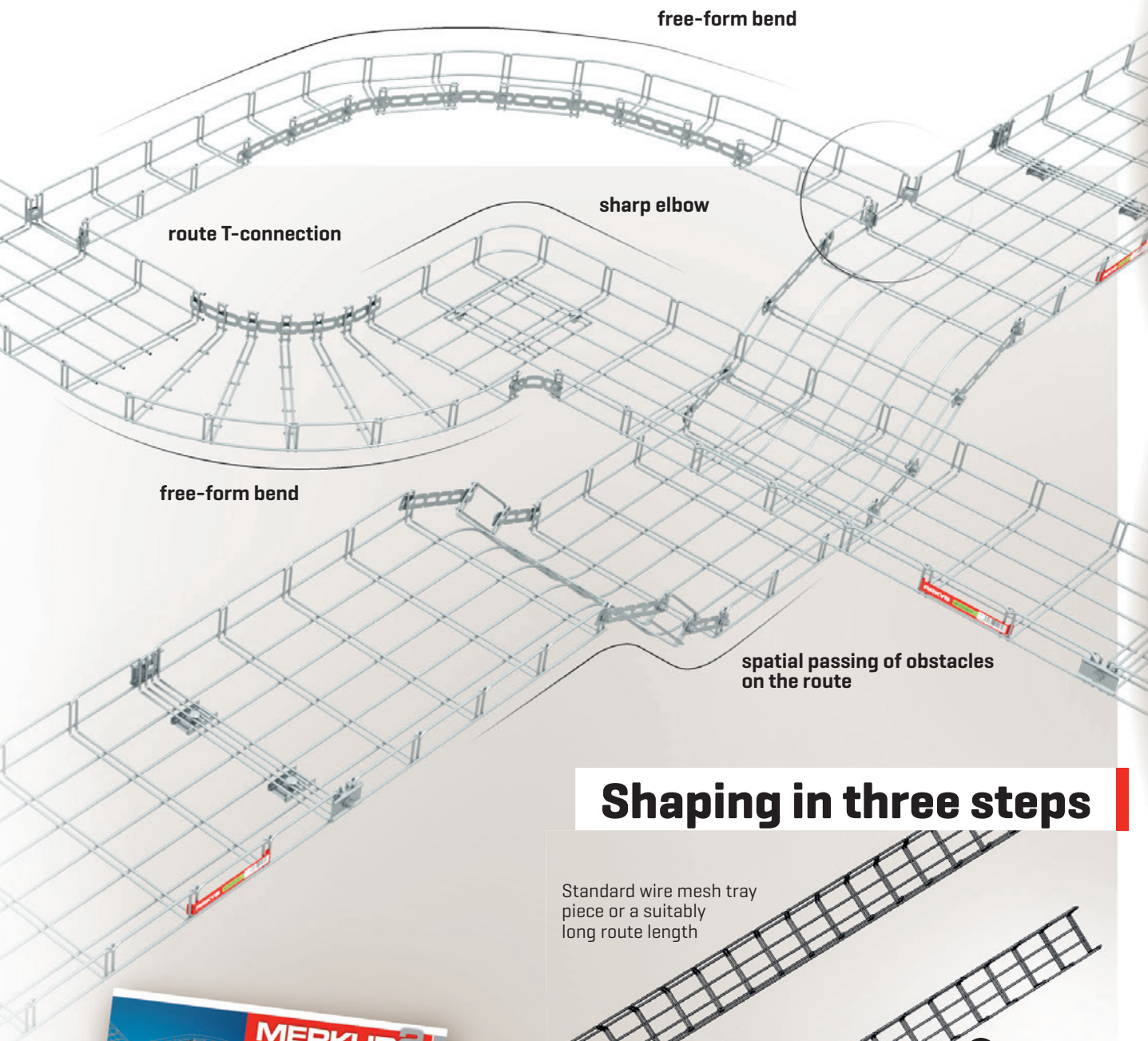
### Bolt cutters

Lever-action cutters with side blade



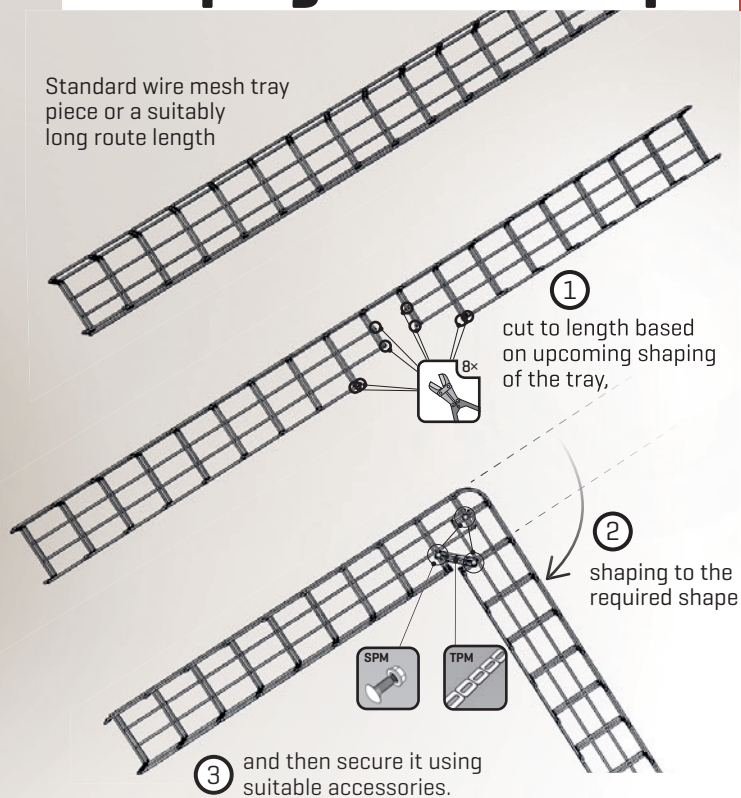
[suitable cutters are available in the accessories of the MERKUR 2 system]





## Shaping in three steps

Standard wire mesh tray piece or a suitably long route length



### MANUAL FOR THE IMPLEMENTATION OF SHAPED ROUTE ELEMENTS

It is available for download on our website. You can get it in printed pocket format from our sales and technical managers.



# Some information about the patented design of the MERKUR 2 system ducts

MERKUR 2 cable ducts are structurally exceptional and at the same time technically unmistakable thanks to:

- A double cross member, which in the overall structure increases the rigidity and strength of the duct not only during the operation of the already completed cable route, but also during logistics and installation. The double cross member also improves the distribution of the weight of the installed cabling into the duct structure.
- The shaped top edge, which again in combination with the double cross member contributes to increasing the rigidity and strength of the duct, especially thanks to its shaping and the two-point weld connection to each double cross member of the duct.

**The combination of these design elements contributes to the protection of people who handle MERKUR 2 ducts not only on the construction site, but also in warehouses and during the actual installation of cabling in the ducts. The overall round design of the cable duct ensures safe cabling without damaging the insulation.**

These properties are especially applied in extreme situations, which can be fires, earthquakes, large-scale accidents and similar events with fatal consequences. In all these situations, the cable ducts of the MERKUR 2 system provide a firm and stable support for the cable distributions and enable their reliable functionality.

## Unique double cross member

The double design of the cross member ensures the overall robustness of the duct construction and significantly contributes to the high load-bearing capacity of the ducts. This element also contributes to excellent properties in extreme situations such as fire. At the same time, this design of the cross member allows the duct segments to be firmly connected by all fittings of the MERKUR 2 system.

## Shaped upper edge of the duct

The generally round design of wire mesh tray edges eliminates the risk of damage to the cables during their installation and at the same time contributes to convenience and safety during all phases of the wire mesh cable tray installation.

## Stringers

They ensure the transmission of forces along the duct and thus contribute to their load-bearing capacity. The number and diameter of the stringers defines the longitudinal load bearing capacity of the ducts and enables the support points to reach a span of up to 2.0 m for the standard M2 type.

# Portfolio of MERKUR 2 system ducts

The portfolio of MERKUR 2 cable ducts includes the basic type of M2 and M2-G ducts.

## MERKUR 2 cable duct, type M2

The standard design of MERKUR 2 cable ducts has long been the best-selling wire duct in the Czech Republic. Thanks to its unmistakable and proven construction, which mainly features a double cross member in conjunction with a shaped top edge, it has become very popular with electrical installation companies and has become a sought-after product for both normal and functional routes.

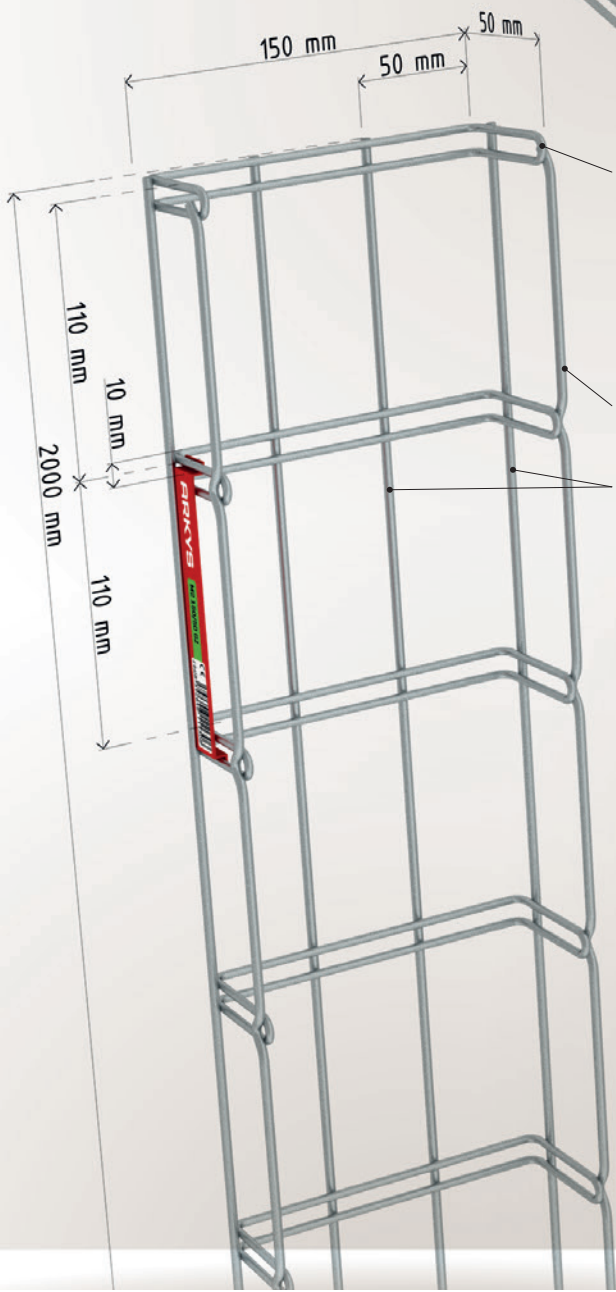
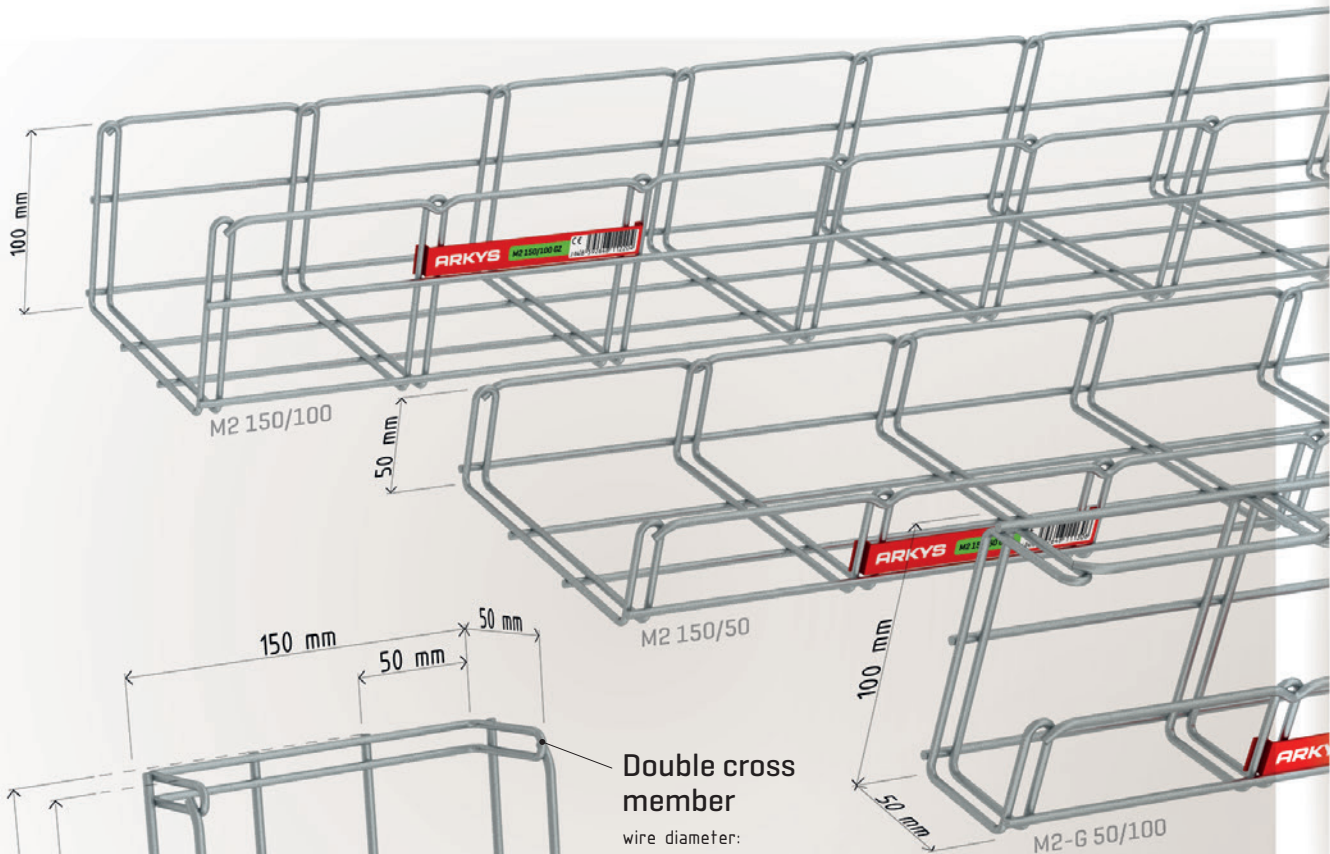
## MERKUR 2 cable duct, type M2-G

This type of "G" shaped duct is an interesting and effective design solution for simplified ceiling installations of

cable routes. Only the standard DZM 12 holder is needed to install the cable route in the suspended ceiling. Thanks to the "G" profile of the duct construction, the cabling can be conveniently, freely and safely inserted into the finished route without the need to stretch it, for example, between threaded rods. This further simplifies the installation of the cable route of this design.

All versions of the MERKUR 2 system ducts use a common system of accessory elements. This means that they are fully combinable and can be installed next to each other in the same cable distribution system, or can form connected parts of the same route.





**Double cross member**

wire diameter:  
 ø3,5 mm - M2 50-200/50  
 M2 100/100  
 M2-G 50-100/100  
 ø4,0 mm - M2 250-500/50  
 M2 150-500/100

**Top edge**

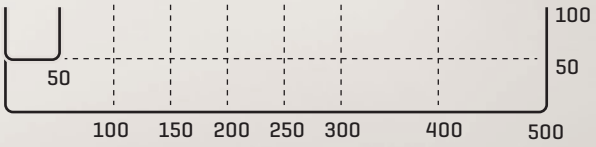
wire diameter: ø4,0 mm

**Stringer**

wire diameter: ø4,0 mm

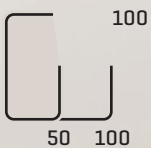
**MERKUR M2 cable duct**

Basic dimensional offer



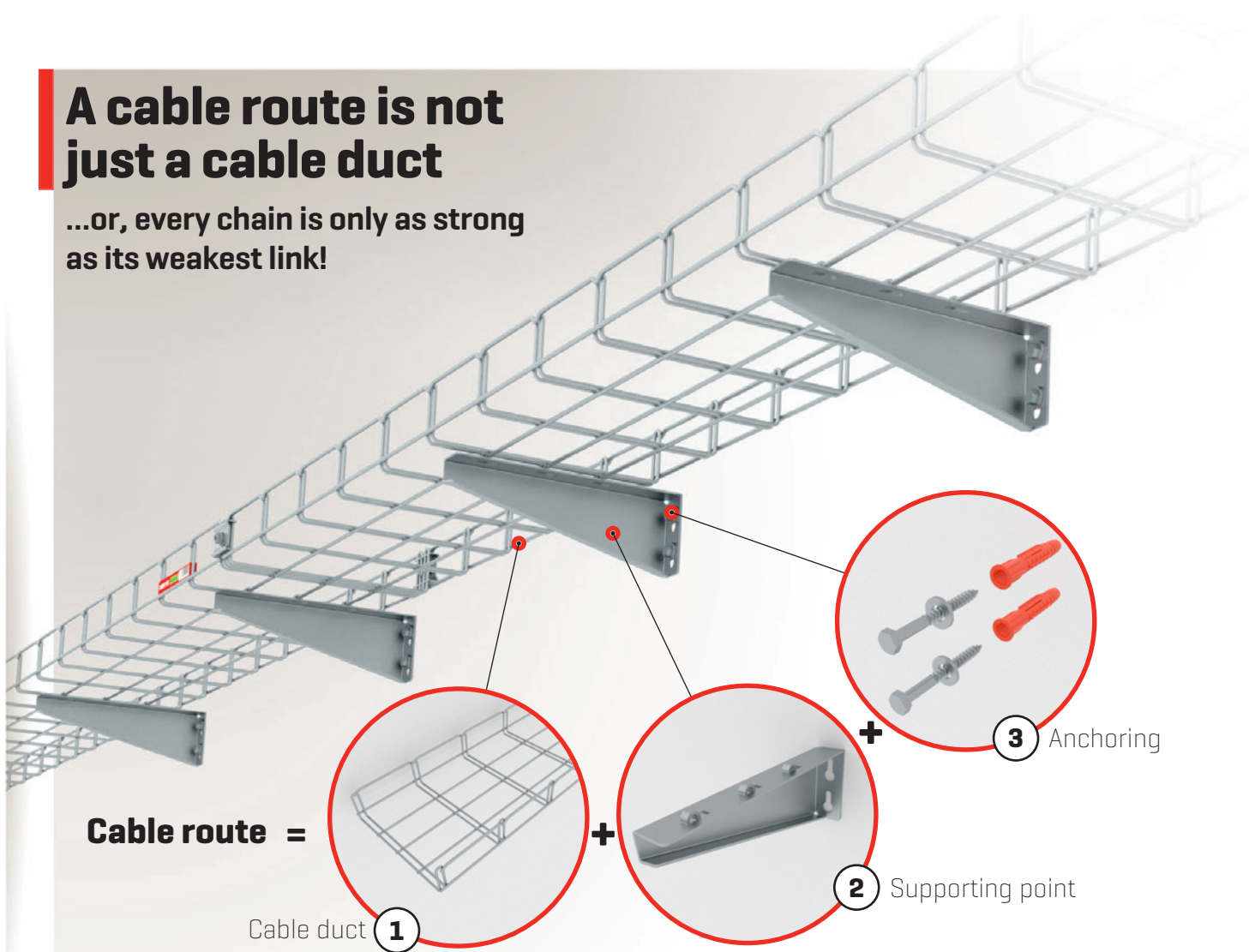
**MERKUR M2-G cable duct**

Basic dimensional offer



# A cable route is not just a cable duct

...or, every chain is only as strong as its weakest link!



**Cable route =**

Cable duct

1

+

2

Supporting point

+

3

Anchoring

This rule also applies to the cable route as a whole, not only in terms of load, which is the main topic of this section, but also, for example, from the point of view of resistance to environmental influences or fire resistance. Here everywhere applies the rule that the weakest part of the route determines the resistance of the whole, and therefore it is necessary to look at the individual elements of the installation in this way. But for the moment let's focus mainly on the carrying capacity of the cable route. In terms of carrying capacity, we can divide the route into three main functional parts. These are cable ducts, support points and support point anchorages.

## 1 Cable duct

One of the important elements of the load capacity of the entire functional assembly of the cable route is the load capacity of the cable duct, or load capacity of the duct assembly consisting of cable ducts and fittings. This is conditional on the correct execution of the connections, the correct placement of the ducts

in the support points and the appropriate placement and distribution of the useful load of the cabling. The following pages of this catalogue deal with the methods of testing the load-bearing capacity of ducts, as well as the mounting options that affect the load-bearing capacity of the ducts. At this point, it is particularly important to refer to pages 22–25, where the recommended load values and maximum permissible loads of the MERKUR 2 cable ducts are given.

The installation of shaped elements affects the load capacity of the cable route. In these cases, it is recommended to install support points as close as possible to the beginning and end of the shape element, which will reduce pressure on the shape element.

## 2 Supporting point

The term supporting point of the cable route covers the structure on which the cable ducts are placed and which



is fixed to the structure. It is most often a simple element (beam, holder, etc.), but there can also be situations where it is a larger assembly of elements. For example, the supporting assembly of a suspended spatial mounting, which can also be formed from a larger number of components. All these sub-parts actually form another small chain, and the load capacity of the entire support point assembly is defined by the load capacity of the elements used. **It is always necessary to take into account the load capacity of all the individual elements that make up the support point of the route and check whether the load has not been exceeded in their case.** The bearing capacity values of the support point elements are listed in this catalogue for each element in the System Elements Overview section.

Generally speaking, the entire MERKUR 2 system is designed in such a way that its robustness prevents strength problems.

### 3 Anchoring

For the load-bearing capacity of the cable route, it is important to have a well-designed and implemented anchorage and to choose a suitable type of anchorage of the load-bearing elements in the structure of the building for the relevant installation. It is also important to think about the load-bearing capacity of the building structures on which the cable route is anchored. This is, for example, the problem of load-bearing capacity and quality of masonry in relation to the type of anchorage used. The field of anchoring is fully within the competence of specialists in anchoring technology. As part of the MERKUR 2 system, we offer suitable basic anchoring elements – however, the choice and application is up to the user.

In order to make it as easy as possible not only to choose the sizes of cable ducts and to measure the distances of the support points - we have prepared two useful electronic assistants for you.

### Mobile application MERKUR 2

The main advantage of the application is that it very simply and quickly offers the correct size of the duct, calculates the distance of the support points, helps in the implementation of shape elements and adds other useful information for the correct and efficient implementation of the cable route. All this is at your fingertips any time and instantly on your mobile device.

### MERKUR 2 cable route configurator

The configurator will help you design a complete and possibly extensive route, which means that the type and

number of cables specified for you will determine the appropriate size of the duct, suggest the possible division into multiple duct profiles and guide you through the possible types of mounting. Finally, it creates a material inventory for the configured route and at the same time offers to send it for pricing. The Configurator interface works in the Internet environment [HTML].

## Our assistants will answer questions related to dimensioning and load control



### A Mobile application MERKUR 2

- will offer the appropriate size of the duct depending on the weight and volume of the cabling
- will determine the distance of the supports
- calculates the use of the cross-section of the duct
- a pocket manual for quick shaping



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### The MERKUR 2 cable duct configurator

- a guide for building the entire route according to your wishes
- offers suitable combinations of elements and assembly types
- creates a list of materials to be priced





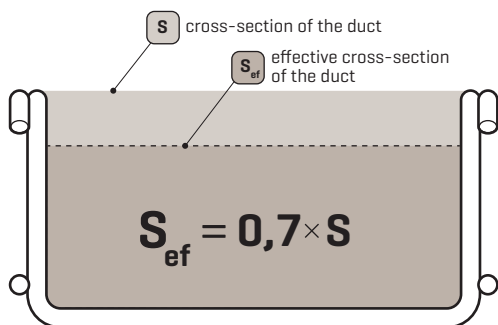
the configurator can be found at: <https://www.merkur2.cz>

# How to determine the appropriate size of cable ducts in a cable route

Two values are important to determine the appropriate duct size. The usable cross-section of the duct and further the amount of cabling that needs to be stored in the duct, represented by the value of the total cross-section of the cables.

## Effective cross-section of the duct ( $S_{ef}$ )

The effective cross-section of the duct is a value that determines how large the total cross-section of the cables can be stored in the given duct while maintaining a safety margin. The safety reserve addresses, for example, increased requirements for the cross-section of the duct in the places of route bends, worse use of the cross-section of the duct when a higher number of cables are placed in one route, or additional requirements for the placement of cables in the route, and other similar requirements.

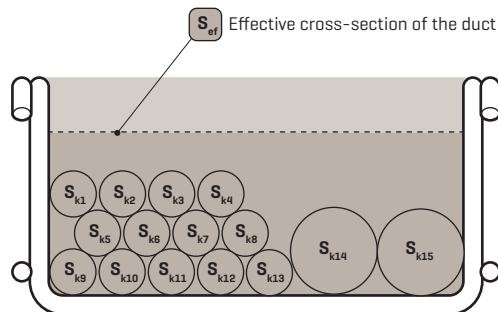


For each MERKUR 2 duct, the value of its effective cross-section is given, which can be used when dimensioning the cable route with regard to the expected number of cables it is supposed to carry.

## The total required cross-section of the duct

It is the sum of the nominal cross-sections of all cables ( $S_k$ ) that will be placed in the route. To determine the cross-sections of individual ducts, you can use orientation tables with the cross-sections of the most frequently used cables [p. 21]. The table is informative, if you need exact values to calculate the route, it is best to obtain them directly from the manufacturer of the specific cabling.

Compare the thus obtained value of the required cross-section of the  $S_{celk}$  duct with the values of the effective cross-sections of the  $S_{ef}$  ducts and choose



$$S_{celk} = S_{k1} + S_{k2} + S_{k3} + \dots$$

$$S_{celk} \leq S_{ef}$$

the sum of the cross-sections of the cables in the duct must be smaller than the effective cross-section of the duct used

a suitable duct whose usable cross-section is equal to or greater than the value of the required cross-section of the ducts.

At the same time, the function of the route must be taken into account, and from the point of view of cooling the cables, larger ducts with less filling of the cross-section should be chosen for their storage. From the point of view of cooling thermally stressed routes, it is also more advantageous to store cables in fewer layers.



## MERKUR 2 app

- will offer the appropriate size of the duct depending on the weight and volume of the cabling
- will determine the distance of the supports
- a pocket manual for quick shaping





# Keep the load on the cable route under control

The total load of the cable route is always the sum of the weights of the cables stored in the route and the weight of all the accessories of the cable route and other elements suspended on the cable duct. In the total load of the route, it is necessary to include, for example, cable partitions and cable route covers, distribution boxes, suspended light fixtures and the like. However, in normal cases, cabling is the vast majority of the load and can only be limited to it.

To calculate the cable load, it is possible to use indicative weight values of individual types and sizes of cables - you can find a basic selection on p. 21, or request exact values from the manufacturer of the given cabling.

The calculated value of the duct load needs to be compared with the maximum values according to the certification of the selected duct dimension. In the event that the load capacity requirement of the route is higher than the allowable load value for the selected channel size, the solution may be to use a larger duct that achieves a higher load capacity [but whose cross-section will not be fully utilized]. From the load capacity tables, it is also possible to use versions of the duct with a higher side wall, which achieve higher load capacity values.

When checking the load on the cable route, it is also necessary to take into account the specific type of installation. In the case of attaching the duct to the DZM 3, DZM 4 and DZM 6 holders, it is necessary to take into account that it is not a standard installation on the support points, but rather a suspension of the duct to the wire of the top edge. In these cases, it is necessary to reduce the load capacity limits by a safety factor of 0.8.

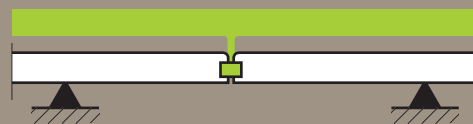
## The influence of the position of the fitting on the carrying capacity of the cable route

The load capacity of the cable route is significantly influenced by the location of the connection of the ducts relative to the support points of the route. The testing results show that the highest load-bearing capacity values are usually achieved in cases where the joint of the individual cable route ducts is located at a distance of 1/5 of the span of the support points. Due to the practical experience of installing real cable routes, it can be seen that the ideal position of the joint in 1/5 span is not easy to ensure and the installation would require often inefficient shortening of the ducts. Therefore, we test our cable routing systems for the general position

of the duct joint as well, and verified cable routing properties are available for this type of installation. That is, for placing the connection of ducts anywhere without a requirement for the exact position of the connection. For the purpose of determining the load capacity of the route, we distinguish between two types of mounting:

### Effective duct cross-section

fitting located anywhere

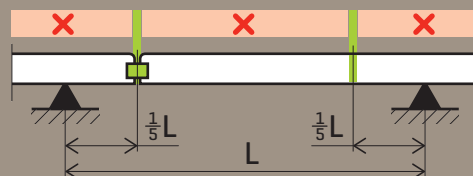


It has no requirements for the position of the duct joint and it is not necessary to shorten the ducts due to the joint position.

This type of mounting is suitable for standard cable routes and provides sufficient load-bearing capacity at usual spacing of support points.

### Mounting with a higher load-bearing capacity

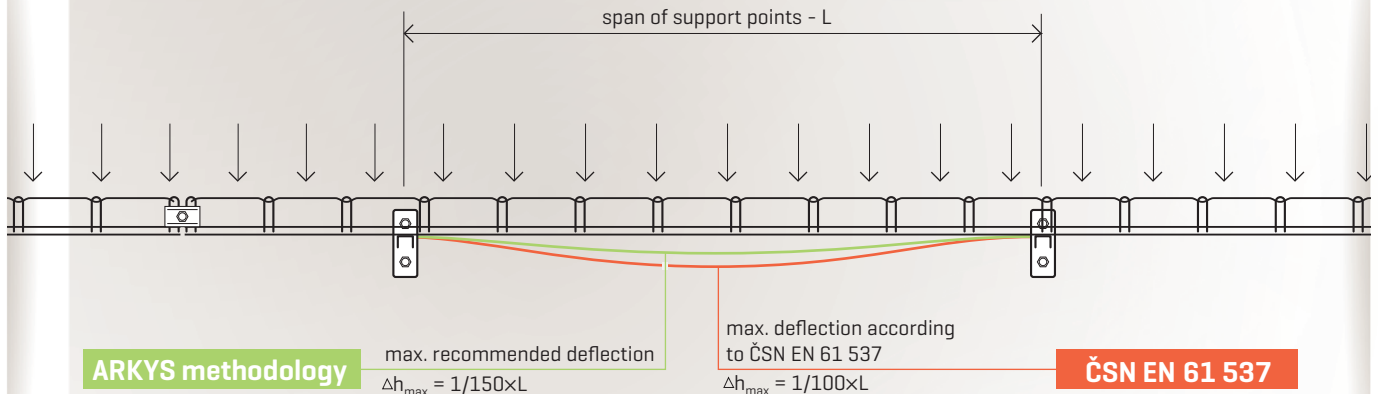
fitting located at 1/5 span



The requirement for precise joint placement can lead to the need to shorten ducts, thus reducing installation efficiency [more waste, time consuming]. Only in the case of support spans of 2,000 mm [the production length of the ducts] and 1,000 mm [half of the production length of the ducts] is it possible to set the joint position on the first span of the straight part of the route, which is then projected onto the following joints and there is no need to shorten the ducts.

For the above reasons, we recommend this type of mounting for heavily loaded routes, or locally for technically difficult-to-bridge places with the need for larger support spacings, where it provides a significant increase in load capacity.

# How is it actually with the carrying capacity of cable ducts



Cable route systems must have sufficient mechanical strength (bearing capacity and stiffness) and this is assessed according to the deflection of the loaded cable route. MERKUR 2 ducts are tested according to the requirements of the ČSN EN 61 537 standard. Testing takes place in such a way that the cable routes are gradually (in steps) loaded and their deformation (deflection) is monitored. The load corresponding to the deflection of 1/100 of the span is referred to as SWL and is considered as the load limit for the given channel at the given span of support points, provided that it does not cause transverse deformations greater than 1/20 of the width of the tested route.

The tested route is further loaded up to 1.7 times the SWL load, while under this load the duct structure must not collapse. If all these conditions are met, the tested cable duct receives certification and the SWL value can be used as its usable load capacity.

## ARKYS methodology for verifying the load capacity of cable ducts

To determine the load capacity of our cable ducts, we have chosen a stricter criterion in terms of permissible deflection. When the ducts are fully loaded (SWL load), we require that the deflection of the MERKUR 2 chan-

nels does not exceed 1/150 of the span of the support points, which is 30% less than required by the ČSN EN 61 53 standard.

This means, for example, with a span of 2,000 mm, that the value of the deflection of the MERKUR 2 ducts will not exceed 13 mm (while according to the standard ČSN EN 61 537, a deflection of up to 20 mm is permissible).

Stiffer ducts mean, among other things, better conditions for the function of the cabling, especially in extreme situations. This advantage is manifested, for example, in tests of the functionality of the cable route under fire conditions according to ČSN 73 0895, during which the MERKUR 2 system has long-term excellent results.

Stricter testing criteria according to the AKRYS methodology mean that MERKUR 2 ducts will show less deformation and deflection under full load compared to cable ducts from other manufacturers. Stiffer ducts with minor deformations mean, among other things, better conditions for the function of the cabling, especially in extreme situations.



## So what is the realistic usable capacity of the ducts?

From the table of specific weights of common types of cables, it follows that the specific weight of cabling usually does not exceed the value of 0.0028 kg/m/mm<sup>2</sup> [this means that one mm<sup>2</sup> of cable weighs 0.0028 kg/m].

Specific weight of selected cables

		Weight [kg/m]	Diameter [mm]	Cross section [mm <sup>2</sup> ]	Density [kg/m/mm <sup>2</sup> ]
CYKY	3×1,5	0.120	8.6	58.06	0.00207
	5×1,5	0.175	10.1	80.08	0.00219
	3×2,5	0.170	9.5	70.85	0.00240
	5×2,5	0.260	11.2	98.47	0.00264
	5×4	0.380	13.8	149.50	0.00254
	5×6	0.500	15.1	178.99	0.00279
	5×10	0.770	18.0	254.34	0.00303
	5×16	1.140	20.4	326.69	0.00349
	3×35+25	1.780	26.2	538.86	0.00330
	3×50+35	2.060	30.4	725.47	0.00284
	3×70+50	2.800	34.9	956.14	0.00293
	3×95+70	3.940	39.3	1212.42	0.00325
	3×120+70	4.430	43.0	1451.47	0.00305
	3×150+70	5.350	46.8	1719.34	0.00311
	3×185+95	6.780	49.8	1946.83	0.00348
3×240+120	8.570	56.4	2497.05	0.00343	
AYKY	5×16	0.600	21.3	356.15	0.00168
	3×35+25	0.910	24.7	478.92	0.00190
	3×50+35	1.220	28.9	655.64	0.00186
	3×70+50	1.560	32.2	813.92	0.00192
	3×95+70	1.750	39.3	1212.42	0.00144
	3×120+70	2.060	43.0	1451.47	0.00142
	3×240+120	3.810	56.4	2497.05	0.00153

Source of information in the table: PRAKAB

When we apply this value to the effective cross-sections of the MERKUR2 ducts, we find that the values of the maximum load of the cable ducts are relatively low [see the table on this double page]. For the smallest dimensions of the ducts, these are units of kg/m and even for the largest ducts it does not exceed 100 kg/m.

Cable load at a specific weight of 0.0028 kg/m/mm<sup>2</sup>

Duct type and size	effective cross-section	cable load
M2 50/50	1,320 mm <sup>2</sup>	3.7 kg/m
M2 100/50	2,900 mm <sup>2</sup>	8.1 kg/m
M2 150/50	4,470 mm <sup>2</sup>	12.5 kg/m
M2 200/50	6,050 mm <sup>2</sup>	16.9 kg/m
M2 250/50	7,620 mm <sup>2</sup>	21.3 kg/m
M2 300/50	9,200 mm <sup>2</sup>	25.8 kg/m
M2 400/50	12,350 mm <sup>2</sup>	34.6 kg/m
M2 500/50	15,500 mm <sup>2</sup>	43.4 kg/m
M2 100/100	6,120 mm <sup>2</sup>	17.1 kg/m
M2 150/100	9,440 mm <sup>2</sup>	26.4 kg/m
M2 200/100	12,770 mm <sup>2</sup>	35.8 kg/m
M2 250/100	16,090 mm <sup>2</sup>	45.1 kg/m
M2 300/100	19,420 mm <sup>2</sup>	54.4 kg/m
M2 400/100	26,070 mm <sup>2</sup>	73.0 kg/m
M2 500/100	32,740 mm <sup>2</sup>	91.7 kg/m
M2-G 50/100	1,320 mm <sup>2</sup>	3.7 kg/m
M2-G 100/100	6,120 mm <sup>2</sup>	17.1 kg/m

By comparing these theoretical values of the maximum load of cable ducts with the recommended load capacity values that we provide for our ducts, it follows that our ducts have the required load capacity with a support point span of 1750 mm and very often also with a span of 2000 mm. In addition, when installed with increased load capacity, the MERKUR 2 loads have sufficient load capacity even with a maximum span of 2,000 mm.



### MERKUR 2 app

- will offer the appropriate size of the duct depending on the weight and volume of the cabling
- will determine the distance of the supports
- a pocket manual for quick shaping



# Recommended load capacity values of MERKUR 2 cable ducts

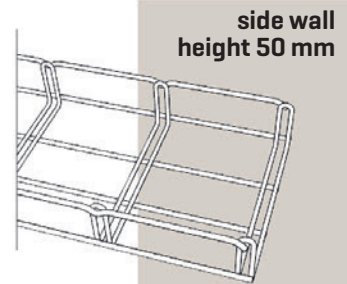
According to the stricter ARKYS methodology

The recommended load capacity values for cable ducts are determined based on the methodology based on the ČSN EN 61 537 ed standard. 2, according to which the load-bearing capacity of cable-bearing structures is tested. **These values mean the manufacturer-guaranteed load values that can be placed on the respective type and size of the cable duct at the corresponding spacing of the support points on the cable route.**

These values refer to standard cable routes and are not applicable to cable routes with requirements to maintain functionality [for example, fire-resistant routes, seismic-resistant routes].

The recommended load capacity values of the cable ducts have been determined with a sufficient safety margin, and as the manufacturer of the MERKUR 2 cable support system, we recommend using them when checking the load on the cable routes within this system.

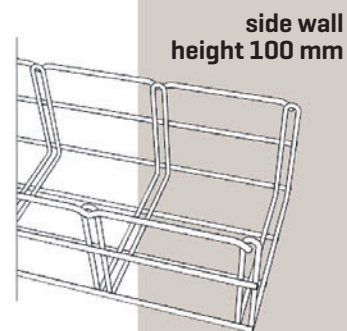
The carrying capacity of the cable duct is one of several criteria that limit the load of the cable route as a whole! Another criterion that needs to be taken into account are the load limits of the support points of the route and also individually of all the load-bearing elements that make up the support point of the route. From this point of view, the load-bearing capacity is mainly limited by the beams and holders used to anchor the cable route. The load capacities of these system elements are listed in this catalogue for the respective element and can also be found on our website in the overview of system elements.



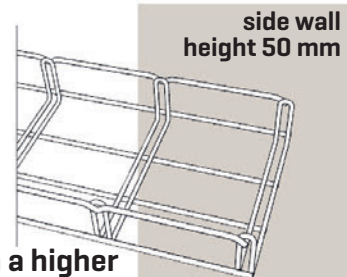
side wall height 50 mm

## Effective duct cross-section

fitting located anywhere



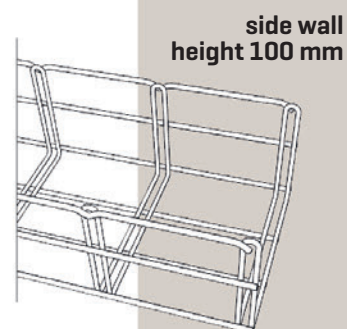
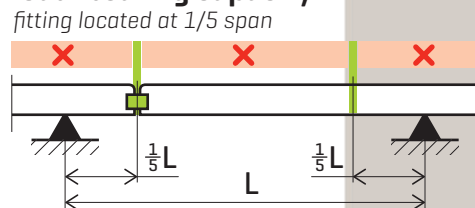
side wall height 100 mm



side wall height 50 mm

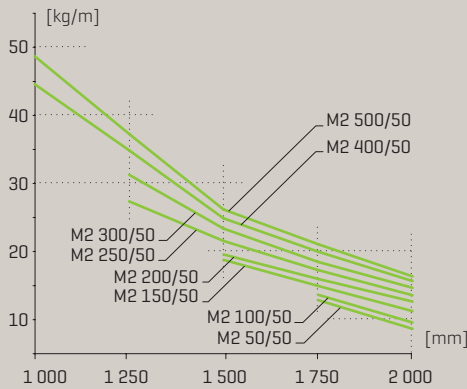
## Mounting with a higher load-bearing capacity

fitting located at 1/5 span

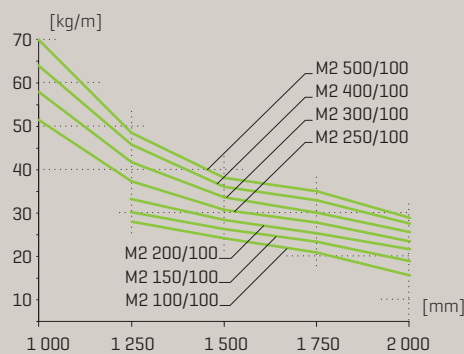


side wall height 100 mm

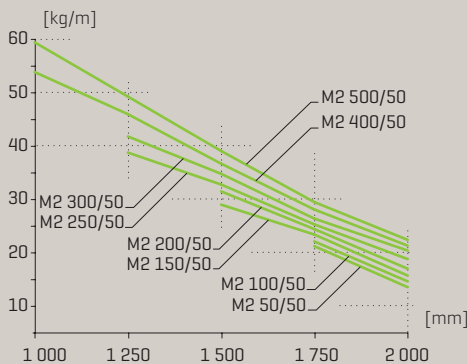




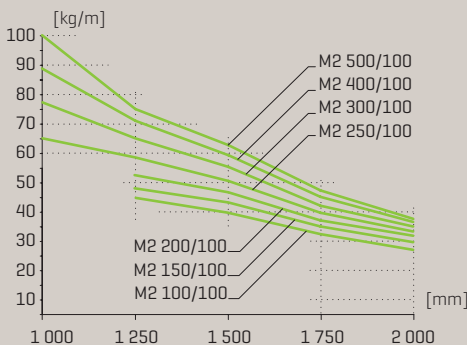
spacing [mm]	recommended load capacity values [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 50/50	-	-	17.9	12.8	8.6
M2 100/50	-	-	18.4	13.6	9.5
M2 150/50	-	-	18.7	14.9	11.2
M2 200/50	-	-	19.5	15.9	12.6
M2 250/50	-	27.3	21.5	17.2	13.5
M2 300/50	-	31.2	23.3	18.4	14.6
M2 400/50	44.5	34.8	24.8	19.9	15.6
M2 500/50	48.6	37.2	26.1	21.0	16.3



spacing [mm]	recommended load capacity values [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 100/100	-	27.3	23.6	20.2	16.6
M2 150/100	-	39.2	30.9	24.8	20.5
M2 200/100	-	41.9	33.2	27.0	21.9
M2 250/100	52.6	44.1	35.5	28.9	23.2
M2 300/100	58.8	46.6	37.2	31.1	24.8
M2 400/100	63.5	51.8	42.6	33.5	26.7
M2 500/100	70.5	58.4	48.8	36.7	29.8



spacing [mm]	recommended load capacity values [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 50/50	-	-	26.2	21.3	13.6
M2 100/50	-	-	27.3	22.2	14.7
M2 150/50	-	-	29.1	23.5	15.8
M2 200/50	-	-	31.6	24.5	17.1
M2 250/50	-	38.9	32.9	25.4	18.9
M2 300/50	-	41.9	34.9	26.5	20.5
M2 400/50	54.0	46.1	36.8	28.2	21.4
M2 500/50	59.6	49.4	39.2	29.6	22.5



spacing [mm]	recommended load capacity values [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 100/100	-	45.2	39.2	33.2	27.5
M2 150/100	-	50.8	42.7	34.4	29.1
M2 200/100	-	53.8	45.5	35.7	30.4
M2 250/100	64.4	55.0	47.1	37.4	31.5
M2 300/100	71.3	56.8	48.2	39.8	32.6
M2 400/100	86.6	65.4	55.9	43.6	35.2
M2 500/100	101.2	75.5	63.1	47.1	38.5

The values highlighted in colour in the lower table correspond to assemblies that are characterized by increased efficiency. More information can be found in the description of the features of the higher load capacity installation on page 19.

# Maximum permissible loads of MERKUR 2 cable ducts

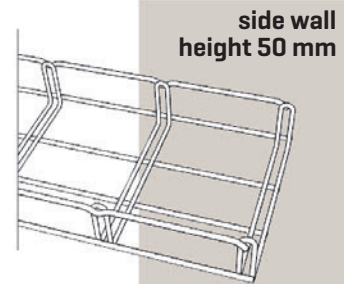
According to the methodology of ČSN EN 61537

The maximum permissible load values for cable ducts are determined strictly based on the methodology of the ČSN EN 61537 ed. 2, according to which the load-bearing capacity of cable-bearing structures is tested. These values correspond to the SWL load achieved in the cable duct load-bearing capacity testing.

As the current values of load capacities (or load limits) presented by most other manufacturers and suppliers of load-bearing structures are in fact the limit values of the load capacity of their ducts with a low to zero safety coefficient, we present here, in addition to our standard recommended load values including a safety margin, also the values of the so-called maximum permissible load of the MERKUR 2 ducts (tables and graphs on this double page) for the possibility of comparison. At the same time, we leave the importance of load capacity as the main characteristic of a cable duct to your consideration, and we also recommend the consideration of the realistic usable load capacity of the ducts, which is on the previous pages.

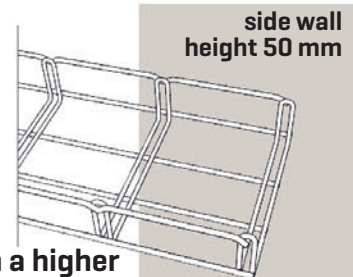
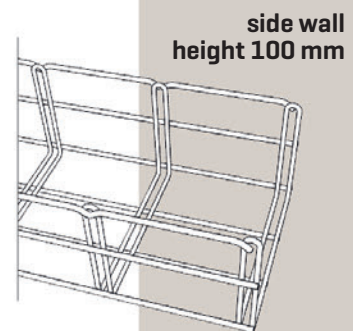
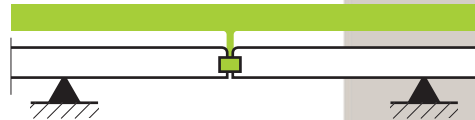
It is possible to use the maximum permissible load values determined according to the methodology of the ČSN EN 61537 standard for dimensioning and load control of cable ducts, however, at loads close to these limit values, higher deformations of the ducts (deflection of the ducts between the support points) occur, which do not affect the functionality of the cable route, but they are reflected in the overall aesthetics of the ducts in the cable route. Using the maximum recommended load capacity values determined according to the ARKYS methodology (tables on the previous double page) eliminates this risk.

Even in this case, the carrying capacity of the cable duct is one of several criteria that limit the load of the cable route as a whole! When checking the load of the cable route, it is necessary to take into account the load capacity limits of all elements of the route, including anchoring.



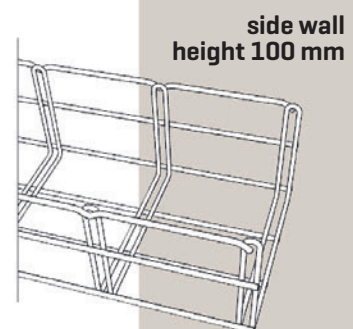
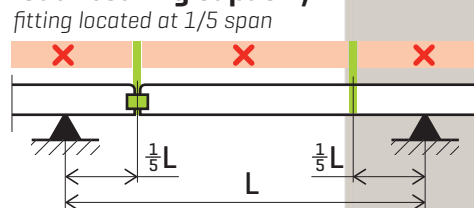
## Effective duct cross-section

fitting located anywhere

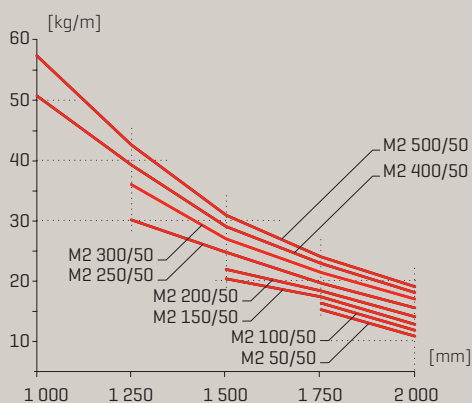


## Mounting with a higher load-bearing capacity

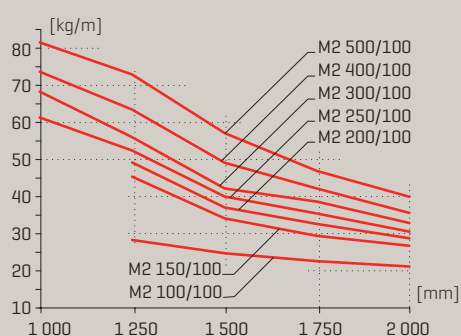
fitting located at 1/5 span



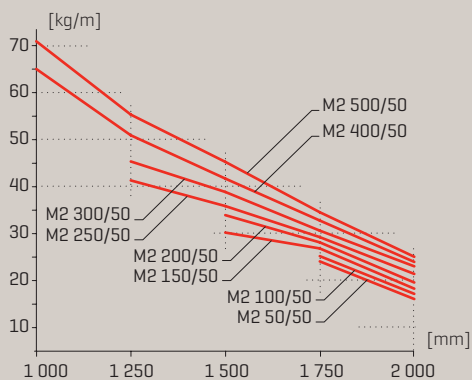




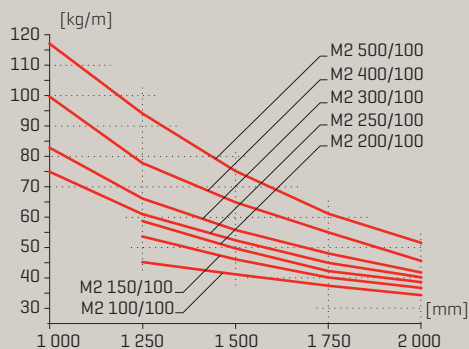
spacing [mm]	maximum permissible load [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 50/50	-	-	18.2	14.8	10.6
M2 100/50	-	-	19.5	15.9	11.5
M2 150/50	-	-	19.7	16.3	12.1
M2 200/50	-	-	21.4	17.6	13.6
M2 250/50	-	29.5	23.8	19.1	16.0
M2 300/50	-	36.1	26.7	23.1	17.9
M2 400/50	52.5	39.6	29.1	24.2	18.1
M2 500/50	57.4	43.2	31.2	24.8	18.3



spacing [mm]	maximum permissible load [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 100/100	-	32.2	27.3	23.4	19.3
M2 150/100	-	43.1	35.8	27.8	23.8
M2 200/100	-	46.3	38.5	30.6	25.4
M2 250/100	61.0	50.5	41.2	33.5	26.9
M2 300/100	66.4	58.2	44.9	38.4	30.8
M2 400/100	74.0	65.7	51.3	42.6	34.9
M2 500/100	81.4	73.2	56.6	47.5	39.3



spacing [mm]	maximum permissible load [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 50/50	-	-	29.2	24.6	16.8
M2 100/50	-	-	30.8	25.9	17.4
M2 150/50	-	-	30.7	25.8	17.9
M2 200/50	-	-	34.7	26.8	18.5
M2 250/50	-	42.0	36.4	28.3	22.4
M2 300/50	-	48.5	40.0	32.4	24.2
M2 400/50	65.3	52.5	43.2	34.4	24.9
M2 500/50	71.2	57.4	46.7	35.0	25.3



spacing [mm]	maximum permissible load [kg/m]				
	1 000	1 250	1 500	1 750	2 000
M2 100/100	-	52.4	45.5	38.5	31.9
M2 150/100	-	58.9	49.5	39.9	33.8
M2 200/100	-	62.4	52.8	41.4	35.3
M2 250/100	74.7	63.8	54.6	43.4	36.5
M2 300/100	82.7	65.9	55.9	46.2	37.8
M2 400/100	100.9	76.9	64.8	50.6	40.8
M2 500/100	116.8	88.6	73.2	54.6	44.7

The values highlighted in colour in the lower table correspond to assemblies that are characterized by increased efficiency. More information can be found in the description of the features of the higher load capacity installation on page 19.



## **Durability over time is primarily a question of corrosion protection**

The MERKUR2 system is installed in various types of environments and in a wide range of climatic conditions. It is used in covered indoor environments of the interiors of buildings with a stable climate, but it is also exposed to direct weather effects in installations in the external environment. It is also often installed in the aggressive environment of industrial plants, chemical-technological units, or fulfils its function under the increased hygienic requirements of the food industry. Each of the mentioned environments and each of the methods of use places specific demands on the individual elements of the cable route and on their assembly as a whole, which are reflected, among other things, in the requirements for durability, chemical stability or health safety. Considering that practically all elements of the MERKUR2 system are made of steel [steel wire, steel sheet], it is

advisable and in most cases necessary to treat the individual components of the system with a suitable surface treatment, which will ensure chemical stabilization of the metal surface of the parts and also increase their quality in terms of functionality and aesthetics. By choosing the right type of surface treatment and its execution, it is possible to ensure the long-term functionality of the parts treated in this way and, therefore, the economic efficiency of the installation of cable support systems in the considered environment, whether it is an administrative building, underground garage spaces, wastewater treatment plant, chemical operation, food production, or nuclear power plant environment.

Among the commonly available methods, galvanizing is used for the elements of the MERKUR2 system, which is currently the most widespread type of surface treat-



## Options for surface treatment of elements of the MERKUR 2 system

	elements of the system	connecting material	
<b>galvanized</b> layer thickness 12–15 µm suitable for indoor installations	<b>GZ</b> galvanic zinc	<b>GZ</b> galvanic zinc	variants are normally in stock
<b>Sendzimir galvanized</b> layer thickness 17–23 µm suitable for indoor installations	<b>SZ</b> sendzimir zinc	<b>GZ</b> galvanic zinc	
<b>Hot-dip galvanizing</b> layer thickness 40–60 µm in terms of orders up to 80 µm suitable for outdoor installations	<b>ZZ</b> hot dip galvanised zinc	<b>GZ</b> galvanic zinc  <b>G5</b> geomet 500  <b>A2</b> stainless steel AISI 304L	
<b>A2 stainless steel with passivation</b> AISI 304L with surface passivation suitable for aggressive environments	<b>A2</b> stainless steel AISI 304L	<b>A2</b> stainless steel AISI 304L	on demand
<b>A4 stainless steel with passivation</b> AISI 316L with surface passivation suitable for aggressive environments and environments with chlorine [Cl] and fluorine [F]	<b>A4</b> stainless steel AISI 316L	<b>A4</b> stainless steel AISI 316L	

ment of steel elements and structures. An alternative to galvanizing is the use of corrosion-resistant steels in combination with additional technological processes of treating stainless steel surfaces, further increasing their resistance.

### Basic types of galvanizing surface treatment and their characteristics

Galvanizing generally consists of covering the surface of a steel part with a continuous layer of zinc. This layer protects the surface of the ducts mechanically, but especially chemically, because even if the local zinc layer is broken, corrosion occurs only in the zinc layer. In this way, the steel remains protected until the zinc

layer dissolves. Galvanizing is carried out by several possible processes, namely electrolytically (galvanic galvanizing), cold rolling (sendzimir galvanizing) and immersion in molten zinc (hot-dip galvanizing). Each of the listed galvanizing methods is characterized by the thickness of the applied layer, which is essential for the degree of resistance of the zinc-treated surface. In this case, the rule of direct proportionality between the thickness of the layer and its resistance applies. This is caused by the natural physico-chemical loss of zinc from the protective layer, the speed of which is influenced by the aggressiveness of the given environment.

Natural depletion of zinc depending on the influence of the environment

Outdoor environment	0,8–1,0 µm/year
Industrial environment	1,5–3,5 µm/year
Moderately aggressive environment	2,0–5,0 µm/year
Extremely aggressive environment	5,0–10,0 µm/year

From these empirically obtained values and from the characteristics of the environment in which the specific metal component is installed, the required thickness of the zinc coating that needs to be protected on its surface in order to achieve the planned or expected service life results.

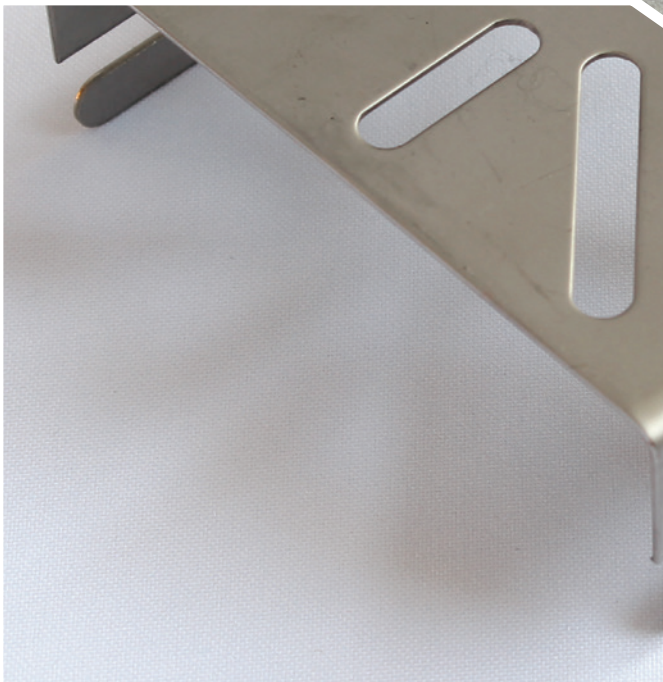
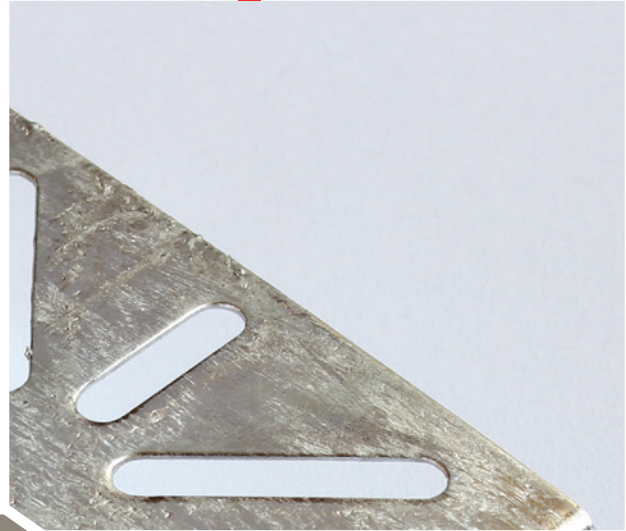
### Possibilities of surface treatment of the connecting material

A number of elements of the MERKUR 2 system consist, among other things, of included connecting elements such as screws, washers, nuts, etc. For the connecting material that is part of the delivery of the elements, but also for the connecting material used to install the load-bearing elements of the route, the level of its anti-corrosion protection compared to other elements of the route, must be equal or higher. At the same time, it is of course possible to install the route in the basic GZ version using stainless steel connecting material, but it is inefficient. Therefore, the offer of MERKUR 2 system elements, which contain connecting material, has been adjusted so that, in addition to the corresponding anti-corrosion protection of the main parts, connecting material with a surface treatment of the appropriate quality are offered. Fasteners are supplied as standard in GZ galvanized version, in A2 and A4 stainless steel versions and also in G5 - Geomet version, which is an option for hot-dip galvanized elements.

▼ GZ - galvanized version.



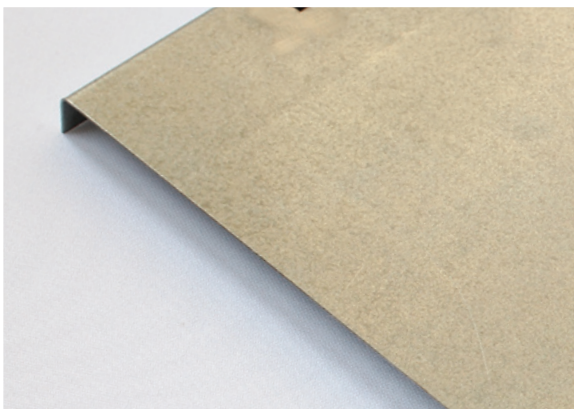
▼ ZZ - hot-dip galvanized version.



▲ A2 - stainless steel AISI 304L, stained and passivated.



▲ A4 - stainless steel AISI 316L, stained and passivated.



▲ SZ - senzimir galvanizing is used for sheet elements.

The A4 stainless steel version is exclusively made to order. We do not normally stock this variant as we do with other surface treatment. You can get all the information from our sales and technical managers.



### Galvanizing – GZ

**Galvanizing protection is used for installations in a non-aggressive environment of dry indoor spaces. It can be used on a limited basis for shorter life applications and in damp indoor or outdoor areas under shelter.**

Galvanic galvanizing is a process in which zinc (anode) is electrochemically deposited on electrically conductive materials, in our case steel and sheet metal components (cathode), and the thickness of the layer thus created is usually 12–15 µm. Coatings created by this method have a shiny surface that resembles chrome plating. In order to optimize the galvanizing process and increase corrosion resistance, a chromium preparation is added to the zinc coating, which gently colours the galvanized surface in different shades. At the same time, neither the colour nor the degree of gloss affects the quality of the zinc layer and its anti-corrosion function.

### Sendzimir galvanizing – SZ

**Sendzimir galvanizing is a method comparable in quality and corrosion resistance to galvanic galvanizing, and is used in the same environments.**

During Sendzimir galvanizing, the steel sheet continuously passes through a bath with liquid zinc, which is then rolled after cooling. In this way, a continuous zinc layer of approx. 17–23 µm is formed on the surface of the sheet metal. Sendzimir galvanizing is technologically simpler with lower energy requirements compared to galvanizing. It is suitable for surface applications. In practical use, a steel sheet is Sendzimir galvanized, which is then used to produce components by shearing and bending. This is how, for example, duct covers, cable partitions, and the like are manufactured within the MERKUR 2 system.

### Hot-dip galvanizing – ZZ

**Hot-dip galvanizing protection is the most versatile in terms of installation and is suitable for both dry and wet, outdoor and indoor applications, and to a lesser extent for use in the chemical industry.**

Hot-dip galvanizing is a special metallurgical plating technology, where steel components, after preliminary treatment [degreasing, pickling...] are plated by immersion in a bath of molten zinc, which has a temperature in the range of 440–460 °C. The thickness of the layer created in this way ranges from 40–60 µm. In this method, the zinc forms a continuous hard and impermeable coating with a long service life. Thanks to the metallurgical connection between the zinc layer and the

steel material of the element, which is created in this way, hot-dip galvanizing, as the only galvanizing method, permanently protects against so-called under-corrosion. However, this surface treatment also has one aesthetic disadvantage – with hot-dip galvanized surfaces, the so-called natural oxidation of the zinc surface becomes apparent over time, which means that the initially shiny light surface of the parts gradually turns into a dark grey. This “aesthetic change” is not a surface treatment defect and does not limit the function of the zinc layer. It is just a natural oxidation of the zinc layer, which is chemically stabilized by this process.

### Stainless versions of MERKUR 2 system elements and its options

The stainless steel design is the top design of MERKUR 2 cable ducts, especially in terms of their resistance to chemicals and other substances. The stainless design means a completely different strategy for protecting components from corrosion. The part is made of corrosion-stabilized steel by adding alloying elements such as chromium, nickel, and others. Steel treated in this way is corrosion-inert and resistant to chemical influences. The elements of the MERKUR 2 system are manufactured from AISI 304L [A2] steel and, on request, from AISI 316L [A4] steel.

### Stainless steel [AISI 304L] – A2

**Elements made in A2 stainless steel are suitable for use in the chemical, pharmaceutical and food industries (e.g. in the production of beer, milk, wine and cosmetics).**

A2 stainless steel [AISI 304L grade steel] is currently the most widespread and used type of stainless steel. This steel has a relatively low carbon content and is therefore resistant to intergranular corrosion. It has good resistance to water, water vapour, air humidity, edible acids and weak organic and inorganic acids. Withstands temperatures up to 350 °C.

### Stainless steel [AISI 316L] – A4

**Elements made in A4 stainless steel are suitable for use in the chemical industry, in the food industry (if it is necessary to ensure minimal food contamination) and in the pharmaceutical industry.**

Stainless steel A4 [steel grade AISI 316L] is an acid-resistant chromium-nickel-molybdenum steel, where molybdenum further increases corrosion resistance. Withstands temperatures up to 400 °C.

### Pickling and passivation of stainless steels

In the case of the above-mentioned types of stainless steel designs, our production standard is the pickling and passivation process, which leads to an increase in the quality and durability of the surface. It is a technological process by which it is possible to increase the anti-corrosion resistance of stainless steels up to four times. During this operation, chemical pickling is first used to perfectly degrease the surface and remove mechanical impurities. At the same time, the surface of the treated parts will be matted and unified. The subsequent passivation, which is carried out chemically in an oxidizing acid followed by drying, will then increase the corrosion resistance of the stainless steel parts, especially at the welds, especially for wet environments with chloride content.

### Geomet 500 - G5

The special treatment GEOMET 500 developed for the protection of the connecting material is a surface treatment characterized by a silver-grey surface developed for the anti-corrosion protection of the connecting material. Even with a very thin layer [5–7µm] it achieves high corrosion resistance. Surfaces treated in this way can withstand more than 600 hours in a salt chamber, which is 3 times more than what is usually achieved with galvanizing protection. Geomet is used, for example, in the automotive industry, where it meets its strict technical requirements.



▲ G5 - Geomet 500

The level of anti-corrosion protection of connecting elements treated in this way roughly corresponds to the level of protection provided to the basic elements of the system by the hot-dip galvanizing method. Therefore, the surface treatment is a suitable choice for cable

routes in this design.

From the given information, it follows that for cable routes, the surface treatment, as well as its correct and economical choice, is essential both from the point of view of service life, as well as functional and aesthetic properties.

As the only manufacturer on the market, we provide an extended ten-year warranty for the standard galvanic and hot-dip galvanized design of cable ducts and their accessories. We provide a 15-year warranty on both types of stainless steel design.

### At least 10 years warranty!

More than 25 years of experience with cable support structures and their surface treatment is a long-term test of its kind that will surpass load tests, fire and seismic resistance tests, as well as corrosion resistance tests, which the MERKUR 2 system has successfully passed many times. Based on this experience, we provide an extended warranty for our products. This is a ten-year warranty for all surface treatments, with the exception of stainless steel, for which we continue to provide a fifteen-year warranty. In all cases, the warranty covers material, welds and surface treatment, provided the appropriate choice of surface treatment is made for the environment in which the MERKUR 2 system is installed. The warranty periods related to the individual types of surface treatment and recommendations for its choice in relation to the environment can be found in the following tables.

Warranty length according to types of corrosion protection

<b>GZ</b>	galvanized	<b>10 years</b>
<b>SZ</b>	sendzimir galvanized	
<b>G5</b>	geomet 500	
<b>ZZ</b>	hot-dip galvanized	
<b>A2</b>	stainless steel AISI 304L + passivation	<b>15 years</b>
<b>A4</b>	stainless steel AISI 316L + passivation	



# Recommendations for surface treatments according to the nature of the environment

The table below is indicative. When choosing the surface treatment of the elements of the MERKUR 2 system, it is necessary to take into account the Protocol on External Influences, which is an integral part of the project documentation of individual buildings.

			10 years warranty			15 years warranty	
			<b>GZ</b> galvanic zinc	<b>SZ</b> sendzimir. zinc	<b>ZZ</b> hot dip galvanised zinc	<b>A2</b> stainless steel AISI 304L	<b>A4</b> stainless steel AISI 316L
non-aggressive environment	indoor spaces	dry	we recommend	we recommend	suitable but not economical		
		damp	applicable with restrictions	applicable with restrictions		suitable but not economical	suitable but not economical
	outdoor spaces	covered			we recommend		
		uncovered					
aggressive environment	chemical and food industry	unsuitable	unsuitable		we recommend	we recommend	
	environments with chlorine (Cl) and fluorine (F)			unsuitable	unsuitable	we recommend	



^ The main administrative and warehouse center in the ARKYS production site in Uhřetice.



## Czech manufacturer and supplier of cable support systems

The largest Czech manufacturer and supplier of support systems for the implementation of cable routes, the company ARKYS, s.r.o., is a company with a purely Czech ownership structure and today already more than twenty-five years of history on the Czech market. The long-term stable and successful operation of our company hides continuous work and efforts to improve and optimize not only the business-logistics structure of the company and customer service, but especially the constant development of our products and their production itself. The production and warehouse areas are undergoing significant development. Modern production lines were built for the MERKUR 2 cable duct system, and completely new warehouses were built as part of logistics to meet the high demands of our customers.



ARKYS production site in Uhřetěves. 



✓ Automatic line for the production of the MERKUR 2 ducts.



## Producing MERKUR 2 ducts is our mission and joy

### Production line of MERKUR 2 ducts

Our significant business advantage is the fact that we are not dependent on subcontracting for the production of cable ducts and accessories. The production of ducts and their accessories is carried out using our own technologies, in our production premises by our workers, including the final treatment of the individual manufactured elements of the system with surface treatment by galvanization, which we carry out in our own galvanizing plant.

A production and logistics site was built for the production of the supporting system of cable routes in the South Moravian village of Uhřice, located within 30 km of Brno. The premises in Uhřice are in a logistically advantageous position at a distance of only 20 km from the highway junction km 210 – Holubice on the backbone highway D1.

Fully automated production lines were built for the production of MERKUR 2 wire cable ducts, which use, among other things, the most modern medium-frequency welding technology, used, for example, in the automotive industry. The line also includes instrumentation and control software from Bosch Rexroth Electric Drives and Controls GmbH. Medium-frequency resistance welding technology is a modern, sophisticated method of welding metals without additional material, which has several fundamental advantages compared to the „classic“ low-frequency method. One of them is the fact that the output of the welding transformer, powered by a medium frequency converter, is a direct current that does not show any inductive losses and thus quickly delivers a precisely defined amount of energy to the weld point, allowing very dynamic regulation of the welding process





◀ ▶ Medium-frequency welding centres for welding the wire structure of MERKUR 2 ducts.

and positively affecting the resulting weld quality. This method is very fast [the duration of the welding cycle is in the order of milliseconds], therefore, during welding, the surrounding material does not overheat and losses, stresses and deformations of the material are reduced. We manufacture cable tray accessories (beams, holders, supports...) using, among other things, the high-speed CNC Fibre cutting laser FeiCut and a powerful industrial robot from Mitsubishi electric. By robotizing and digitizing production processes, we have achieved an increase in dimensional and shape accuracy of products. Thanks to these technological elements, we are also able to respond flexibly and quickly to atypical requests from the customer.



▶ One of the robotic workplaces for the production of bent sheet metal elements in the ARKYS production premises.



### **Own galvanizing is a big advantage**

One of the important stages in the production of cable ducts and accessories is the protection of the surface of steel products with an appropriate surface treatment. The surface treatment by galvanic galvanization, which is treated by the vast majority of the manufactured elements of the MERKUR 2 system, is carried out in our own galvanizing workshop, which is equipped with one of the most modern galvanizing lines in the Czech Republic. On the other hand, we carry out surface treatment by hot-dip galvanizing through a partner galvanizing plant, with whom we have been cooperating for a long time.

We manufacture stainless steel versions of cable ducts and their accessories in two levels of corrosion resistance from chrome-nickel austenitic steel (AISI 304L and 316L), while the elements of both stainless steel versions are finally treated with so-called passivation, which further increases their corrosion resistance and improves their aesthetic properties.

### **New logistics warehouses**

Due to the long-term business policy and philosophy of our company to sell our products flexibly from stock, we have built the appropriate capacity of warehouse space so that we can meet our customers' demands for flexibility in the delivery of our assortment. The warehouse and logistics center in the ARKYS production and logistics premises in Uhřetice currently has a capacity of more than 2,000 pallet spaces. A flexible mobile racking system was installed in the warehouse for efficiency, which brings greater clarity to the assortment and allows storing a larger volume of material in a smaller warehouse space. Thanks to this fact, we are able to respond flexibly and quickly to the individual requirements of our business partners, without being forced to interfere significantly with already planned production.

### **The headquarters of the company is in Brno**

While the production site grew up in Uhřetice, the company's administrative center is located directly in the South Moravian metropolis. Since 2017, you can find us in the office premises of the building standing within the



▲ Galvanizing line in the production premises in Uhřetice.

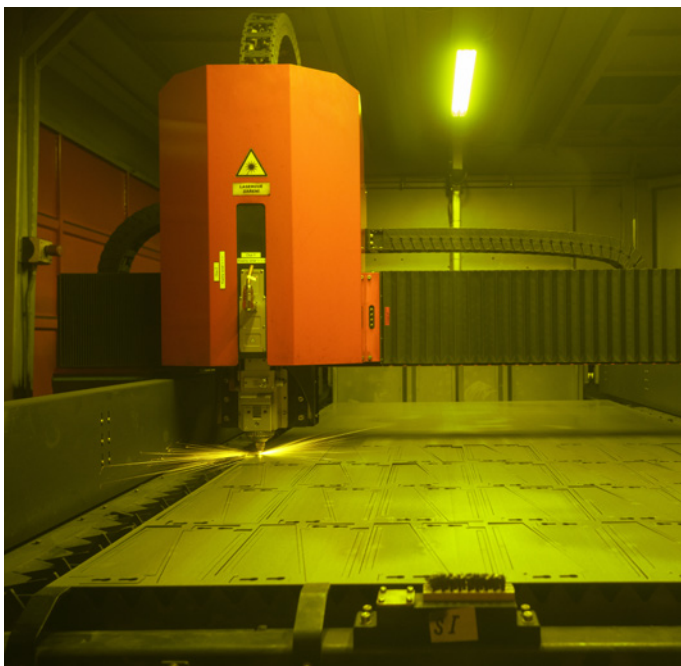


AREAL SLATINA premises in Brno. Here, our team has a quality background and provides you with business and administrative service. The company's management as well as the sales, logistics, marketing, budget and accounting departments are located here.

Everything that was mentioned above proves that our goal is to be a reliable and comprehensive partner of all our customers from the ranks of wholesalers, assembly companies, as well as design offices, and this is due to the offer of our products and services, which include production itself, but also cooperation on business-technical solution of specific cases and supplies of material.



▲ The company headquarters and administrative center is located in building "O" in the AREAL SLATINA premises.



▲ CNC-Fiber Laserbeam FeiCut.



▲ In the premises of the company headquarters, we have adequate facilities for the provision of business and administrative services.



▲ Modern flexible rack storage system of the logistics center in Uhřetice.



▲ Logistics office in the Brno administrative center.





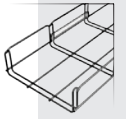


# CATALOGUE OF SYSTEM ELEMENTS



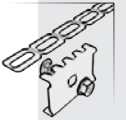
## Cable ducts

p. 40-45



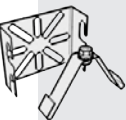
## Fittings

p. 46-55



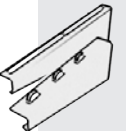
## Holdings

p. 56-81



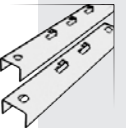
## Beams

p. 82-91



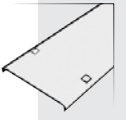
## Supports

p. 92-95



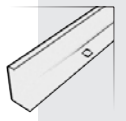
## Lids

p. 96-97



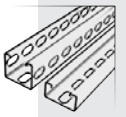
## Partitions

p. 98-99



## Stands

p. 100-103



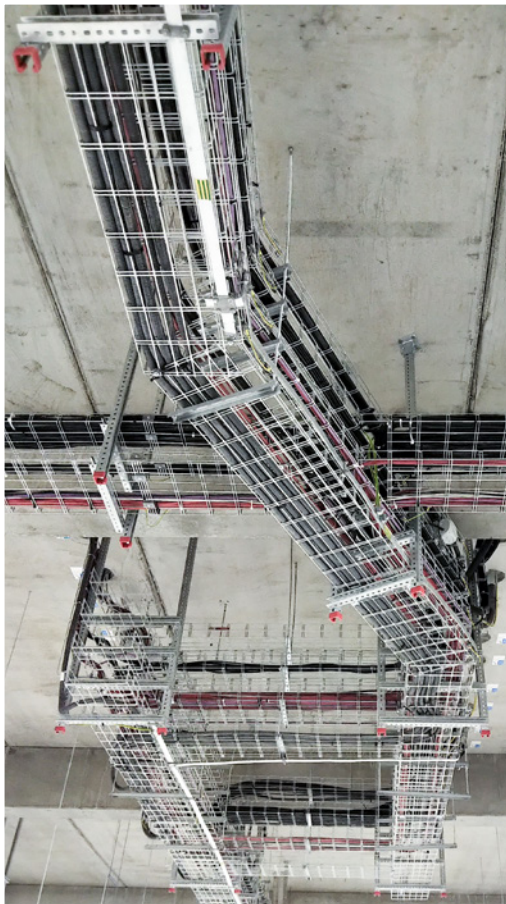
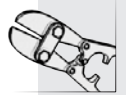
## Connecting material and anchoring technology

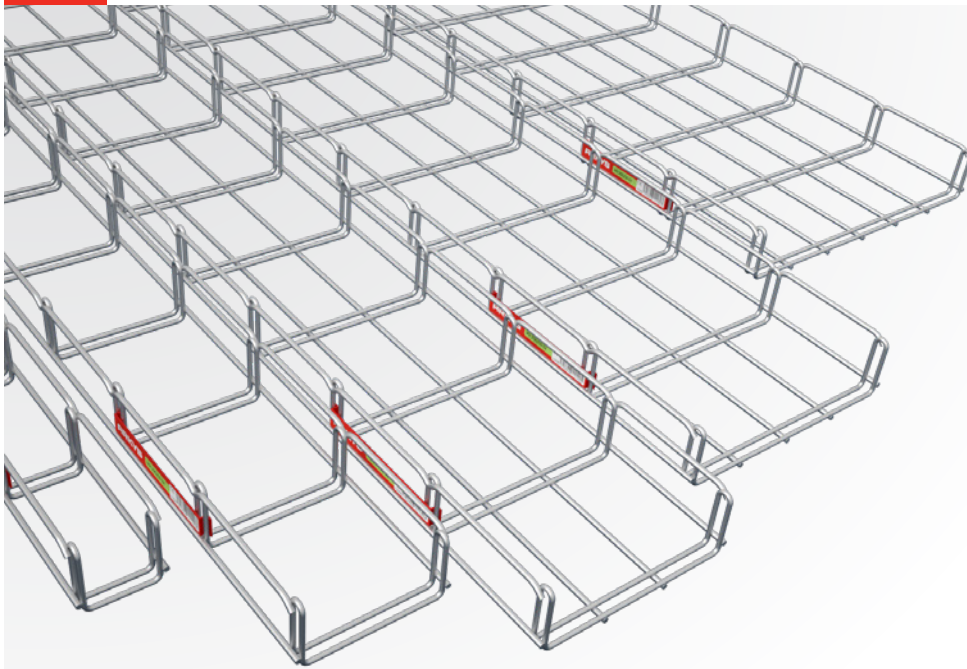
p. 104-111



## Accessories and tools

p. 112-113

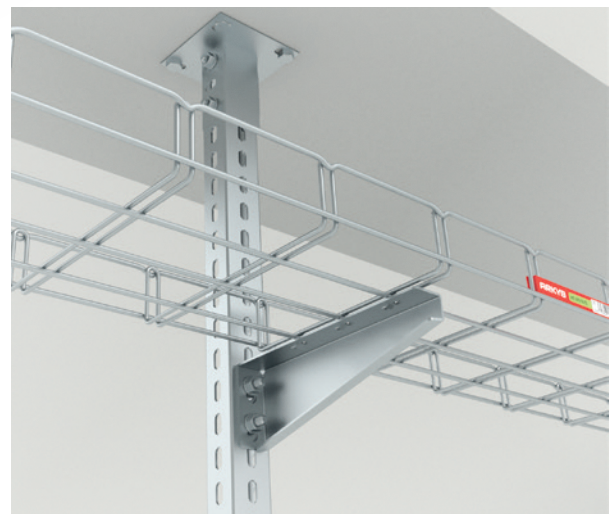


**M2****Cable duct MERKUR, type M2, side height 50 mm**

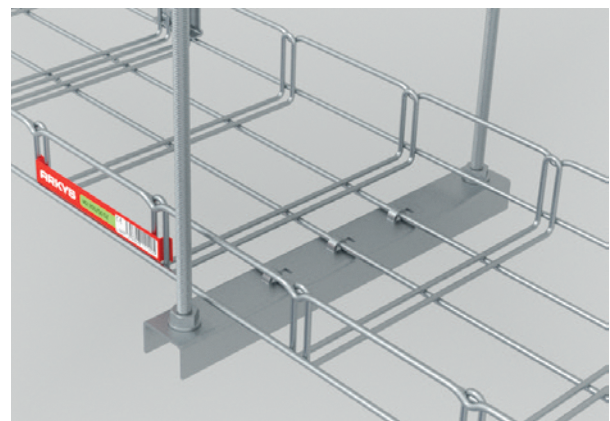
Cable ducts MERKUR 2 type M2 are intended for the installation of various types of cable routes. The height of the side of the ducts of 50 mm is suitable for cable routes with lower requirements for usable cross-section.

M2 cable ducts enable the efficient installation of wall-mounted cable routes, space-guided cable routes and other types of installations such as ceiling, floor or riser routes and the like. Individual types of installations are always listed in this catalogue for system elements that are related to a given type of installation (beams, supports, holders, rail struts, etc.)

**M2 cable ducts have been tested for fire resistance and can be used to implement fire resistant routes. You can find out more about fire resistant routes in our specialist "Fire Resistant Routes" publications which are available for download from our website or from our sales and technical managers.**



▲ M2 cable ducts enable efficient installation of wall-mounted cable routes.



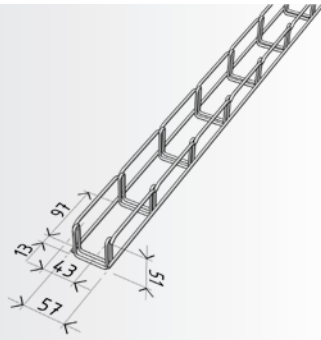
▲▲ M2 cable trays are suitable for the installation of cable routes led through space.





### M2 50/50

- GZ ARK-211110
- ZZ ARK-221110
- A2 ARK-231114
- A4 ARK-241114



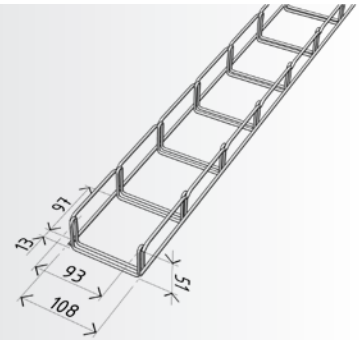
12 pcs = 24 m

**S<sub>ef</sub>** 1,320 mm<sup>2</sup>



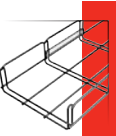
### M2 100/50

- GZ ARK-211120
- ZZ ARK-221120
- A2 ARK-231124
- A4 ARK-241124



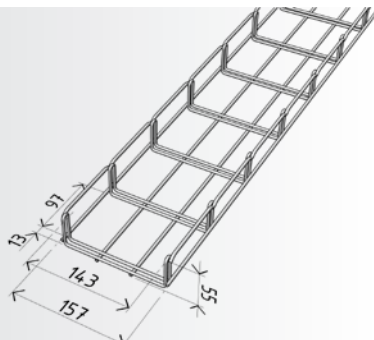
8 pcs = 16 m

**S<sub>ef</sub>** 2,900 mm<sup>2</sup>



### M2 150/50

- GZ ARK-211130
- ZZ ARK-221130
- A2 ARK-231134
- A4 ARK-241134



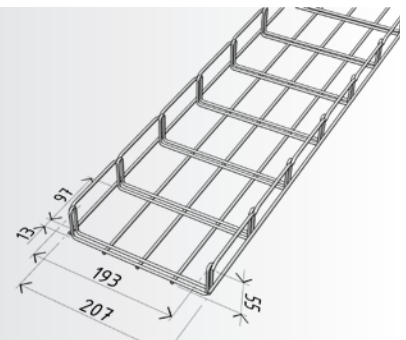
8 pcs = 16 m

**S<sub>ef</sub>** 4,470 mm<sup>2</sup>



### M2 200/50

- GZ ARK-211140
- ZZ ARK-221140
- A2 ARK-231144
- A4 ARK-241144



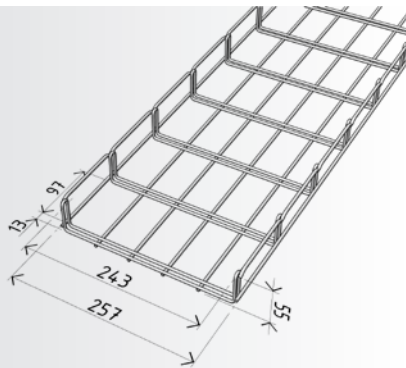
4 pcs = 8 m

**S<sub>ef</sub>** 6,050 mm<sup>2</sup>



### M2 250/50

- GZ ARK-211150
- ZZ ARK-221150
- A2 ARK-231154
- A4 ARK-241154



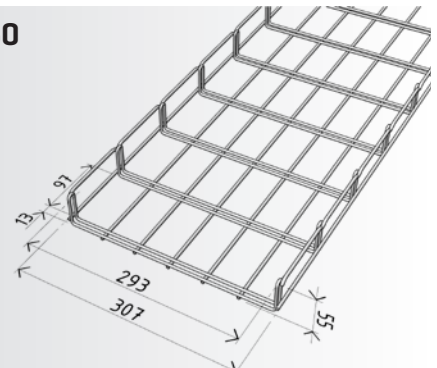
4 pcs = 8 m

**S<sub>ef</sub>** 7,620 mm<sup>2</sup>



### M2 300/50

- GZ ARK-211160
- ZZ ARK-221160
- A2 ARK-231164
- A4 ARK-241164



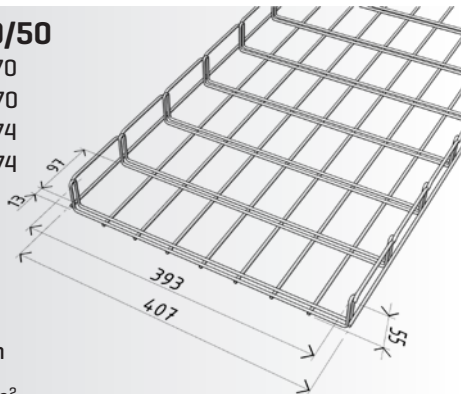
4 pcs = 8 m

**S<sub>ef</sub>** 9,200 mm<sup>2</sup>



### M2 400/50

- GZ ARK-211170
- ZZ ARK-221170
- A2 ARK-231174
- A4 ARK-241174



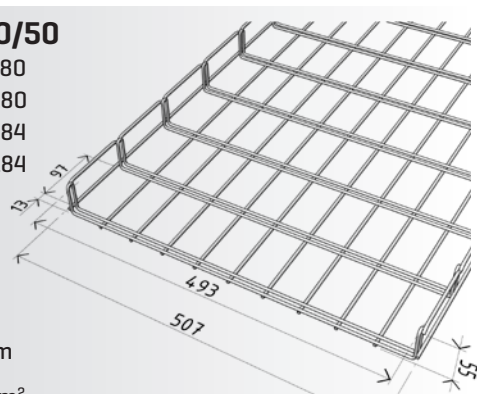
4 pcs = 8 m

**S<sub>ef</sub>** 12,350 mm<sup>2</sup>



### M2 500/50

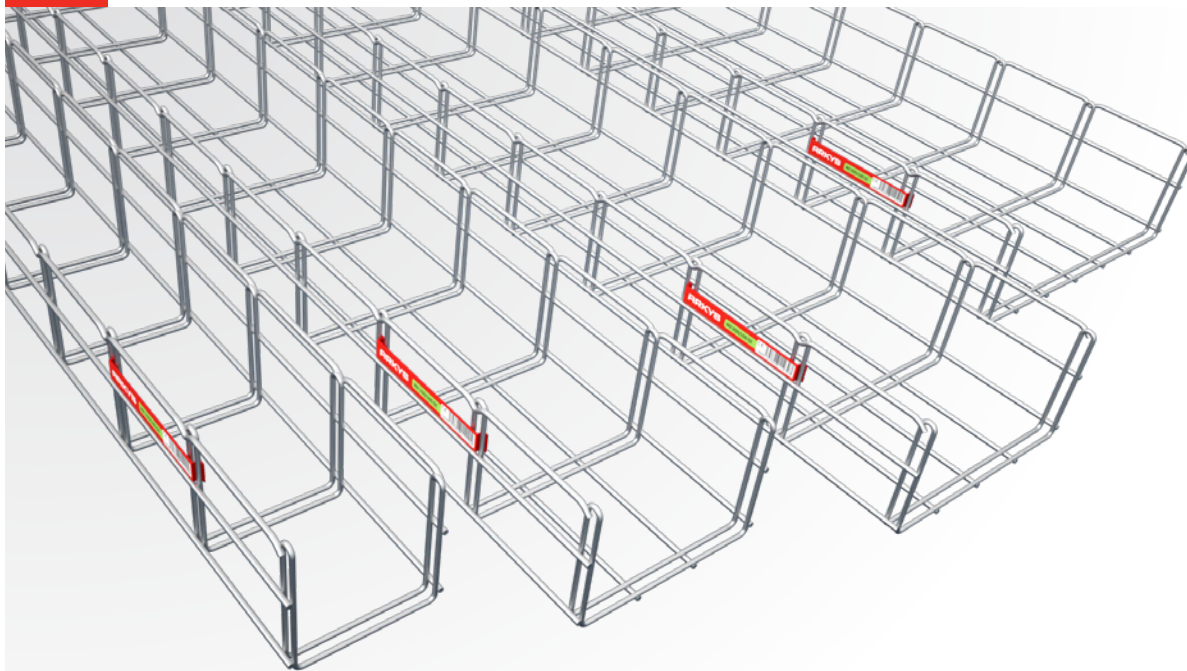
- GZ ARK-211180
- ZZ ARK-221180
- A2 ARK-231184
- A4 ARK-241184



2 pcs = 4 m

**S<sub>ef</sub>** 15,500 mm<sup>2</sup>

## M2 Cable duct MERKUR, type M2, side height 100 mm



Cable ducts MERKUR 2 type M2 are intended for the installation of various types of cable routes. The height of the side of the ducts of 100 mm is suitable for cable routes with higher requirements for usable cross-section and, thanks to the higher usable load capacity, also for routes with higher requirements for cable loads.

M2 cable ducts enable the efficient installation of wall-mounted cable routes, space-guided cable routes and other types of installations such as ceiling, floor or riser routes and the like. Individual types of installations are always listed in this catalogue for system elements that are related to a given type of installation (beams, supports, holders, rail struts, etc.)

**M2 cable ducts have been tested for fire resistance and can be used to implement fire resistant routes. You can find out more about fire resistant routes in our specialist "Fire Resistant Routes" publications which are available for download from our website or from our sales and technical managers.**



▲ M2 cable ducts enable efficient installation of wall-mounted cable routes.



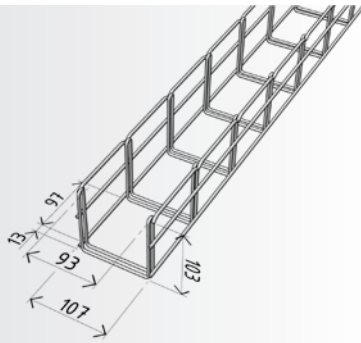
▲▲ M2 cable trays are suitable for the installation of cable routes led through space.





### M2 100/100

- GZ ARK-211210
- ZZ ARK-221210
- A2 ARK-231214
- A4 ARK-241214



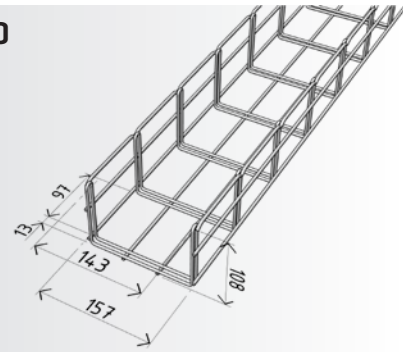
8 pcs = 16 m

**S<sub>ef</sub>** 6,120 mm<sup>2</sup>



### M2 150/100

- GZ ARK-211220
- ZZ ARK-221220
- A2 ARK-231224
- A4 ARK-241224



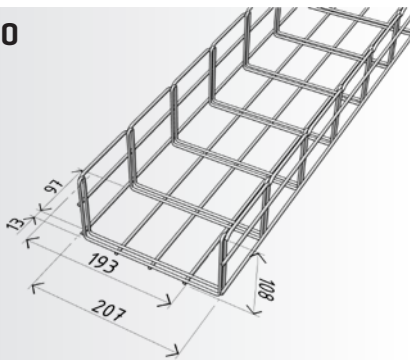
4 pcs = 8 m

**S<sub>ef</sub>** 9,440 mm<sup>2</sup>



### M2 200/100

- GZ ARK-211230
- ZZ ARK-221230
- A2 ARK-231234
- A4 ARK-241234



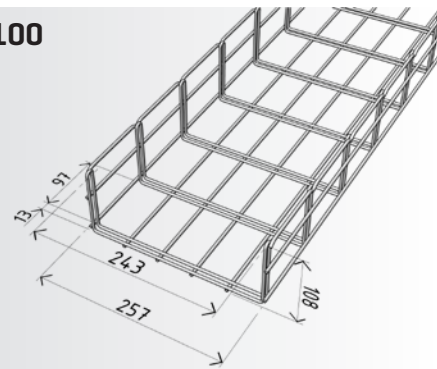
4 pcs = 8 m

**S<sub>ef</sub>** 6,050 mm<sup>2</sup>



### M2 250/100

- GZ ARK-211240
- ZZ ARK-221240
- A2 ARK-231244
- A4 ARK-241244



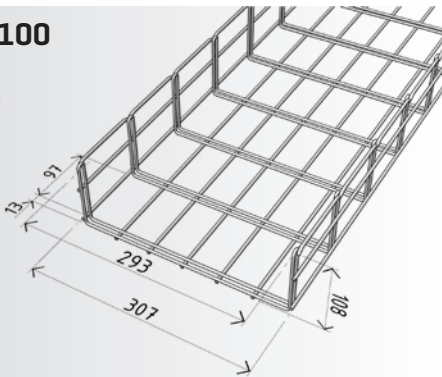
4 pcs = 8 m

**S<sub>ef</sub>** 16,090 mm<sup>2</sup>



### M2 300/100

- GZ ARK-211250
- ZZ ARK-221250
- A2 ARK-231254
- A4 ARK-241254



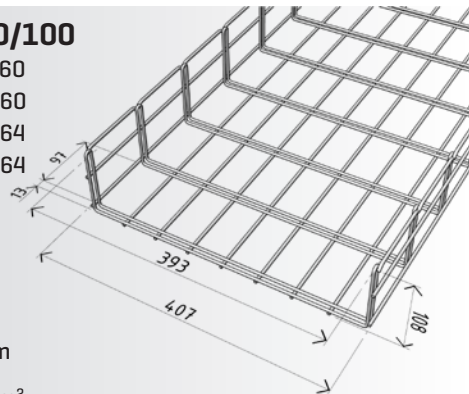
4 pcs = 8 m

**S<sub>ef</sub>** 19,420 mm<sup>2</sup>



### M2 400/100

- GZ ARK-211260
- ZZ ARK-221260
- A2 ARK-231264
- A4 ARK-241264



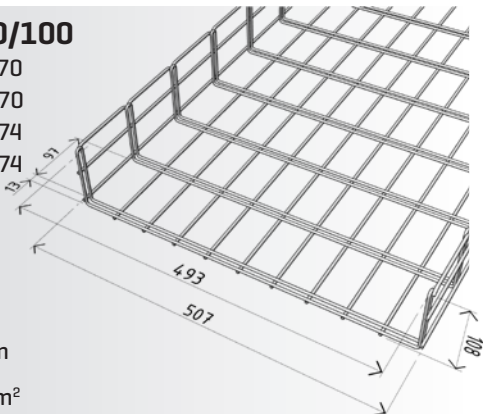
2 pcs = 4 m

**S<sub>ef</sub>** 26,070 mm<sup>2</sup>



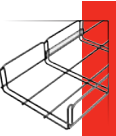
### M2 500/100

- GZ ARK-211270
- ZZ ARK-221270
- A2 ARK-231274
- A4 ARK-241274

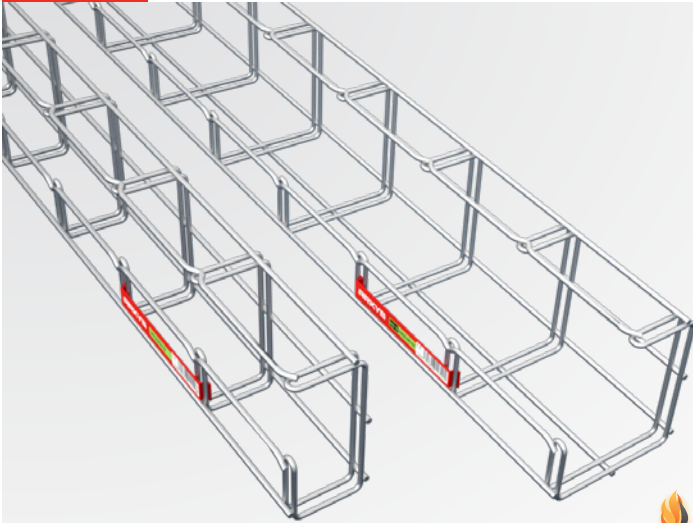


2 pcs = 4 m

**S<sub>ef</sub>** 32,740 mm<sup>2</sup>



## M2-G MERKUR cable duct, type M2-G





MERKUR 2 cable ducts, type M2-G are designed for simplified ceiling [suspended ceiling] installation of lightweight cable routes.


**The open "G" cross-section of the ducts allows easy cable installation by storing the cabling without stretching, thus significantly optimizing time and costs.** The shape of these ducts enables easy installation using DZM 12 holders directly under the building's horizontal structures. No other system elements are needed to install the route, except for the SZM 1 fitting for connecting the ducts to each other. M2-G cable ducts can also be installed on vertical building structures. They are therefore a suitable universal solution for situations where the method of anchoring changes along the route.


The mounting height of the M2-G duct route is made up only of the height of the duct. Therefore, they are an effective solution for cable routes in places with limited headroom. For example, in line constructions, tunnel constructions, mine works, photovoltaic power plants and the like.

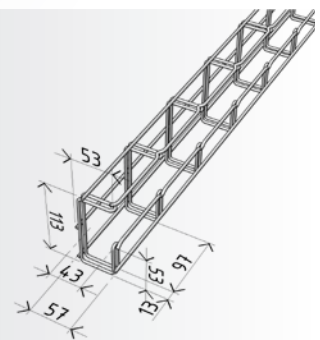
**This type of installation has been tested for fire resistance and can be used for fire resistant routes.**

### M2-G 50/100





-  ARK-211310
-  ARK-221310
-  ARK-231314
-  ARK-241314


 8 pcs = 16 m

 1,320 mm<sup>2</sup>

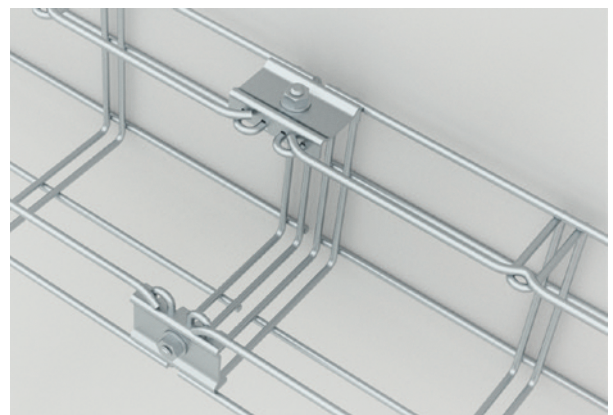
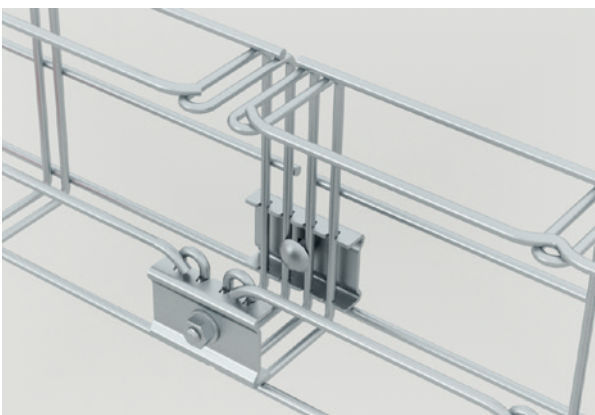
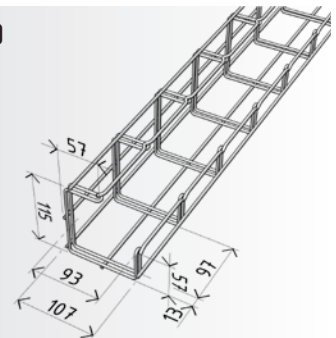



### M2-G 100/100

-  ARK-211320
-  ARK-221320
-  ARK-231324
-  ARK-241324

 4 pcs = 8 m

 2,900 mm<sup>2</sup>



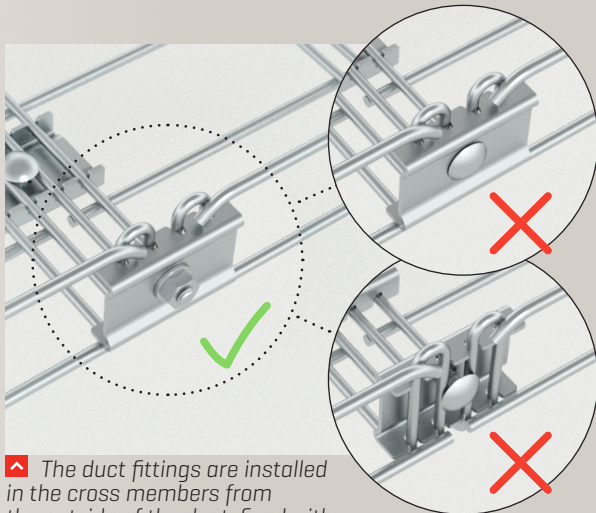
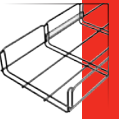
 M2-G cable ducts are designed for simplified ceiling [suspended ceiling] or wall installation of cable routes.



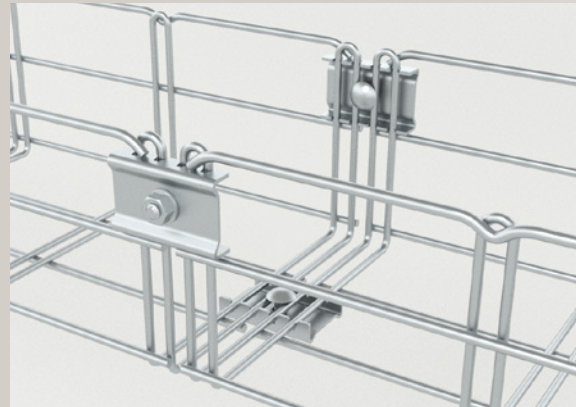
# How to connect MERKUR 2 ducts correctly?

Individual pieces of ducts are connected with SZM 1 or SZM 1-R fittings. The bodies of the fittings are equipped with special recesses for the correct fixation of the wires of the double cross member. Replacing these fittings with others is not permissible.

The correct function of the ducts, the characteristics of their connection and the values of the carrying capacity of the ducts depend on the correct execution of the connection along the entire length of the cable route. The fittings are placed outside the duct fixed with a coach bolt [from inside the duct] and a nut [tightened with normal force].

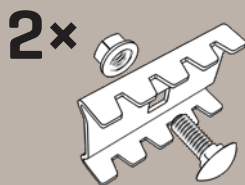


▲ The duct fittings are installed in the cross members from the outside of the duct, fixed with a coach bolt from the inside of the duct.

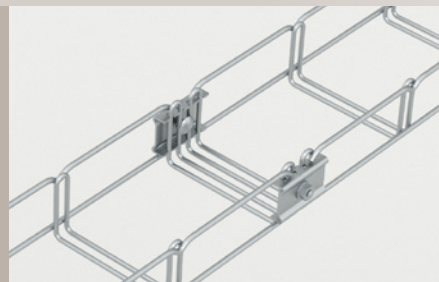


▲ On the side of the 100 mm duct, the fitting is placed under the upper edge and above the side member. The position under the stringer is not permissible!

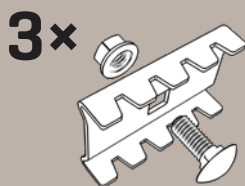
- M2 50/50
- M2 100/50
- M2 150/50
- M2 200/50
- M2 100/100
- M2 50/50 G
- M2 100/100 G



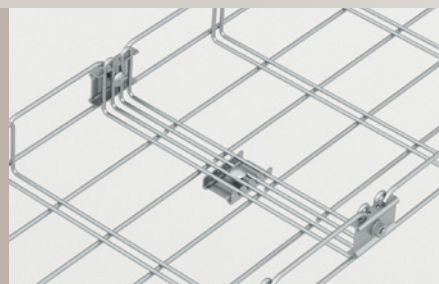
One fittings is located in each of the two side walls of the duct. ▶



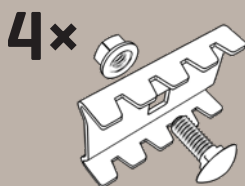
- M2 250/50
- M2 300/50
- M2 150/100
- M2 200/100
- M2 250/100
- M2 300/100



For ducts with a larger width, a third fitting is added as close as possible to the center of the bottom of the duct. ▶



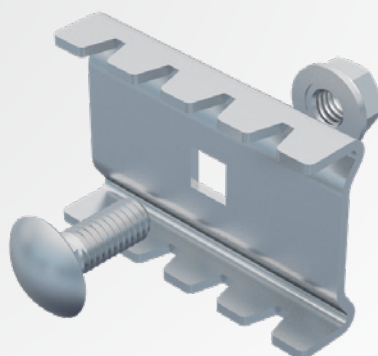
- M2 400/50
- M2 500/50
- M2 400/100
- M2 500/100



For ducts of the largest widths, two fittings are placed symmetrically in the bottom. ▶



## SZM 1 Duct fitting



The SZM 1 fitting is the **basic fitting of the MERKUR 2 system**. It is used exclusively for connecting individual pieces of cable ducts into a continuous cable route. The number of fittings required to join two ducts depends on the size of the duct and is listed on the previous page. The fitting consists of a fitting body - a liner (A), an M6×14 coach bolt and an M6 collar nut. This fitting can be replaced with the SZM 1-R fitting for temporary as well as permanent connection of ducts in the route.

**The connection of the duct route with SZM 1 fittings meets the characteristics of a conductive connection when the nut is tightened with a torque of 5 Nm or more.**

**For the possible requirement of the function of the cable route as a random earthing device, it is necessary to use the grounding terminals SVZM1 and SVZM3.**

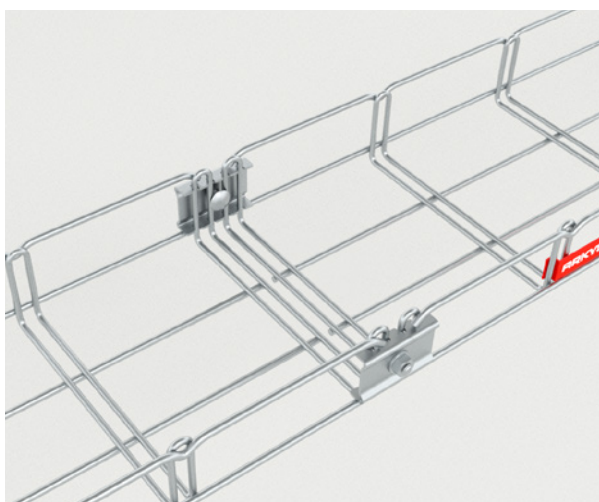
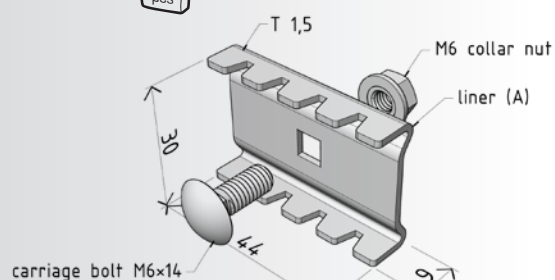


### SZM 1

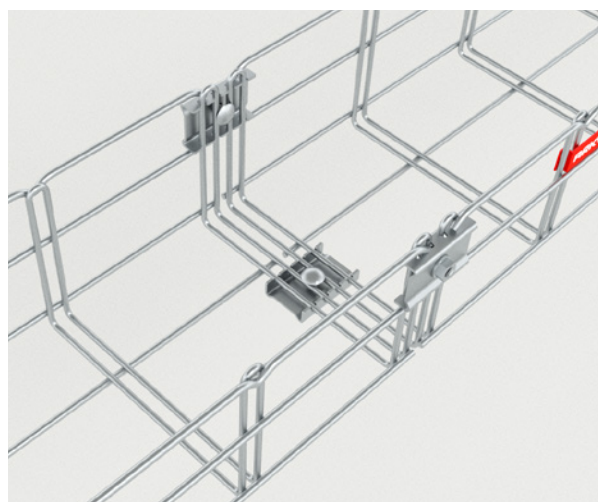
- GZ ARK-213010
- ZZ ARK-223010
- A2 ARK-233010
- A4 ARK-243010



100 pcs = 10 ×



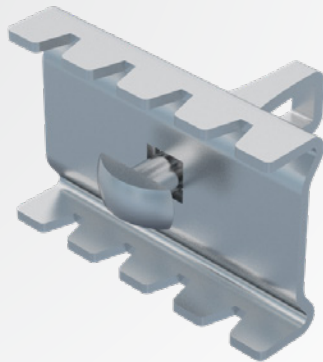
▲ SZM 1 fittings are used to connect ducts.



▲ On the side of the 100 mm duct, the fitting is placed under the upper edge and above the side member. The position under the stringer is not permissible!

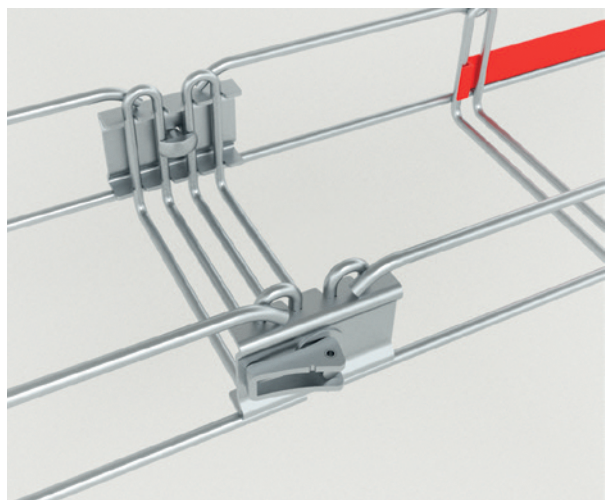
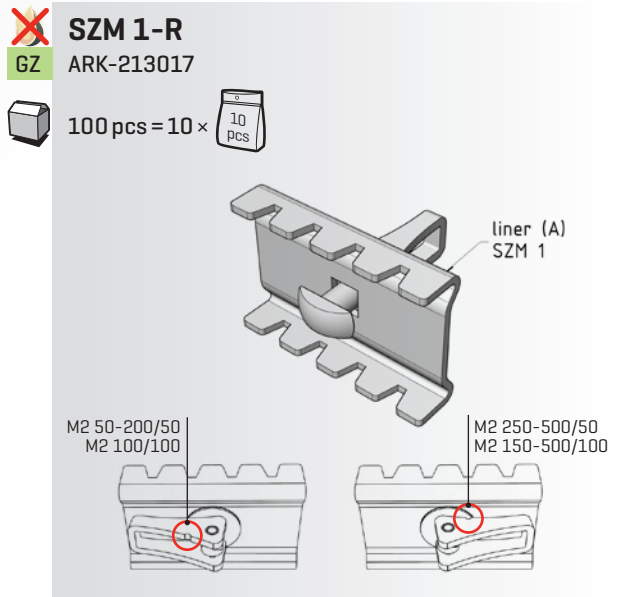


## SZM 1-R Duct fitting - screwless



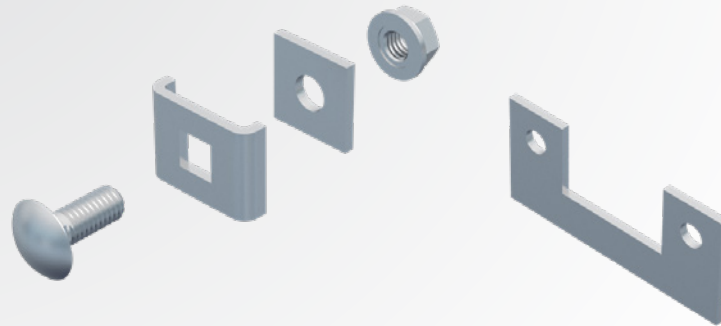
The SZM 1-R fitting is a functional alternative to the SZM 1 fitting. It is used exclusively for connecting individual pieces of cable ducts into a continuous cable route when there is a requirement **to reduce working times, the possibility of working without tools**, or for temporarily connecting routes with the assumption of subsequent replacement with standard SZM 1 fittings, which will then remain mounted permanently.

The mounting lever of the clutch has two positions distinguishable by means of an orientation notch, which correspond to the different diameters of the wire of the double cross member of the MERKUR 2 ducts of different dimensions. If the lever is turned to the wrong side, it cannot be turned to the longitudinal position, or the connection of the ducts is loose and the lever is not firmly fixed by friction in the longitudinal position.



^ The SZM 1-R fitting is a functional alternative to the SZM 1 fitting.

## SZM 4 Duct shaping fitting



The SZM 4 fitting is the **main connecting element of the shaped parts of the routes of the MERKUR 2 system**. It is used to create elbows, tees, crossing ducts and other various turns, as needed in the cable route. The fitting is installed into a double cross member in the side of the duct with the screw head and B liner facing the inside of the duct. Different angles of successive route arcs can be achieved by combining C or D attachments. The fitting kit consists of B-type main liner, C- & D-type liners, M6x16 neck bolt and M6 collar nut. **The connection of the duct with SZM 4 fittings meets the characteristics of a conductive connection when the nut is tightened with a torque of 5 Nm or more.**



▲ The SZM 4 fitting is installed into a double cross member in the side of the duct with the screw head and B liner facing the inside of the duct..



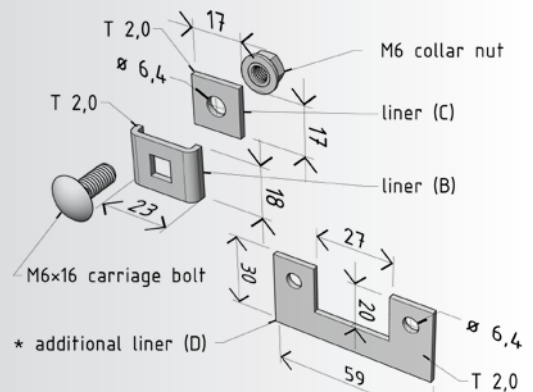
SHAPING MANUAL >>>



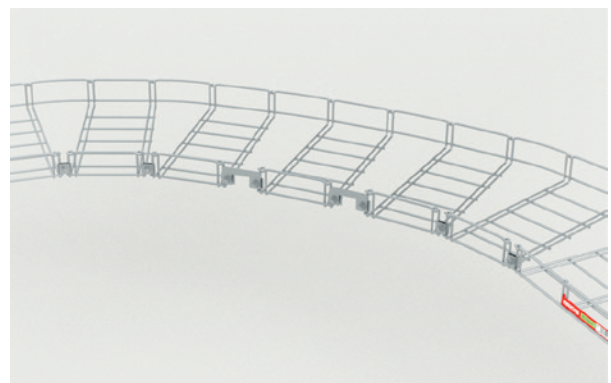
### SZM 4

- GZ ARK-213040
- ZZ ARK-223040
- A2 ARK-233040
- A4 ARK-243040

100 pcs = 10 ×



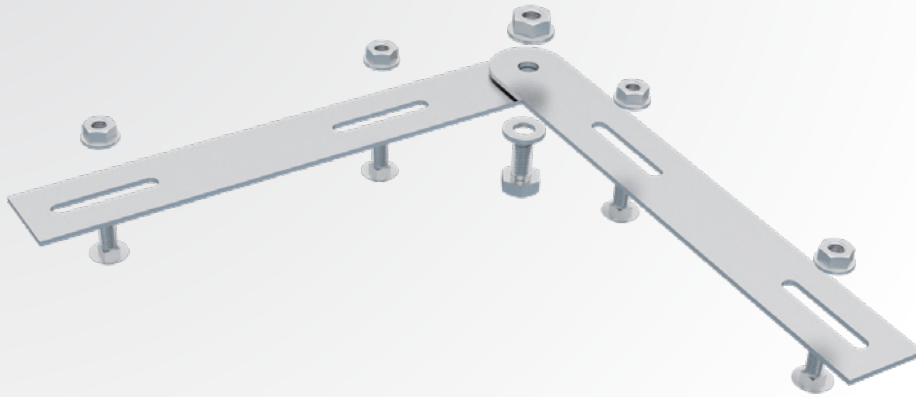
[\*] The bag always includes 5 pieces of an additional liner (D), which is installed with 2 pieces of SZM 4 fitting.



▲ Different angles of successive route arcs can be achieved by combining C or D attachments.



## SKHM 1 Articulated fitting



The SKHM 1 articulated fitting is used to create a vertical bend of the route in situations where a firm fixation of the bend angle is needed and it is not enough to create a shape element by simply forming the duct by bending.

The entire clutch consists of two identical parts. The two parts are joined together with an M8x16 hex head screw and an M8 collar nut (screw and nut are included). This connection creates a complete fitting. Each part is equipped with two oval holes 40x6.4 mm. Through these holes, the coupling is fixed with an M6x16 neck screw and an M6 collar nut (both screws and nuts are included in the delivery) to the double cross member in the side wall of the duct.

The fitting kit consists of two pieces of fitting body, one M8x16 bolt with washer and M8 collar nut, and four sets of M6x16 coach bolts with M6 collar nut.



### SKHM 1

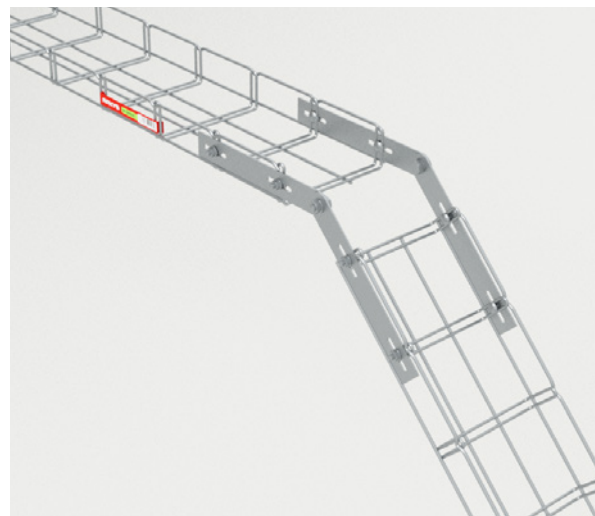
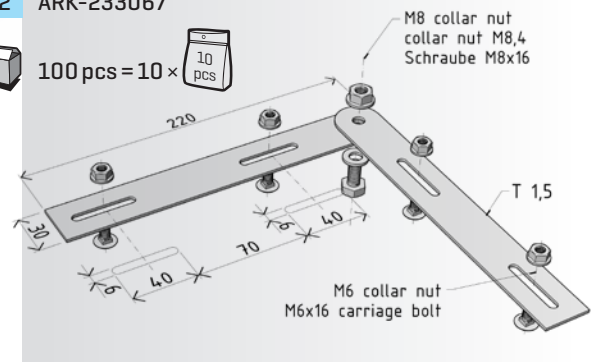
GZ ARK-213067

ZZ ARK-223067

A2 ARK-233067

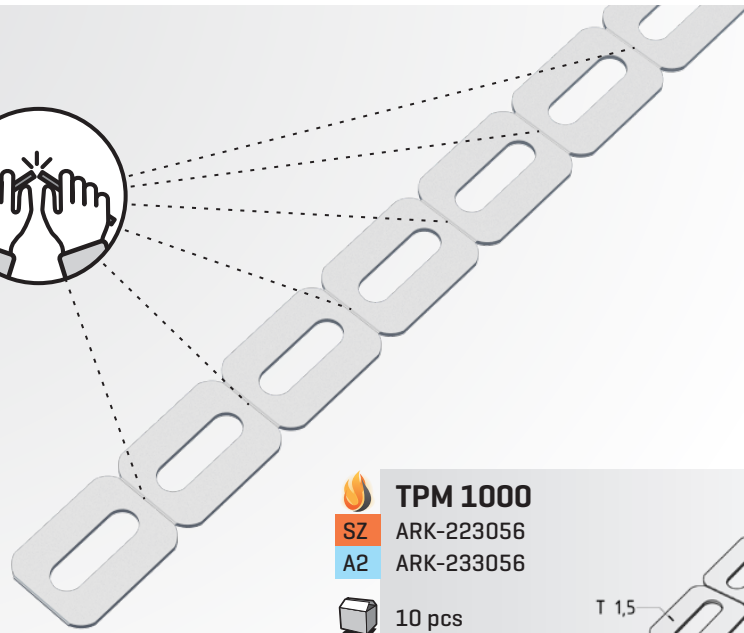






100 pcs = 10 x 10 pcs

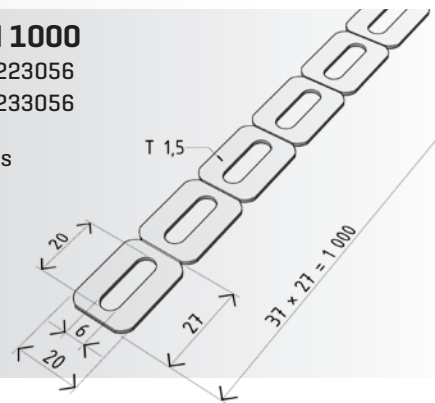


⚠ The SKHM 1 articulated fitting is used to create a vertical bend of the route in situations where a firm fixation of the bend angle is required.

## TPM 1000 Shaping tape

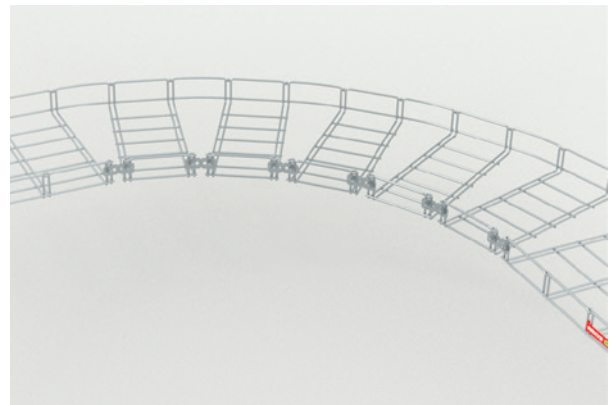



-  **TPM 1000**
-  **SZ** ARK-223056
-  **A2** ARK-233056
-  10 pcs

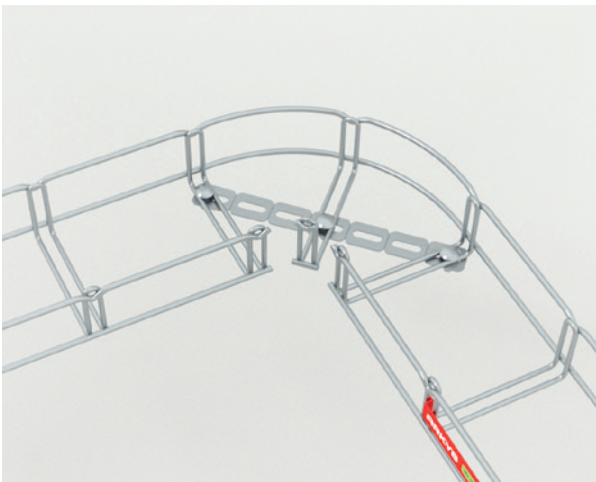



**The TPM 1000 shaping tape is used to create elbows or other shaped elements.** The TPM tape is an alternative to the TSM kit dipoles, with extended use and mounting length. It is also possible to fully replace the SZM 4 fitting with the shaping tape.

The total length of the tape is 1,000 mm and it is divided into 37 segments with an oval opening. There is a perforation between the individual parts for easy separation of the required length by simply breaking it off or cutting it with lever scissors. The TPM tape is fixed to the double cross member of the duct with an M6×16 coach bolt and an M6 collar nut [the bolt and nut are not included with the TPM tape and need to be ordered separately]. The fixing screws must always be oriented with the head inside the duct.




 With the help of TPM tape, different angles of successive arcs of routes can be easily achieved.



 TPM shaping tape can be used for situations where a shaping element needs to be reinforced.

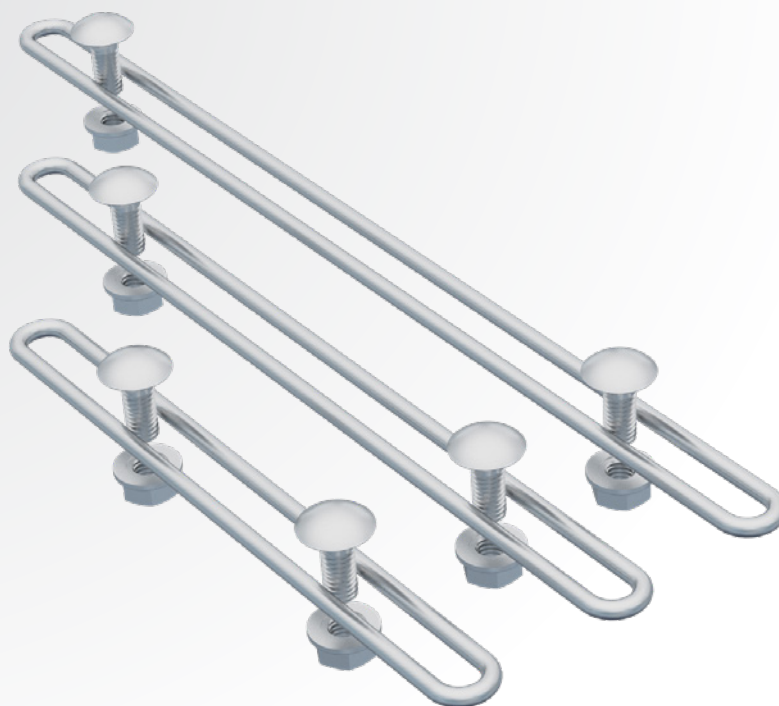


 The TPM tape is installed into the double cross member with the screw head facing the inside of the duct.



## TSM 50-100

## Alternative shaping kit



The TSM 50-100 shaping set serves as an addition to the SZM 4 shaping fitting for situations where it is necessary to strengthen the shaped element with elements longer than the D liner of the SZM 4 fitting. The set's dipoles are installed into the double cross member with the screw head facing the inside of the duct.

The TSM shaping kit consists of dipoles of various lengths [three different lengths of one in each package of the kit] and M6×16 coach screws with M6 collar nuts, 2 pcs per dipole.



### TSM 50-100

GZ

ARK-213050

ZZ

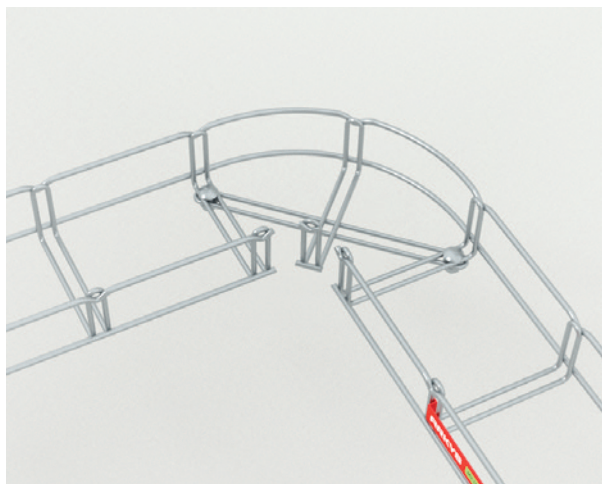
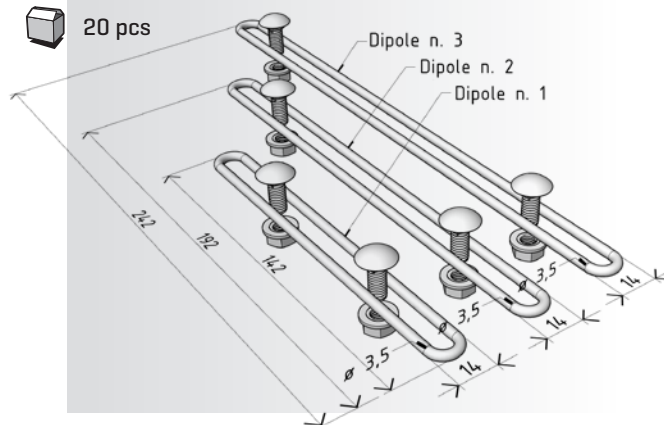
ARK-223050

A2

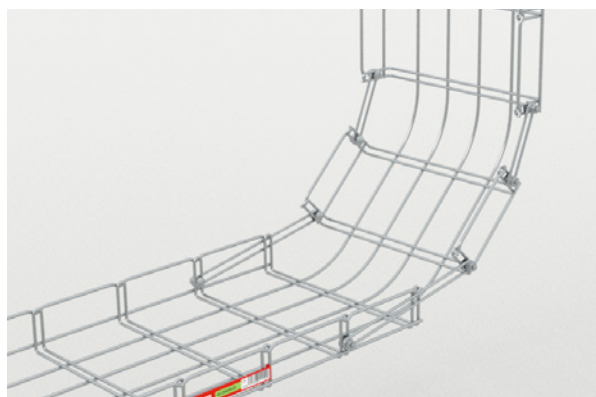
ARK-233054



20 pcs

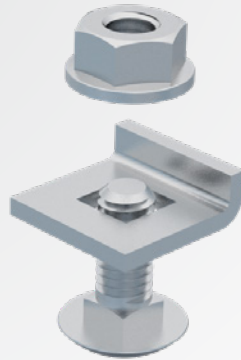


▲ The dipoles of the TSM shaping set can be used for situations where the shaping element needs to be strengthened.



▲ The set's dipoles are installed into the double cross member with the screw head facing the inside of the duct.

## SVM 1 Cover fitting



The SVM 1 fitting is used to fasten the duct cover. The fitting consists of an edged liner [E], an M6x16 coach bolt and an M6 collar nut.

Fittings are installed in the holes prepared in the cover, or in the holes drilled in the required place, always in the number of 2 pcs/meter of the length of the duct cover.

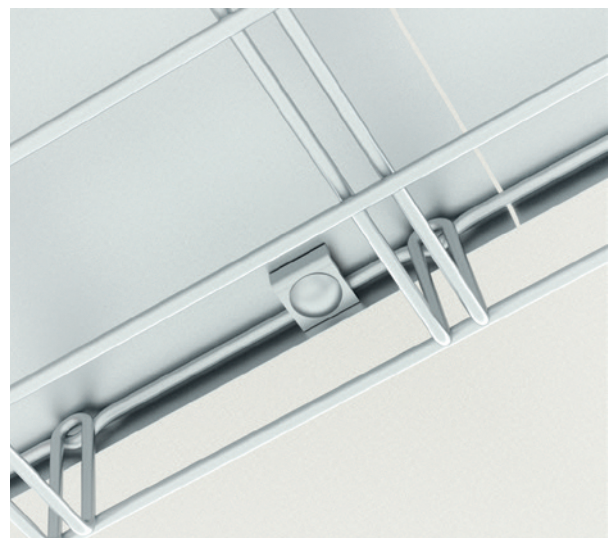
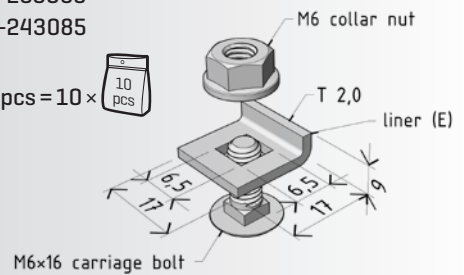


### SVM 1

- GZ ARK-213085
- ZZ ARK-223085
- A2 ARK-233085
- A4 ARK-243085



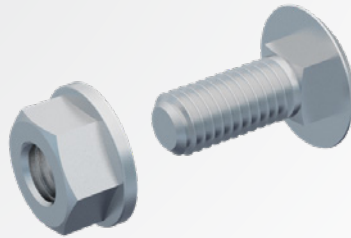
100 pcs = 10 x



▶ SVM 1 fittings are used to fix the cover to the upper edge of the duct.



## SPM 1 Partition connecting kit



The SPM 1 connecting set is used to fasten the KPZM and KPZMP partitions in the duct. The set consists of an M6x16 coach bolt and an M6 collar nut.

The connection set is installed in the holes prepared in the partition, or in the holes drilled in the required place of the partition, always in the number of 1 pc/meter of the length of the duct partition. Mounting the partition using the SPM 1 set in the double cross member allows it to be easily fixed in any position across the entire width of the duct.

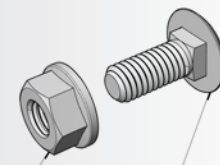


### SPM 1

GZ	ARK-213080
ZZ	ARK-223080
A2	ARK-233080
A4	ARK-243080

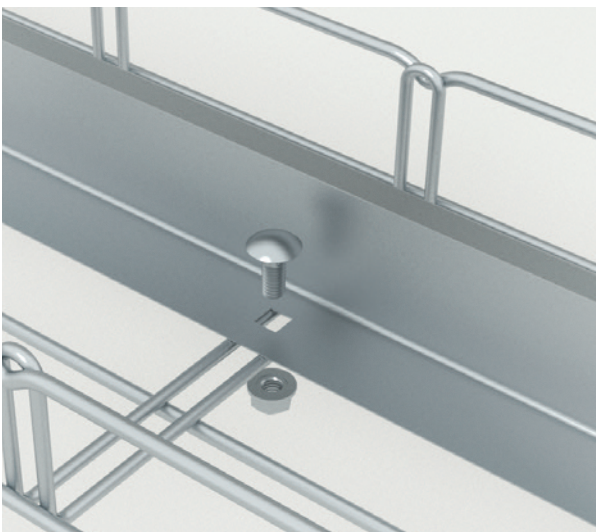


100 pcs = 10 × 10 pcs



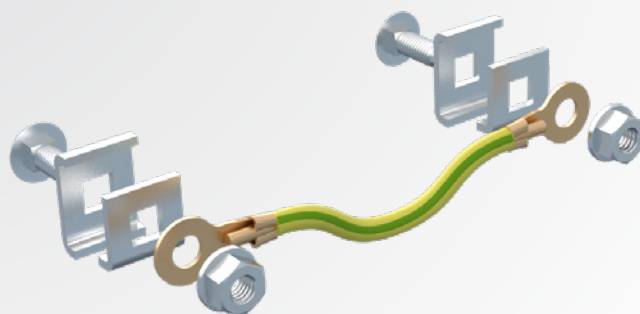
M6 collar nut

M6x16 carriage bolt



▶ Mounting the partition using the SPM 1 set in a double cross member allows it to be easily fixed in any position across the entire width of the duct.

## SUM 1 Grounding fitting



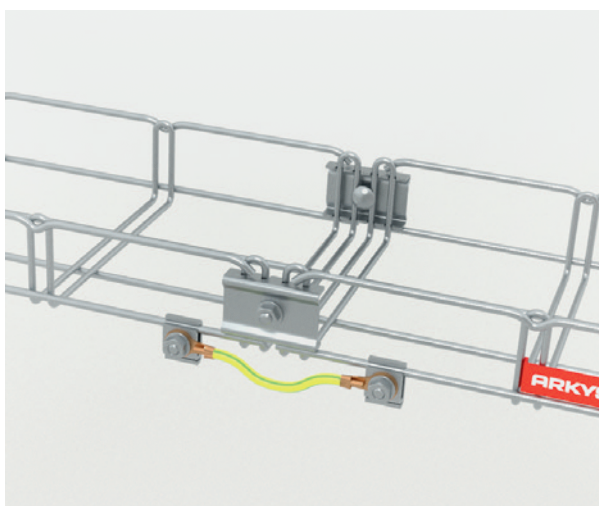
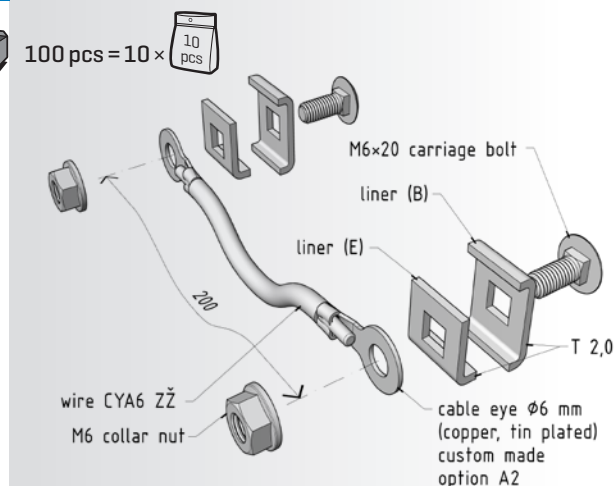
The SUM 1 fitting is used as an element to strengthen the conductive connection of individual ducts during the implementation of cable routes in an **environment with increased corrosion aggressiveness**. It is mainly used for ducts in the ZZ design - hot-dip galvanized. The fitting set consists of a CYA 6 ZŽ wire (length 200 mm), 2 pcs of liner (B), 2 pcs of liner with edge (E), 2 pcs of M6×20 coach bolts and 2 pcs of M6 nuts.


**For the possible requirement of the function of the cable route as a random earthing device, it is necessary to use the grounding terminals SVZM 1 and SVZM 3.**

### SUM 1

- GZ ARK-213070
- ZZ ARK-223070
- A2 ARK-233070
- A4 ARK-243070

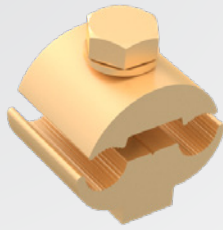
 100 pcs = 10 ×  10 pcs



 The SUM 1 fitting is used as an element to strengthen the conductive connection of individual ducts.



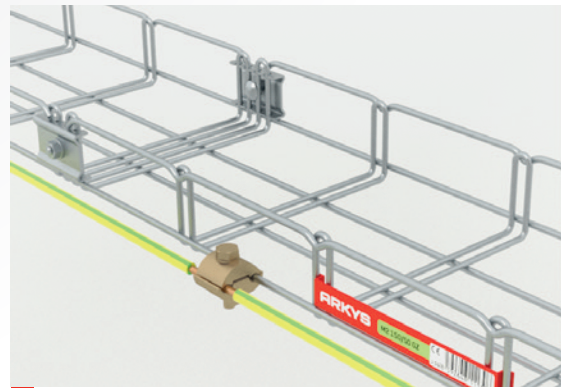
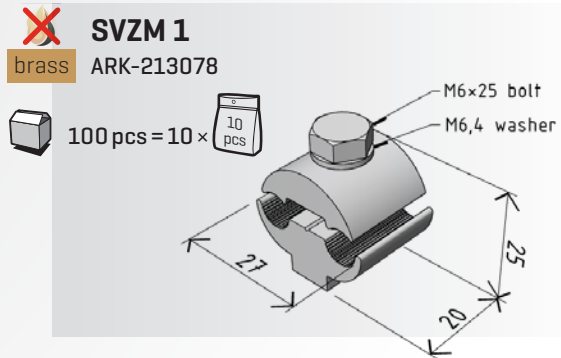
## SVZM 1 Grounding terminal



The SVZM 1 terminal is used to connect the MERKUR 2 cable ducts to the grounding circuit of the installation. **It is designed for a conductor with a cross-section of up to 25 mm<sup>2</sup>.** Terminals are installed along the route at 5–10 meter intervals.

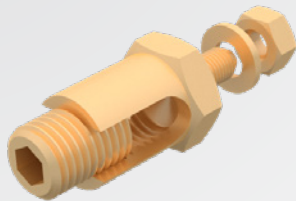
The cross-section of the protective conductor is determined by the designer or implementation company based on technical calculations.

**Connecting the cable route using the SVZM 1 terminal enables the use of the cable route as a random grounding device.**



▲ The SVZM 1 fitting is used to ground the cable route along its course.

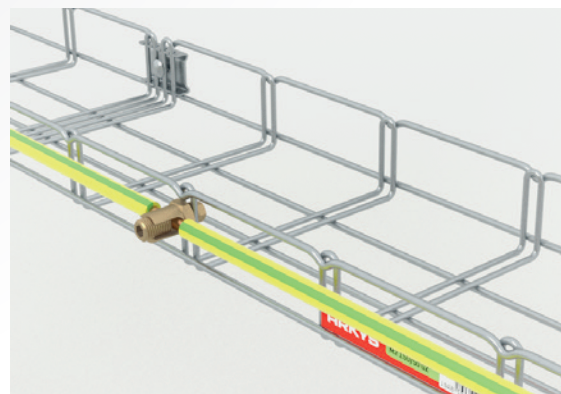
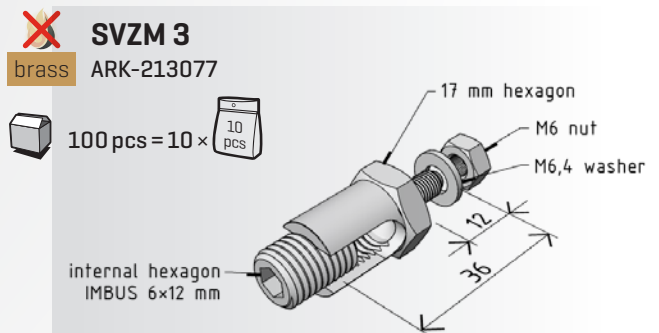
## SVZM 3 Grounding terminal



The SVZM 3 terminal is used to connect the MERKUR 2 cable ducts to the grounding circuit of the installation. **It is designed for a conductor with a cross-section of up to 50 mm<sup>2</sup>.** Terminals are installed along the route at 5–10 meter intervals.

The cross-section of the protective conductor is determined by the designer or implementation company based on technical calculations.

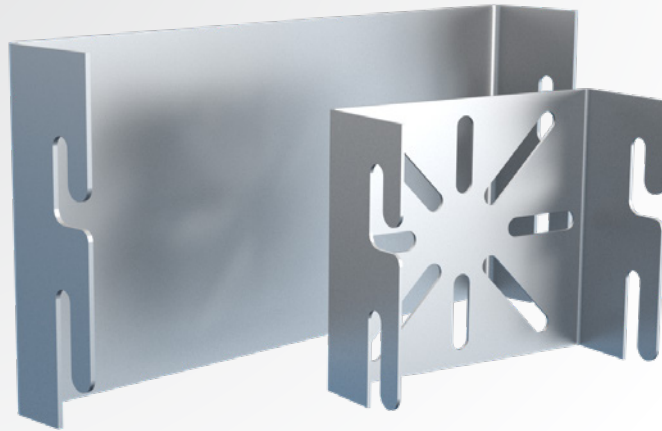
**Connecting the cable route using the SVZM 3 terminal enables the use of the cable route as a random grounding device.**



▲ The SVZM 3 fitting is used to ground the cable route along its course.







## DZM 1 Distribution box holder

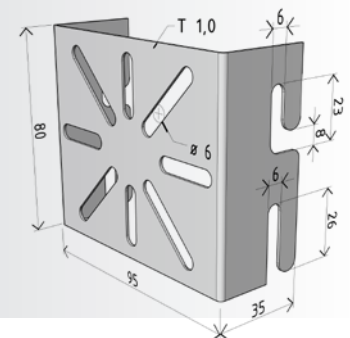
## DZMU 1 Universal cable route accessory holder



The DZM 1 holder is used for fixing distribution boxes and other electrical distribution elements (sockets, switches, etc.) directly to the cable route. After placing it on the duct, the holder is secured by hooking the extended tabs.







**The maximum carrying capacity of the holder is 5 kg.**

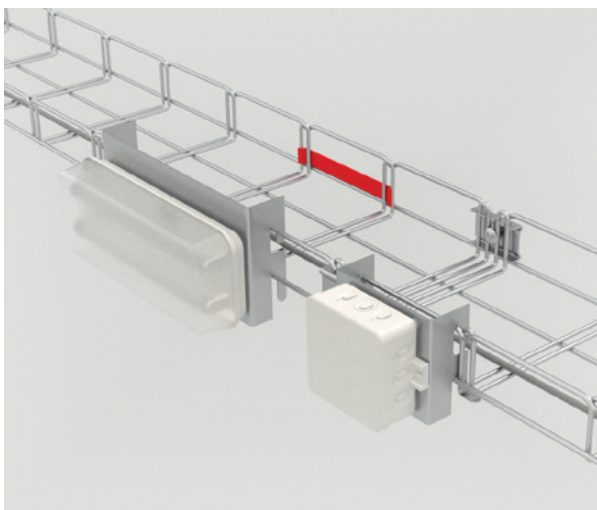
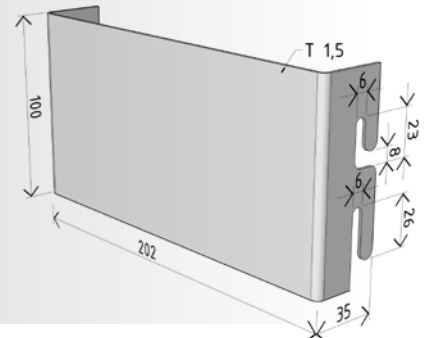
-  **DZM 1**
-  GZ ARK-214010
-  ZZ ARK-224010
-  A2 ARK-234010
-  A4 ARK-244010
-  42 pcs



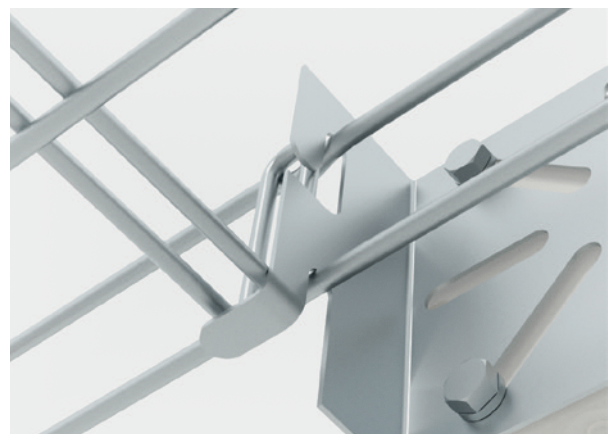
The DZMU 1 holder is used to fasten elements that require a larger connection surface than the DZM 1 holder provides. This accessory can be fixed, for example, with a TEX-type self-drilling screw. After placing it on the duct, the holder is secured by hooking the extended tabs.


**The maximum carrying capacity of the holder is 10 kg.**

-  **DZMU 1**
-  GZ ARK-214015
-  ZZ ARK-224015
-  A2 ARK-234015
-  A4 ARK-244015
-  20 pcs



 The DZM 1 holder is used for fixing junction boxes and other electrical distribution elements.



 After placing them on the duct, the holders are secured by hooking at least one of the lower extended tabs.

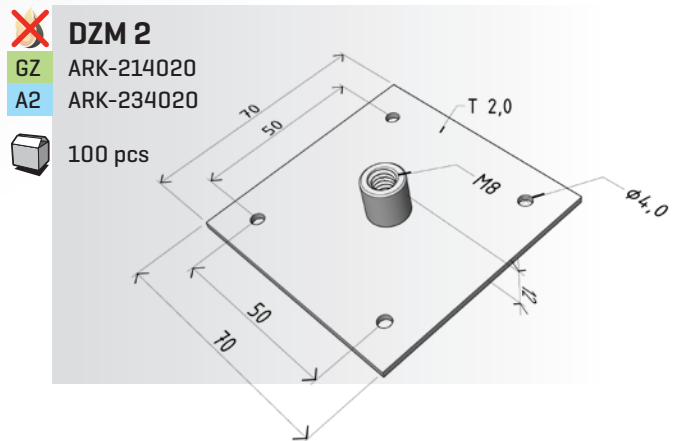


## DZM 2 Threaded rod holder



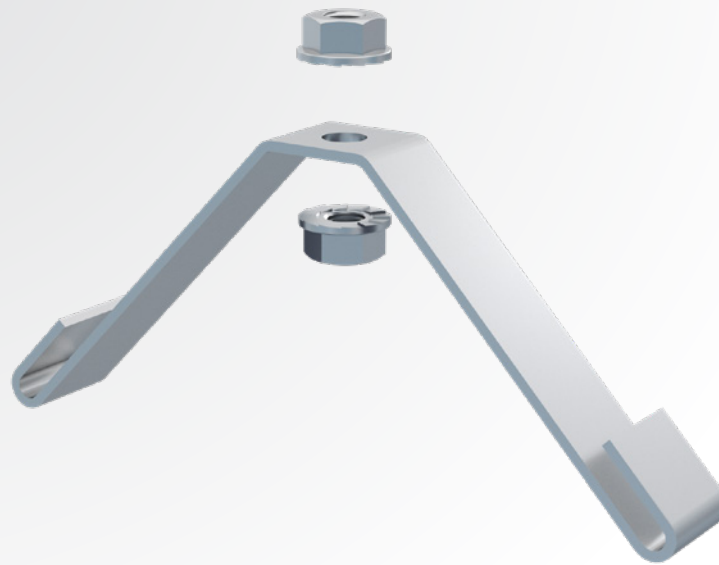
The DZM 2 holder is used for anchoring M8 threaded rods to the ceiling (wooden, hurdisk, etc.), or under another horizontal part of the building, where metal dowels in concrete cannot be used.

**The maximum recommended carrying capacity is 150 kg.**



⬆ The DZM 2 holder is used for anchoring M8 threaded rods to the ceiling.

## DZM 3 Duct holder for hanging installation



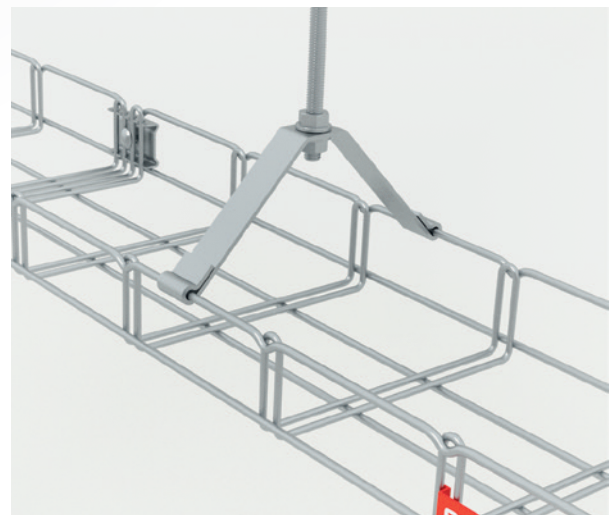
The DZM 3 holder is used for hanging cable ducts on M8 threaded rods. It can also be used as a supporting element for the installation of various types of lighting. The numerical designation of the size of the holder also determines the width of the duct the holder is designed for [e.g. the DZM 3/150 holder is intended for ducts with a width of 150 mm]. After installation, it is necessary to secure the ducts in the holder against falling out by bending the overlapping arms of the holder.

When mounting on threaded rods and DZM 3 holders, it is not necessary to stretch the cabling. It is possible to mount entire sections of the route by hanging it on only one of the arms of the holder and inserting the cabling into the thus suspended duct route. After the wiring is installed, the ducts are hung in the second of the holder arms.

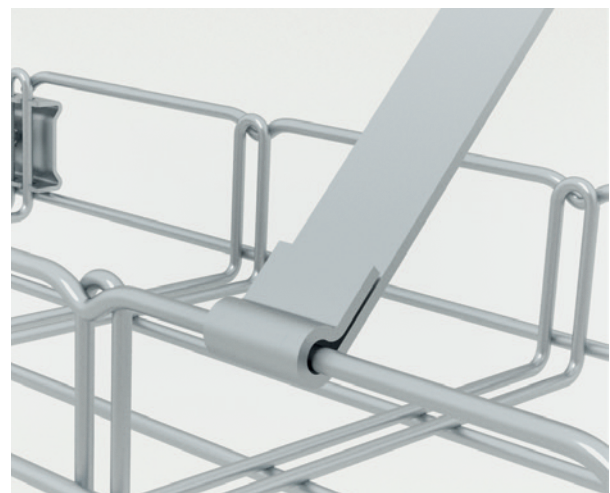
For suspended installation on DZM 3 holders, it is more difficult to install using duct covers. In the case of a request for routes covered with a lid, it is suitable for the route to use a suspended installation on two threaded rods and supports, or DZM 6 holders.

**The maximum recommended carrying capacity of the holder is 50 kg.**

When checking the carrying capacity of the cable route, it is necessary to take into account that in this case of installation, from the point of view of the carrying capacity of the duct, it is not a standard installation on support points, but rather a suspension of the duct on the upper rim, and it is necessary to take into account the reduced capacity limits of the ducts by a safety factor of 0.8.



▲ The DZM 3 holder is used for hanging cable ducts on M8 threaded rods.



▲ After installation, it is necessary to secure the ducts in the holder by bending the overlapping holder arms.





### DZM 3/100

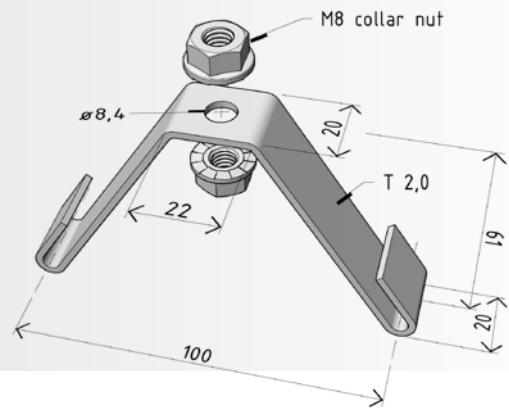
GZ ARK-214030

ZZ ARK-224030

A2 ARK-234030

A4 ARK-244030

100 pcs



### DZM 3/150

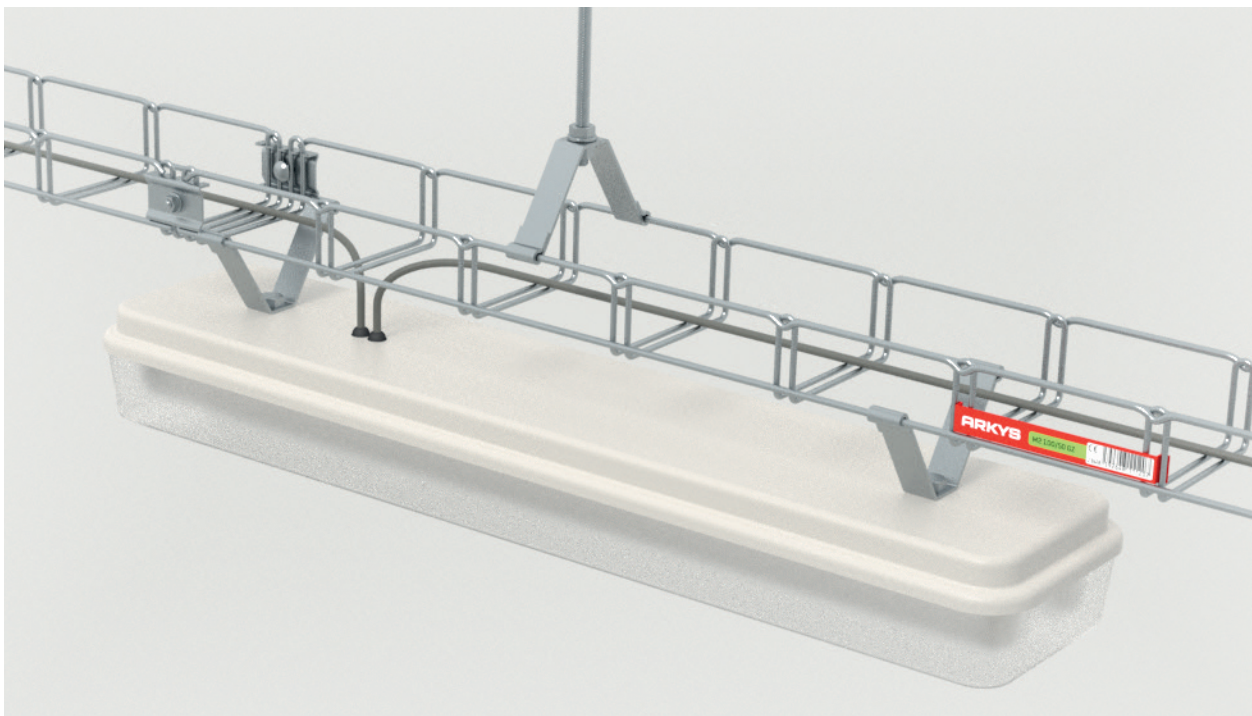
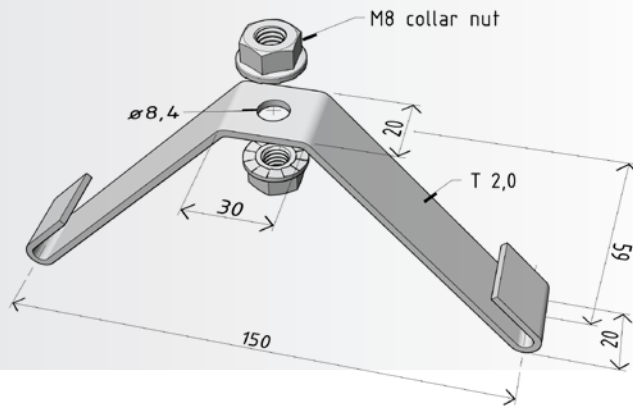
GZ ARK-214035

ZZ ARK-224035

A2 ARK-234035

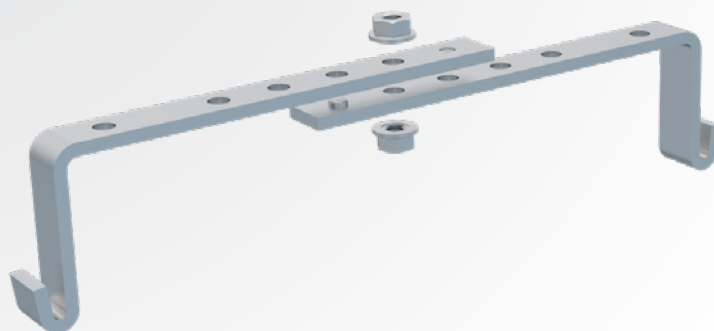
A4 ARK-244035

80 pcs



^ Suspended installation on threaded rods and DZM 3 holders can be used for simplified assembly of lighting distributions, where the cable route also forms a support system for light fittings.

## DZM 4 Duct holder for suspended mounting, adjustable




The DZM 4 holder is used **for hanging cable ducts with a width of 200-300 mm** on M8 threaded rods.

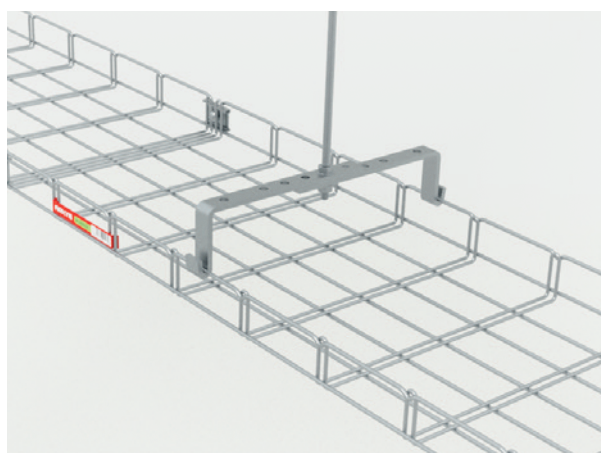
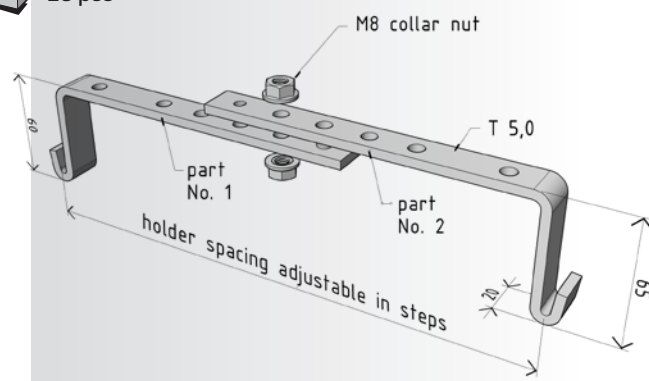
W razie instalacji podwieszanej na uchwyty DZM 4 jest trudniejsze instalacyjnie użycie pokrywy korytka. For suspended installation on DZM 4 holders, it is more difficult to install using duct covers. In the case of a request for routes covered with a lid, it is suitable for the route to use a suspended installation on two threaded rods and supports, or DZM 6 holders.


**The maximum recommended carrying capacity of the holder is 80 kg.**

When checking the carrying capacity of the cable route, it is necessary to take into account that in this case of installation, from the point of view of the carrying capacity of the duct, it is not a standard installation on support points, but rather a suspension of the duct on the upper rim, and it is necessary to take into account the reduced capacity limits of the ducts by a safety factor of 0.8.

 **DZM 4**  
GZ ARK-214040  
ZZ ARK-224040  
A2 ARK-234040

 25 pcs

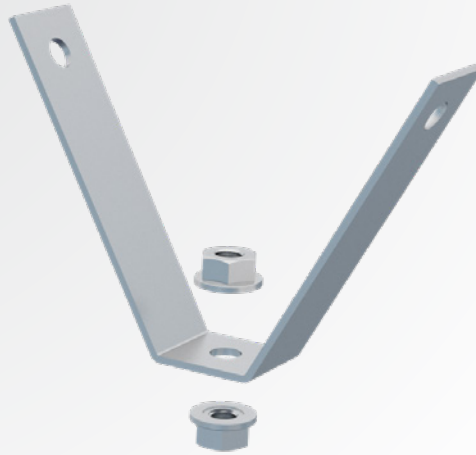


 The DZM 4 holder is used for hanging cable ducts of larger widths on M8 threaded rods.



## DZM 5

## Threaded rod holder for trapezoidal ceilings



The DZM 5 threaded rod trapezoidal holder is used for anchoring M8 threaded rods to roofs and suspended ceilings made of trapezoidal sheets.

**The maximum recommended carrying capacity of the holder is 60 kg.**

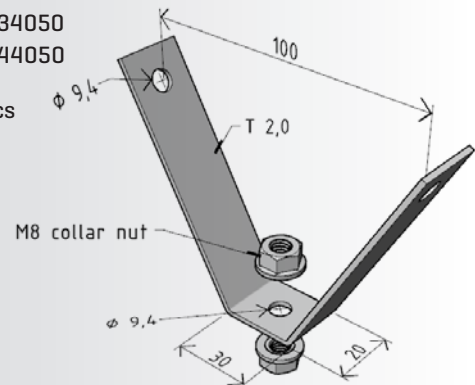


### DZM 5

- GZ ARK-214050
- ZZ ARK-224050
- A2 ARK-234050
- A4 ARK-244050

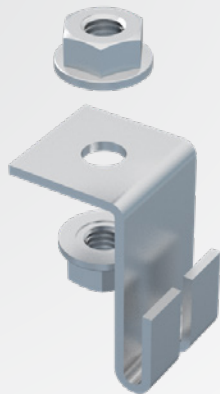


100 pcs



^ The DZM 5 holder is used for anchoring threaded rods to roofs and suspended ceilings made of trapezoidal sheets.

## DZM 6 Duct holder for hanging installation



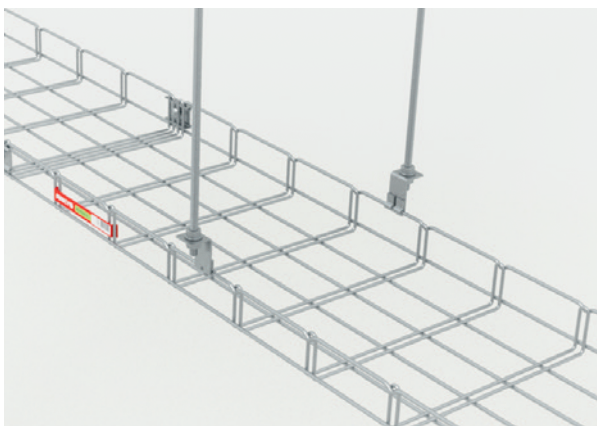
The DZM 6 holder is used for hanging cable ducts on an M8 threaded rod during suspended installation on pairs of threaded rods.

In a standard installation (installation without a duct cover), the ducts are hung in the holder by the upper edge of the duct. After installation, it is necessary to secure the ducts in the holder by bending the overlapping holder arms.

Mounting on the lower edge of the wire is also suitable for routes where a cover will be used. In such a case, the duct is hung in the holder by the stringer on the side of the duct, and after installation it is also necessary to secure the duct in the holder by bending the overlapping arms of the holder.

**The maximum recommended carrying capacity of the holder is 30 kg. The maximum load capacity of a pair of holders is 70 kg.**

When checking the carrying capacity of the cable route, it is necessary to take into account that in this case of installation, from the point of view of the carrying capacity of the duct, it is not a standard installation on support points, but rather a suspension of the duct on the upper rim, and it is necessary to take into account the reduced capacity limits of the ducts by a safety factor of 0.8.



▲ The DZM 6 holder is used for hanging cable ducts on M8 threaded rods.

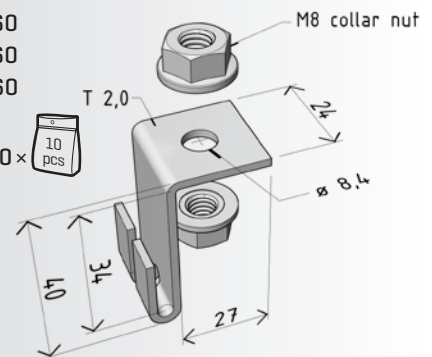


### DZM 6

- GZ ARK-214060
- ZZ ARK-224060
- A2 ARK-234060
- A4 ARK-244060



100 pcs = 10 × 10 pcs



▲ Mounting on the DZM 6 holders is also suitable for routes where a cover will be used.

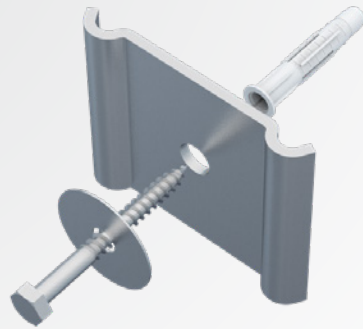


▲ The ducts must be secured by bending the overlapping bracket arms.



## DZM 7

## Duct holder for flat (riser) installation



The DZM 7 bracket is used for anchoring cable ducts directly to the wall in flat installation routes. The holder can be used for both horizontal and vertical installation. For ducts of larger widths and also in cases of routes with a greater expected load, it is advisable to use the DZM 7 holder in pairs.

The spacing of the fixing recesses of the holder enables the use of the holder in the bottom of the duct.

The holder is not intended for ducts with a width of 100 mm.

**When installing cables in routes installed flat (flat horizontal and riser routes), it is of course necessary to fix the cables in the ducts with tapes or clamps.**

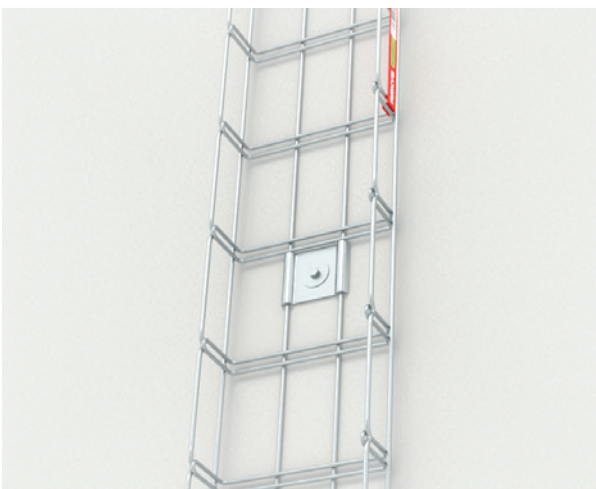
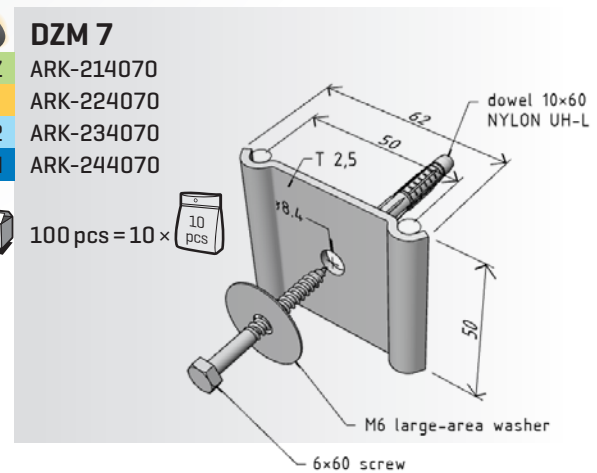


### DZM 7

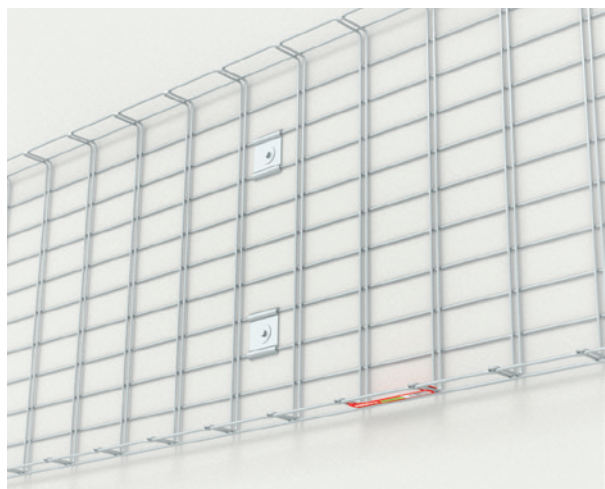
- GZ ARK-214070
- ZZ ARK-224070
- A2 ARK-234070
- A4 ARK-244070



100 pcs = 10 x 10 pcs



^ The DZM 7 holder is used for anchoring cable ducts directly to the wall in flat installations.



^ For ducts of greater width, or for routes with a greater load, it is advisable to use the DZM 7 holder in pairs.

## DZM 8 Duct holder for wall mounting



The DZM 8 holder is used for anchoring cable ducts in wall installation directly to vertical parts of the building. The ducts are hung in the holder by the upper edge. After installation, it is necessary to secure the ducts in the holder by bending the overlapping holder arms.


The maximum recommended duct width is 50 and 100 mm depending on the weight load of the duct.

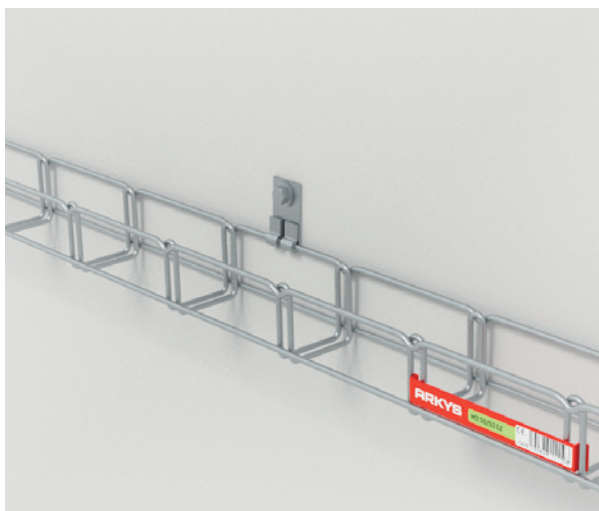
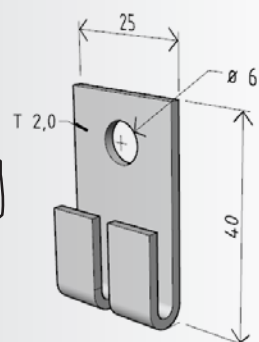
**The maximum recommended carrying capacity is 40 kg.**



### DZM 8

- GZ ARK-214080
- ZZ ARK-224080
- A2 ARK-234080
- A4 ARK-244080

100 pcs = 10 × 



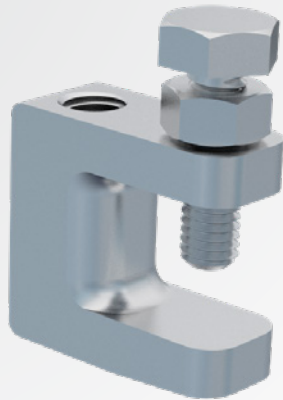
▲ The DZM 8 holder is used for anchoring cable ducts in wall installation directly to vertical parts of the building.



▲ The ducts must be secured by bending the overlapping bracket arms.



## DZM 9 Threaded rod holder



The DZM 9 holder is used for fixing the M8 threaded rod of the spatial suspension assembly to the profile. It is typically used for suspended installation in suspended ceilings, where the supporting structure consists of profiles on which the cable route is suspended.

The holder is mounted in the locking screw up position. The locking screw is tightened with a small preload, just to ensure the position of the holder is fixed. Too much preload can reduce the load capacity of the holder and can lead to material breakage. The holder is made of malleable cast iron and is galvanized.

**The maximum recommended carrying capacity of the holder is 120 kg.**

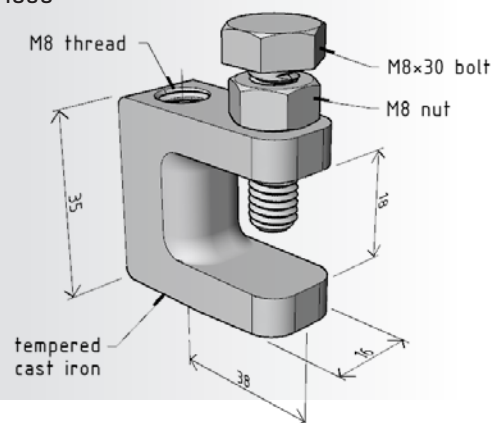


### DZM 9

GZ ARK-214090



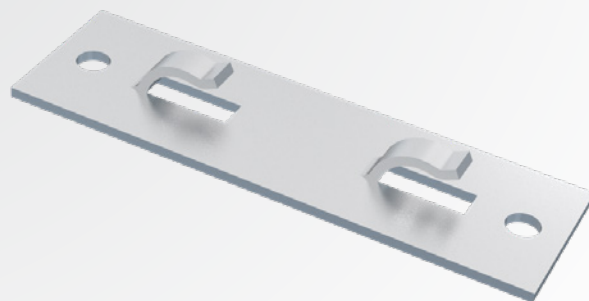
50 pcs



^ > The DZM 9 holder is used to fasten the M8 threaded rod of the spatial suspension assembly to the I profile.

## DZM 10

## Duct holder for flat (riser) installation



The DZM 10 bracket is used for anchoring cable ducts directly to the wall in flat installation routes.

The holder can be used for both horizontal and vertical installation. For ducts of larger widths and also in cases of routes with a greater expected load, it is advisable to use the DZM 10 holder in pairs.

It is mainly used in installations on metal structures, to which it is fixed using self-tapping screws or by welding.

As in the case of other load-bearing elements equipped with fastening hooks, it is necessary to secure the ducts in the holder by bending these hooks after installation.

The holder is not intended for ducts with a width of 100 mm.

### Maximum recommended hook load:

- in a cut of 30 kg – in case of wall installation
- in a pull of 10 kg – in case of ceiling installation

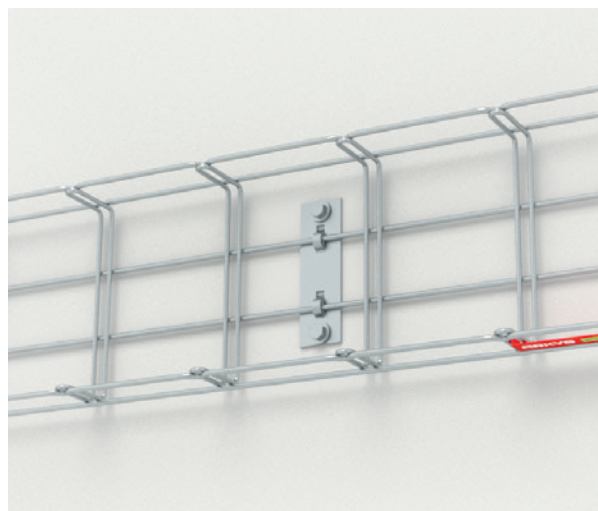
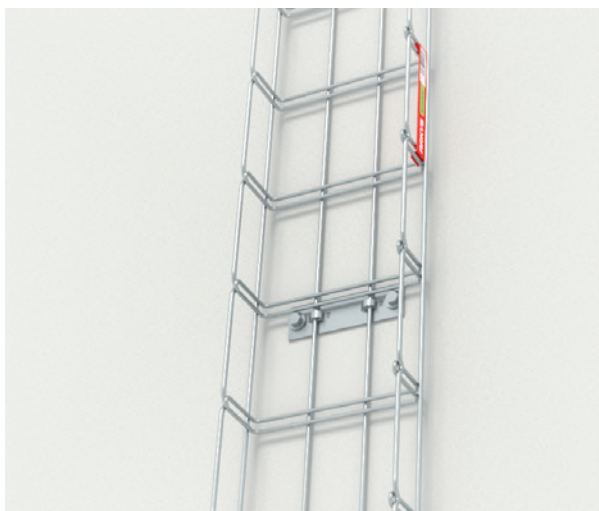
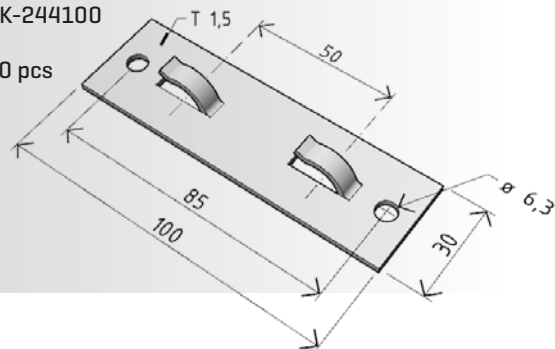


### DZM 10

- GZ ARK-214100
- ZZ ARK-224100
- A2 ARK-234100
- A4 ARK-244100



100 pcs



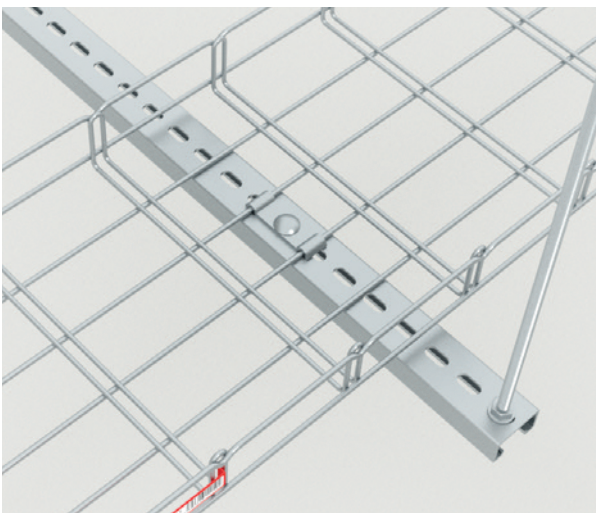
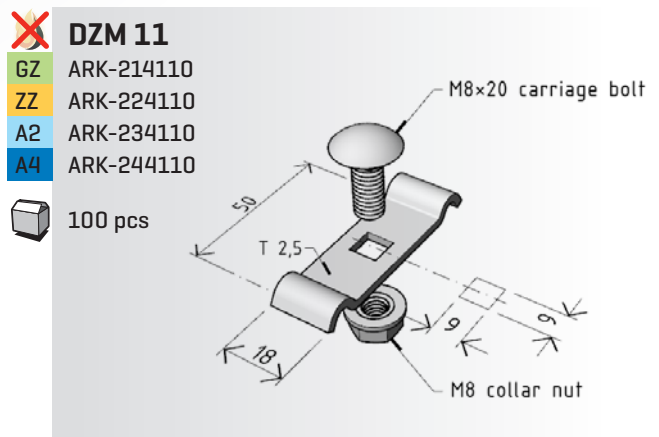
⬆️ ⬇️ The DZM 10 bracket is used for anchoring cable ducts directly to the wall in flat installation routes.



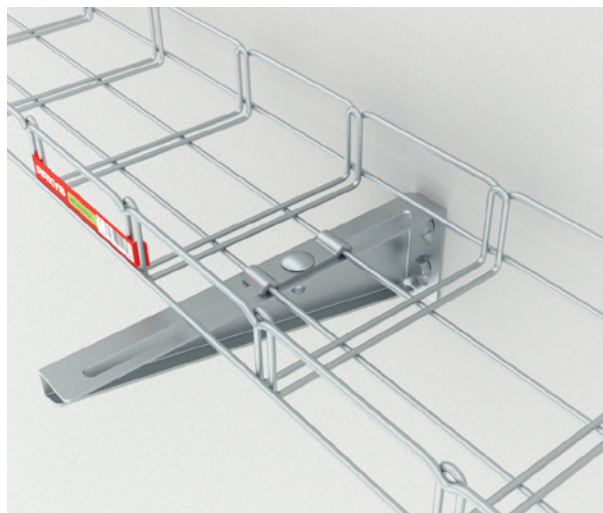
## DZM 11 Universal duct holder



The DZM 11 holder is used to attach cable ducts to STNM wall rail struts, STPM space rail struts, or to other steel structures, especially for horizontal routes. In these cases, for example, in a spatial suspension assembly on pairs of threaded rods, the load-bearing support can be replaced by a rail strut of the appropriate length, thereby achieving a higher load-bearing capacity of the route. **The DZM 11 bracket is used for fixing the MERKUR 2 cable ducts to the NZMU beams for routes without a requirement for fire resistance.** The spacing of the fixing recesses of the holder enables the use of the holder in the bottom of the duct. For a 100 mm wide duct (where the distance of the fastening stringers is greater than the standard 50 mm for design reasons), the fastening to the supporting profile is done by hooking only one of the rectangles under the holder. In such a case, it is advisable to gradually alternate this stringer at the support points of the route, so as to achieve immovable fixing of the duct in the route.



▲ The DZM 11 holder is used to attach cable ducts to STNM wall rail struts, STPM space rail struts, or to other steel structures.



▲ The DZM 11 holder is used to attach cable ducts to NZMU beams.

## DZM 12 Duct side holder



The DZM 12 holder is used for anchoring cable ducts of smaller dimensions in wall installation directly to the vertical structures of the building. **The maximum recommended duct width up to 100 mm** depending on the weight load of ducts.

**The lower spacing of this holder (42 mm) is intended only for fastening by the upper edge of the duct and the adjacent stringer on the side of the duct.**

The DZM 12 holder is also suitable as an anchoring element for M2-G type ducts installed in the suspended ceiling.



### DZM 12

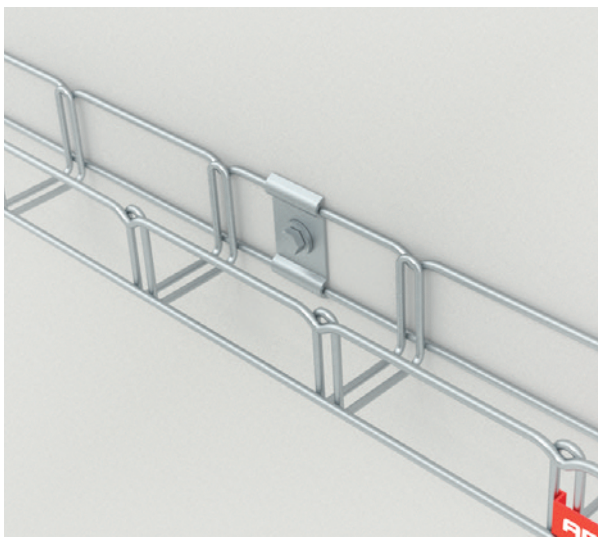
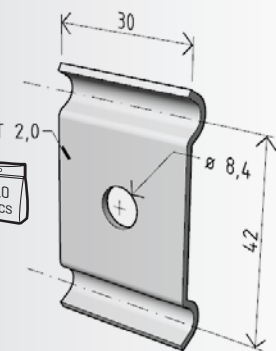
- GZ ARK-214120
- ZZ ARK-224120
- A2 ARK-234120
- A4 ARK-244120



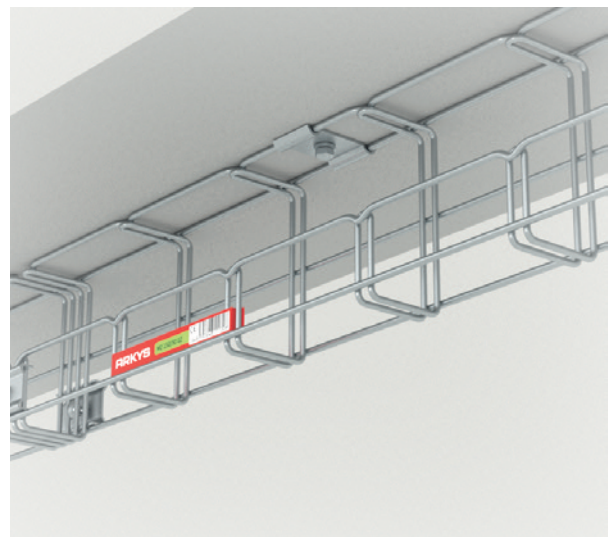
100 pcs = 10 x



10 pcs



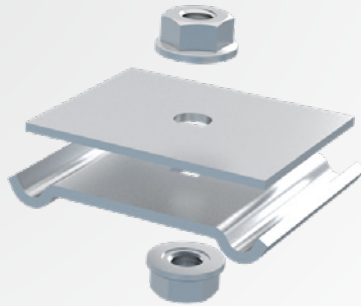
▲ The DZM 12 holder is used for anchoring cable ducts of smaller dimensions in wall installation directly to the vertical structures of the building.



▲ The DZM 12 holder is also suitable as an anchoring element for M2-G type ducts installed in the suspended ceiling.



## DZM 13 Duct holder for hanging installation



The DZM 13 holder is used for spatial suspension installation on M8 threaded rods. The holder is mounted on the threaded rod in the position with the shaped liner at the bottom. The ducts are inserted with the bottom lengthwise into the recesses in the shaped liner and are secured in the recesses by the upper liner and by tightening with a nut.

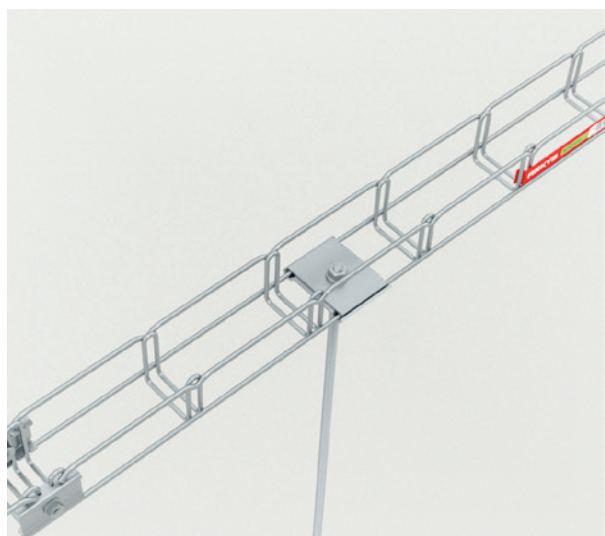
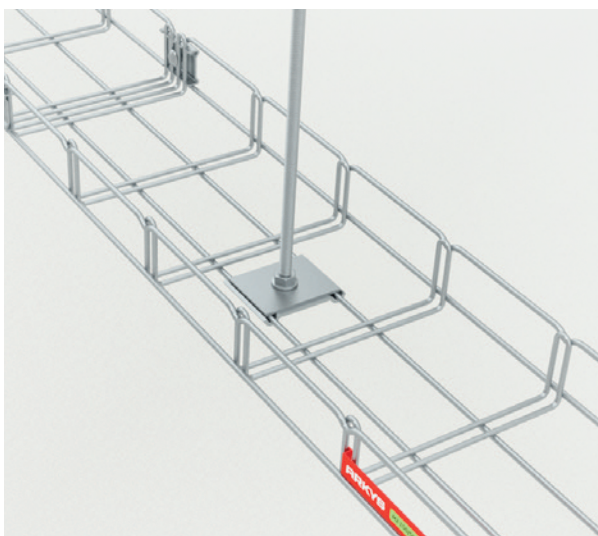
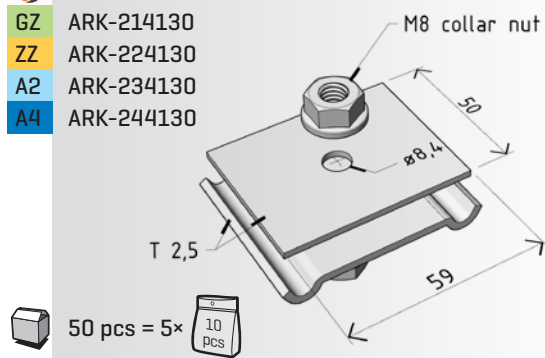
Installation on threaded rod and DZM 13 holder is only suitable for M2 50/50, M2 150/50 and M2 150/100 ducts.


**The maximum recommended carrying capacity is 50 kg.**



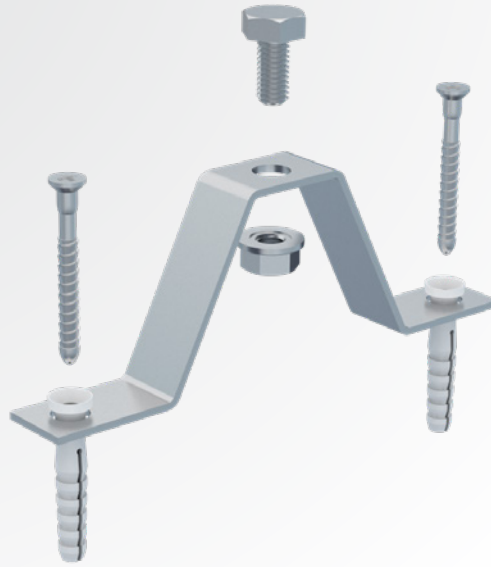
### DZM 13

- GZ ARK-214130
- ZZ ARK-224130
- A2 ARK-234130
- A4 ARK-244130



 The DZM 13 holder is used for spatial suspension installation on M8 threaded rods.

## DZM 14 Duct holder for floor mounting



The DZM 14 holder is used for flat floor installation when installing cable routes in double floors. In these assemblies, it is combined with PZM supports, or STPM or STNM rail struts in the function of supports at the support point of the route.

The support, or rail strut in the function of a support, is mounted under the holder and fastened to the holder with an M8×16 hexagonal head screw with an M8 collar nut.

The height of the route offset above the floor can be adjusted from 47 mm to 57 mm by opening the holder arms.

The delivery of the DZM 14 holder also includes dowel screws and hammering dowels of appropriate dimensions suitable for use in floors.

**The maximum recommended carrying capacity is 60 kg.**

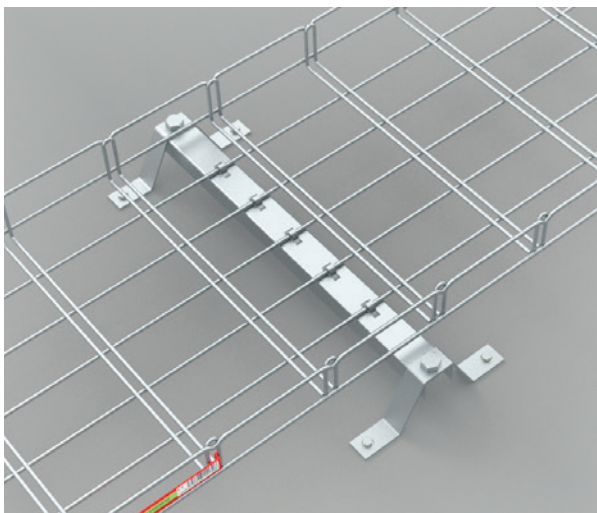
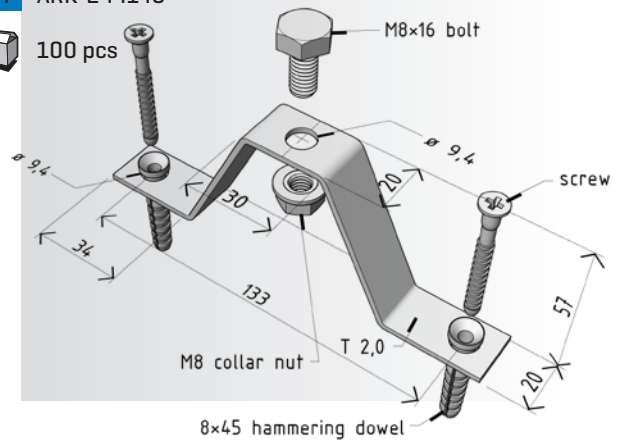


### DZM 14

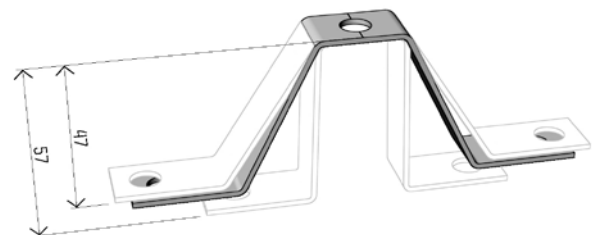
- GZ ARK-214140
- ZZ ARK-224140
- A2 ARK-234140
- A4 ARK-244140



100 pcs



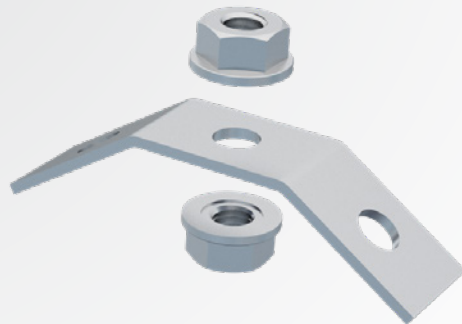
▲ The DZM 14 holder is used for flat floor installation when installing cable routes in double floors.



▲ The offset of the route above the floor can be adjusted from 47 mm to 57 mm by opening the holder arms.



## DZM 15 Suspension cable holder

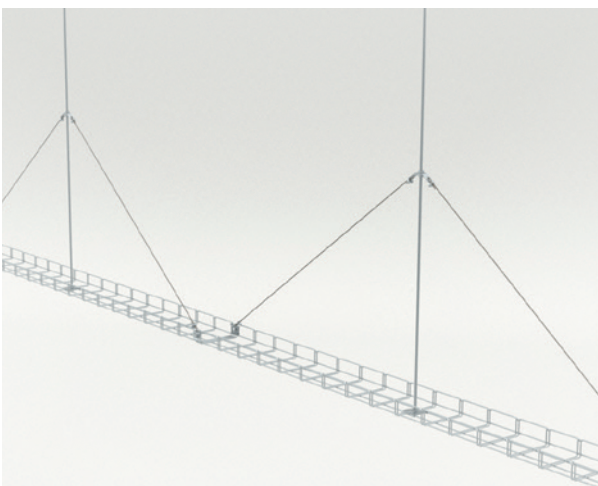
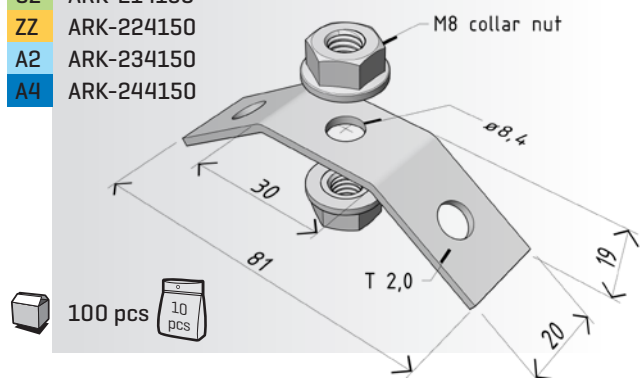


The DZM 15 holder is used for anchoring the suspension cable to the threaded rod. It is intended for auxiliary rope suspension of ducts in places where it is necessary to span a space without the possibility of direct anchoring to the suspended ceiling.



### DZM 15

- GZ ARK-214150
- ZZ ARK-224150
- A2 ARK-234150
- A4 ARK-244150



^> The DZM 15 holder can be used for situations in which it is necessary to span a larger free space without the possibility of anchoring the route.



The DZM STP holder is used for anchoring the STPM rail struts of spatial assembly under the horizontal structures of the construction. The holder can also be used as a heel of a structure anchored to the floor. The holder is anchored to the structure of the construction with four anchor points. The type of anchoring must be chosen according to the material of the construction structure.

The STPM rail strut is attached to the holder using four M8x20 coach screws with M10 washers and M8 collar nuts. The screws are placed with their heads inside the rail strut.

Connecting material is not included in the holder delivery and must be ordered separately:

- coach bolt M8x20            4 pcs
- washer M10                 4 pcs
- collar nut M8                4 pcs

**The maximum carrying capacity of the holder is 250 kg.**

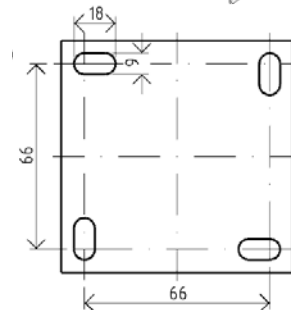
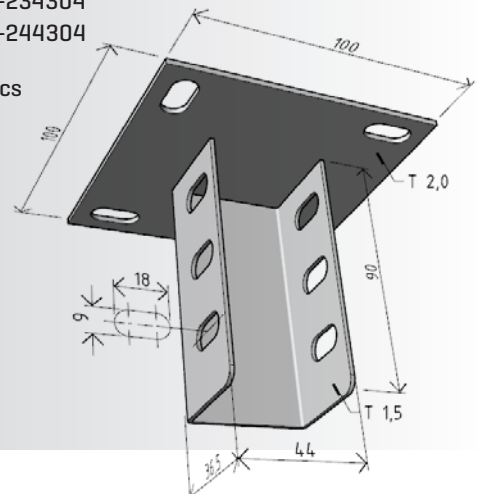


**DZM STP**

- GZ** ARK-214300
- ZZ** ARK-224300
- A2** ARK-234304
- A4** ARK-244304



12 pcs



**▲** The DZM STPU holder is used for anchoring the STPM rail struts of spatial assembly



The DZM STP holder is used for anchoring the STPM rail struts of spatial assembly under the horizontal structures of the construction in cases where it is necessary to compensate for the angular difference between the slope of the structure and the horizontal plane. The holder can also be used as a heel of a structure anchored to the floor.




The holder is anchored to the structure of the construction with two anchor points. The type of anchoring must be chosen according to the material of the construction structure.

The STPM rail strut is attached to the holder using four M8x20 coach screws with M10 washers and M8 collar nuts. The screws are placed with their heads inside the rail strut. One pair of screws is always placed in the central holes in the side of the holder. The second pair of screws is positioned according to the required rotation angle. A special hole in the sidewall is prepared for turning at an angle of 45°. In other cases, the second pair of screws is placed in an arc guide, in which any angle can be set in the range of 0–90°.

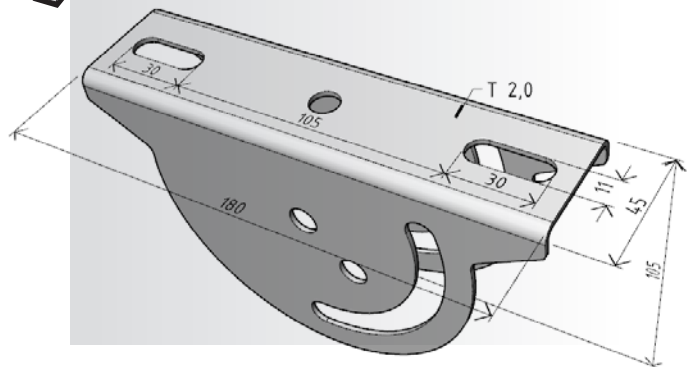
Connecting material is not included in the holder delivery and must be ordered separately:


- coach bolt M8x20            4 pcs
- M10 washer                 4 pcs
- collar nut M8                4 pcs

**The maximum carrying capacity of the holder is 150 kg.**

-  **DZM STPU**
-  ARK-224310
-  ARK-234310
-  ARK-244310

 10 pcs



 The DZM STPU holder is used for anchoring the STPM rail struts of spatial assembly.



## MSM Rectangular nut

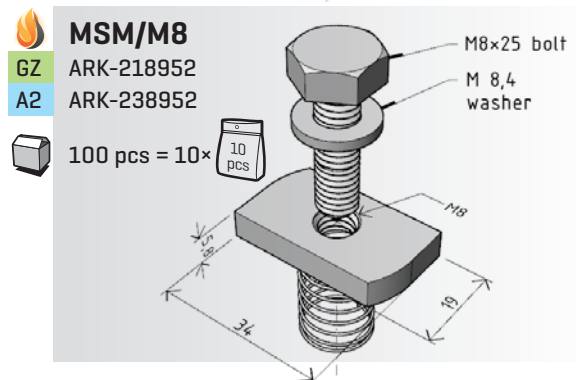
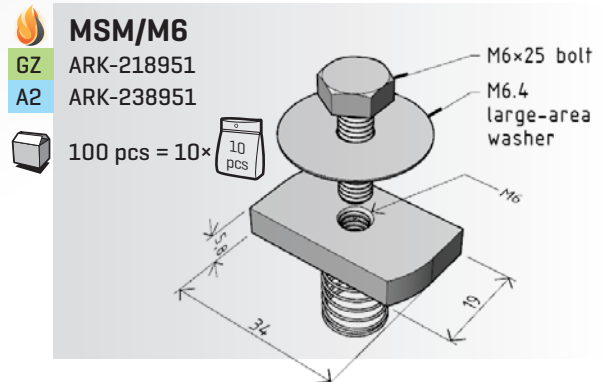


The MSM nut is used to fix the beams on the STNM rail strut (it can also be used on the STPM rack) for wall mountings combined on the rack (the rack is mounted with the open side into the space). Installation using rectangular nuts allows smooth adjustment of the beam on the rail strut. At the same time, it is suitable for cases where it is advisable to maintain the possibility of changing the position of the beam on an already installed route, or adding additional beams to an already installed route.

The MSM/M6 nut is used for:  
 NZM beams (50, 100, 150, 200)  
 NZMU beams (100, 200)

The MSM/M8 nut is used for beams:  
 NZM beams (250, 300, 400, 500)  
 NZMU beams (300, 400, 500, 600)  
 NPZM beams (all lengths)

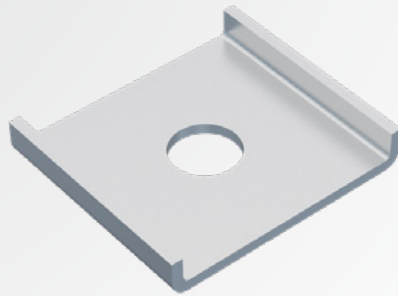
The nuts are equipped with a fixing spring, which, by spreading in the rail strut, defines the position of the nut inside the rail strut during assembly.



▲ The rectangular nut MSM/M8 is used for anchoring the NPZM beams to the rail strut.



▲ The MSM/M6 rectangular nut is used to anchor NZM and NZMU beams size 50-200 to the rail strut.



The PVM positioning clip serves as an auxiliary element for fixing the NZM and NZMU beams when mounting on the rail strut using MSM rectangular nuts. The clip is mounted between the beam and the rail strut and creates a support surface for the beam while also centering the beam on the rail strut. For beams of the NPZM series, which have a wider and more robust base, its use is not necessary [see figure on page 74].

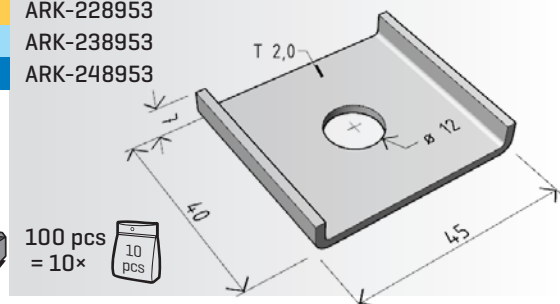


**PVM**

- GZ ARK-218953
- ZZ ARK-228953
- A2 ARK-238953
- A4 ARK-248953

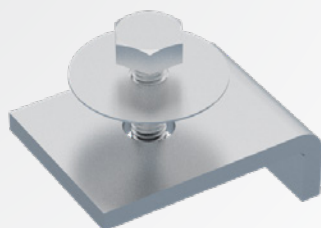


100 pcs = 10x



▲ The PVM positioning clip is used to set the position of the beam on the rail strut.

## PIM Clip for I profiles



The clip for the PIM profiles, together with the MSM/ M8 rectangular nut, is used to anchor the rail struts to the I profile beams.

**The maximum thickness of the arm of the supporting profile, for which the PIM clip is suitable, is 15 mm.**

**The maximum carrying capacity of the holder is 150 kg.**



### PIM

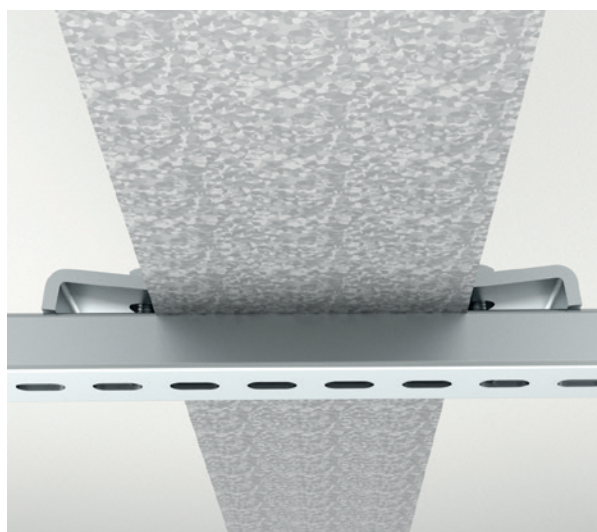
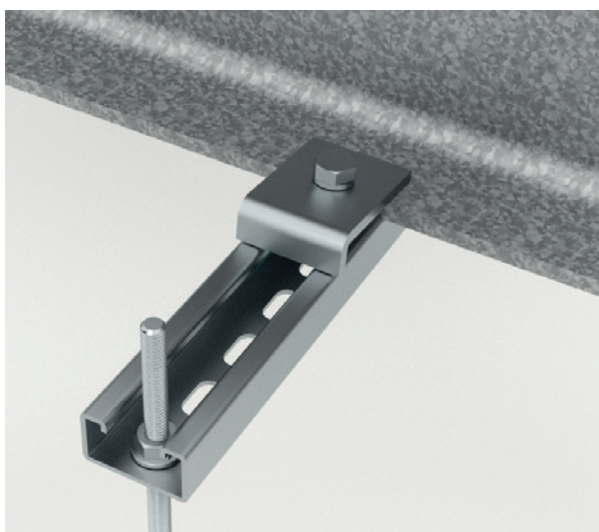
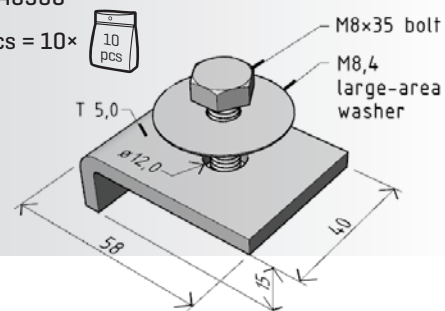
- GZ ARK-218960
- ZZ ARK-228960
- A2 ARK-238960
- A4 ARK-248960



100 pcs = 10x



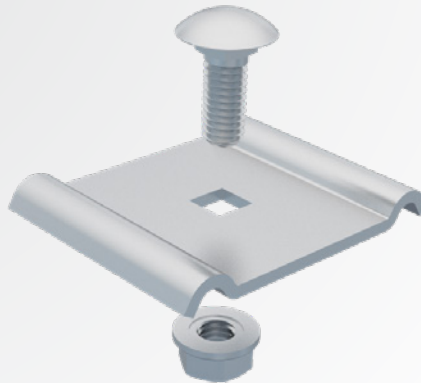
10 pcs



^> The PIM clip is used to anchor the rail struts to the profile beams.



## PZSM 2 Duct clip



The PZSM 2 clip is used to attach cable ducts to STNM wall rail struts, STPM space rail struts, or to other steel structures, especially for horizontal routes. In these cases, for example, in a spatial suspension assembly on pairs of threaded rods, the load-bearing support can be replaced by a rail strut of the appropriate length, thereby achieving a higher load-bearing capacity of the route. This type of assembly is suitable for fire resistant routes.

**The PZSM 2 clip is used for fixing the MERKUR 2 cable ducts to the NZMU beams for routes with a requirement for fire resistance.**

For a 100 mm wide duct (where the distance of the fastening stringers is greater than the standard 50 mm for design reasons), the fastening to the supporting profile is done by hooking only one of the rectangles under the holder. In such a case, it is advisable to gradually alternate this stringer at the support points of the route, so as to achieve immovable fixing of the duct in the route.



### PZSM 2

GZ ARK-218956

ZZ ARK-228956

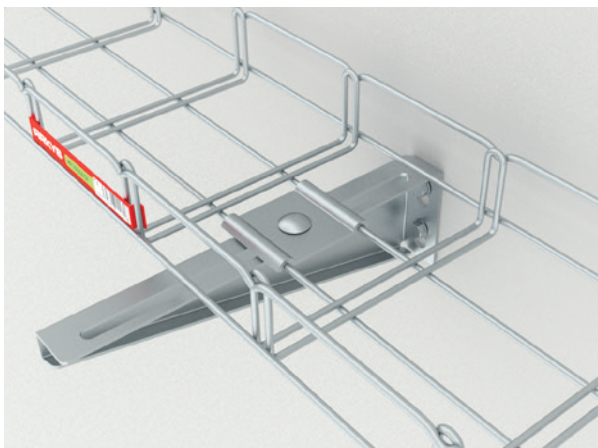
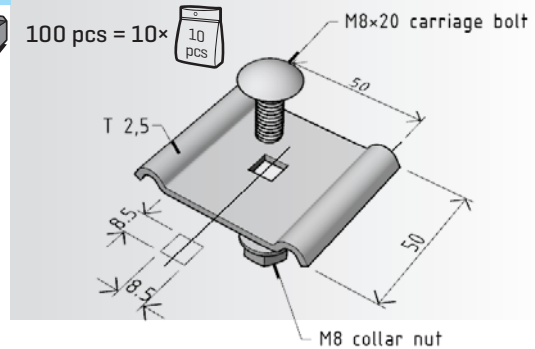
A2 ARK-238956



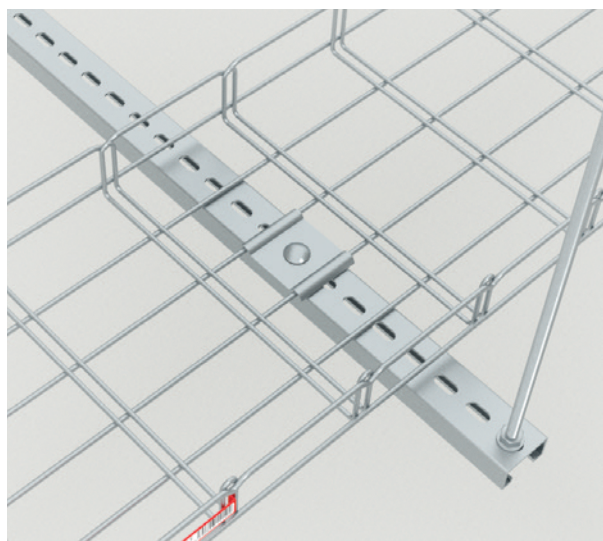
100 pcs = 10x



10 pcs



▲ The PZSM 2 clip can be used to attach cable ducts to NZMU beams.



▲ The PZSM 2 clip is used to fasten the MERKUR 2 cable ducts to the rail struts used as a support.

## SSPM Fitting for spatial rail struts

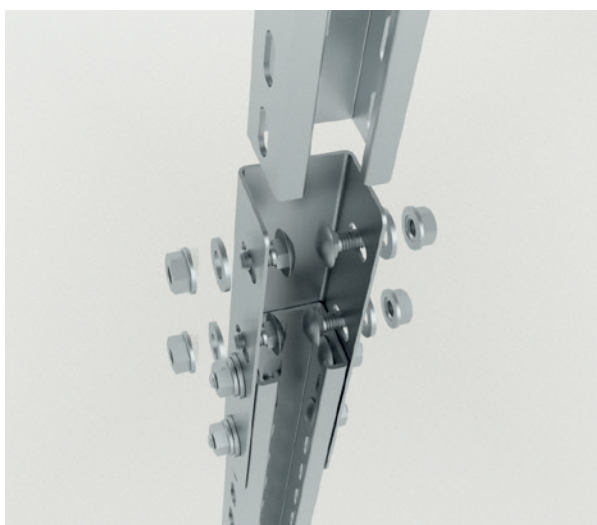
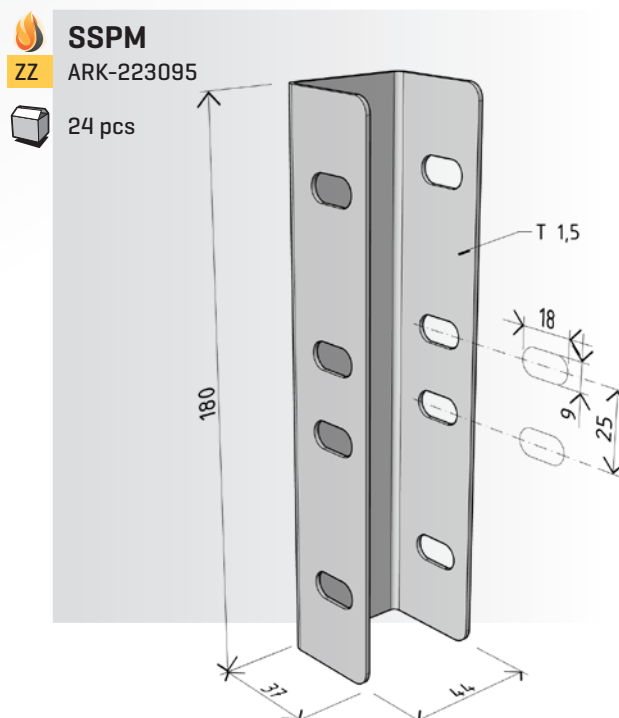


The SSPM fitting is used to connect the STPM spatial rail struts. To guarantee a quality connection, it is necessary to use the appropriate amount of connecting material, which is listed below and shown in the picture.

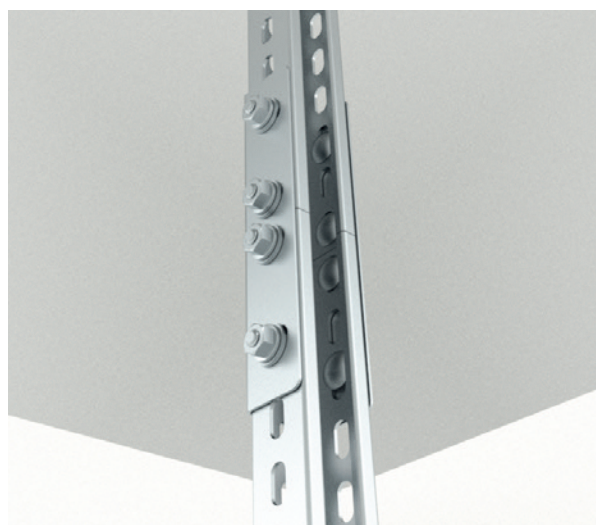
Each of the two rail struts is fixed to the fitting using four M8x20 coach screws with M10 washers and M8 collar nuts. The screws are placed with their heads inside the rail strut.

Connecting material is not included in the holder delivery and must be ordered separately:

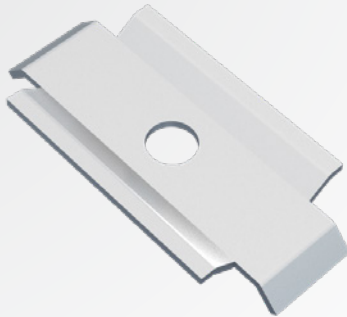
coach bolt M8x20	8 pcs
washer M10	8 pcs
collar nut M8	8 pcs



▲ A good quality connection requires using no less than the connecting elements specified in the figure.



▲ The SSPM splice plate serves for joining two STPM profile struts with side perforations.

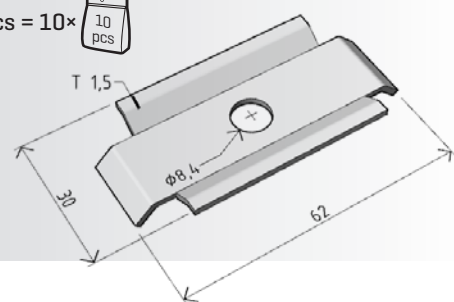


SVSM

GZ ARK-218958



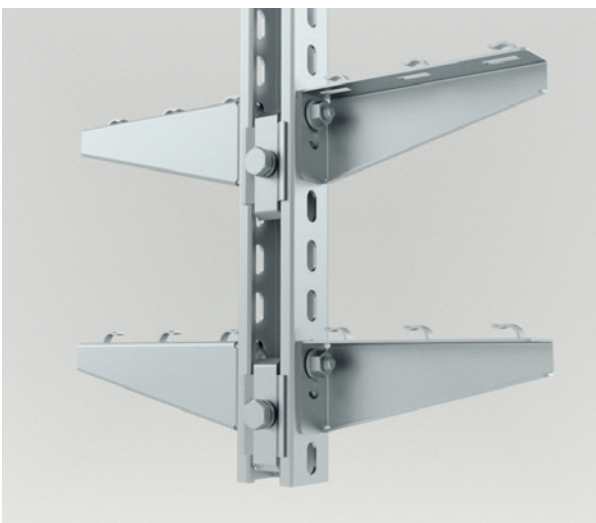
100 pcs = 10x

10  
PCS

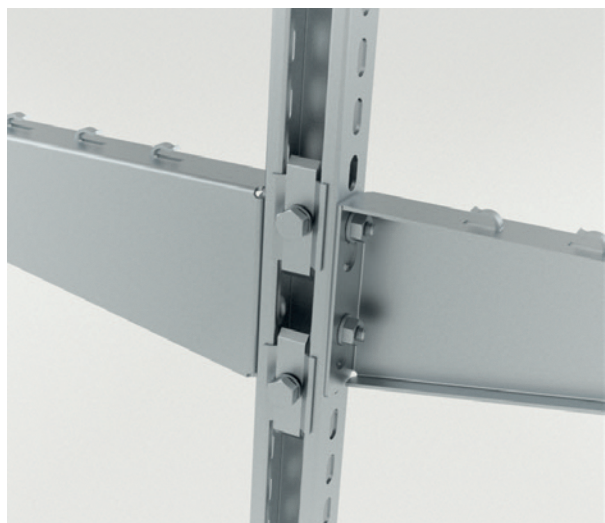
Stabilizing insert of the SVSM rail strut is used to strengthen the open profile of the STPM rail strut, at the point of anchoring of the beam, to achieve greater load-bearing capacity and resistance of the thus created supporting structure of the cable route. **The use of stabilizing inserts is necessary when installing fire-resistant routes.** However, it can be used not only for fire-resistant routes, but also for standard installations at various slopes, etc.

For beams with a shorter base (NZM 50–200, NZMU 100 and 200) one piece is used. For beams with a longer base (NZM 250–500, NZMU 300–500), the stabilizing insert is always used in pairs.

**A correctly installed stabilizing insert will prevent the side of the rail strut from bending inwards under the pressure of the loaded beam.**



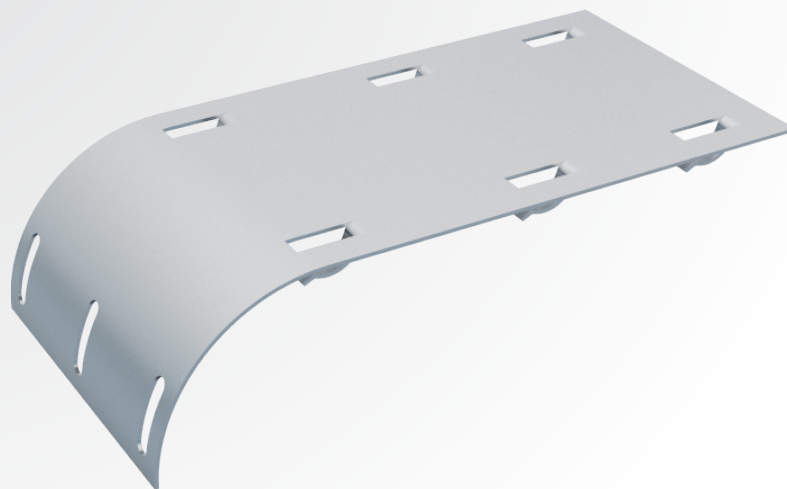
▲ Stabilizing insert of the SVSM rail strut is used to strengthen the open profile of the STPM rail strut, at the point of anchoring of the beam.







▲ For beams with a higher base (beams of the NZM 250–500 and NZMU 300–500 series), two SVSM inserts are used.



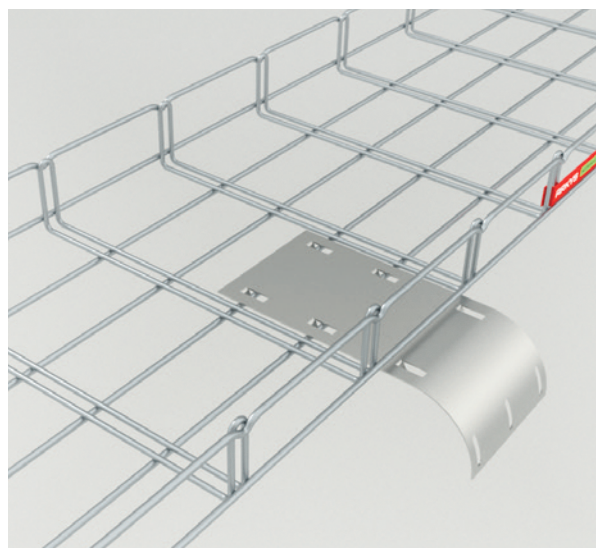
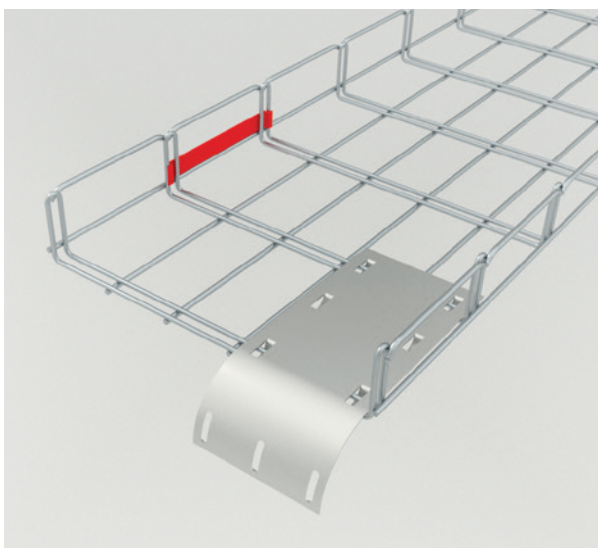
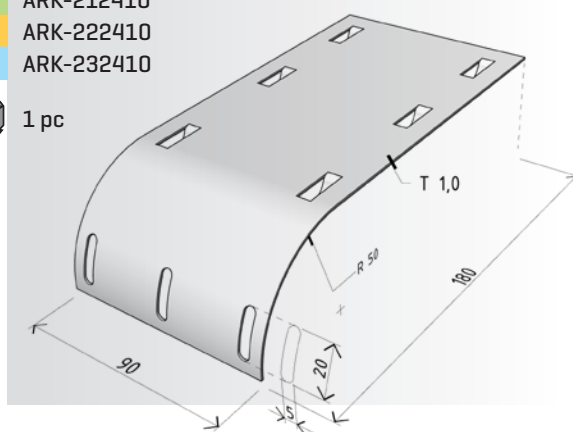
## KSM Cable down-lead



The KSM cable down-lead is used to safely lead the cable bundle out of the duct. **It protects the cabling from mechanical damage and ensures that the optimal bending radius of the cables is maintained.** Due to the width of the cable down-lead (90 mm), it cannot be used for installation in 50 mm wide ducts.

-  **KSM**
-  ARK-212410
-  ARK-222410
-  ARK-232410

 1 pc



  The KSM cable down-lead is used to safely lead the cable bundle out of the duct.



The KOM cable separator is used prior to storing the cables to temporarily separate the space of the duct (e.g. high current/low current) into multiple chambers with subsequent simpler bundling of individual cable circuits. The separators are designed to fit in the double cross member of the duct in any part of its width, making installation easier and more clear for multiple cable chambers. After bundling, the separators can be dismantled and reused.



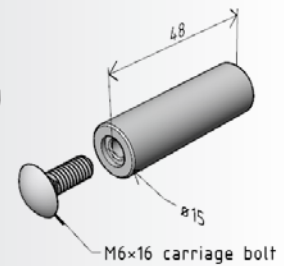
**KOM 50**

ARK-219975

plastic



100 pcs = 10x



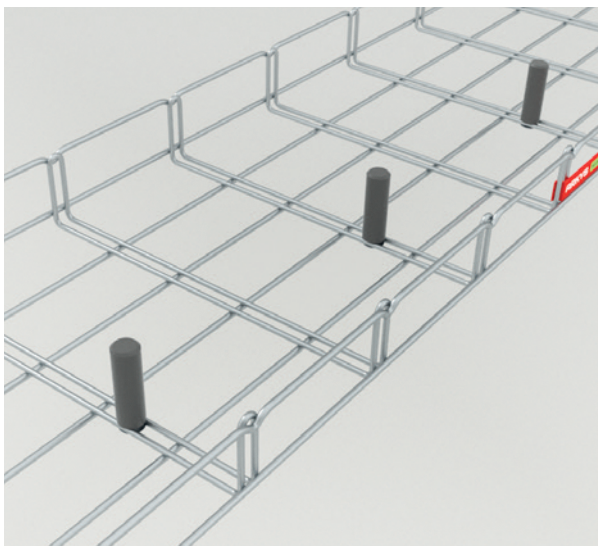
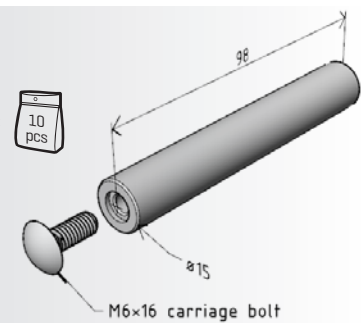
**KOM 100**

ARK-219975

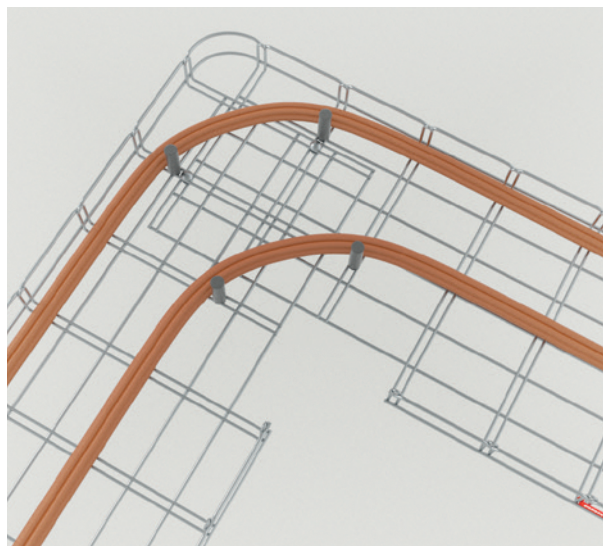
plastic



100 pcs = 10x

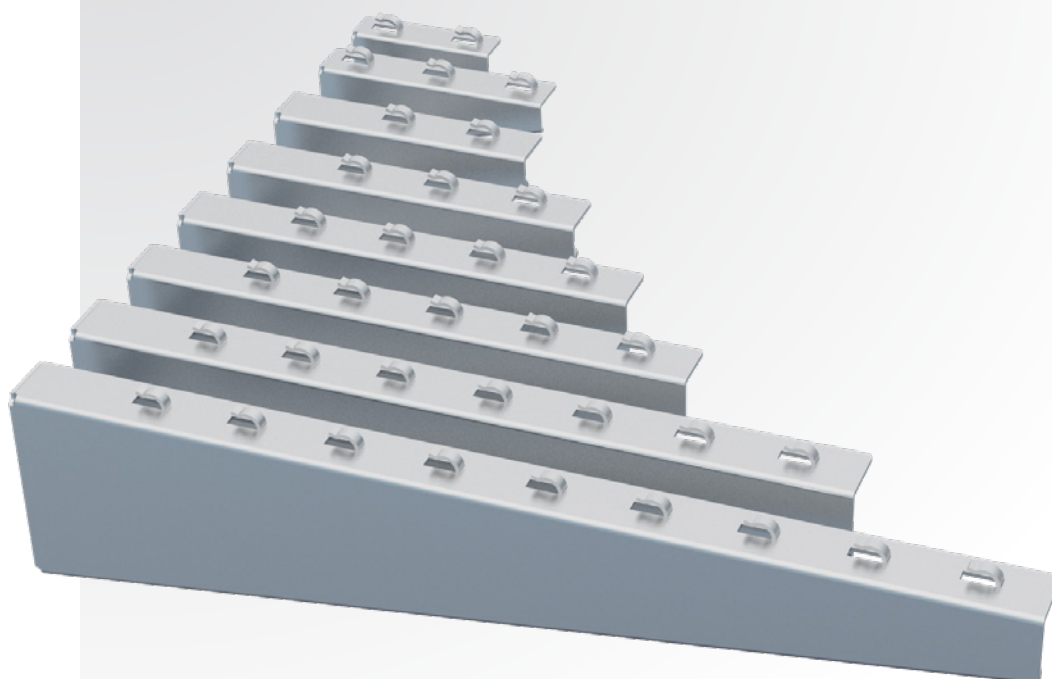


▲ The KOM cable separator is used to temporarily divide the space of the duct into several chambers.



▲ Cable separators can also be used as part of cable protection when pulling cables through the route.

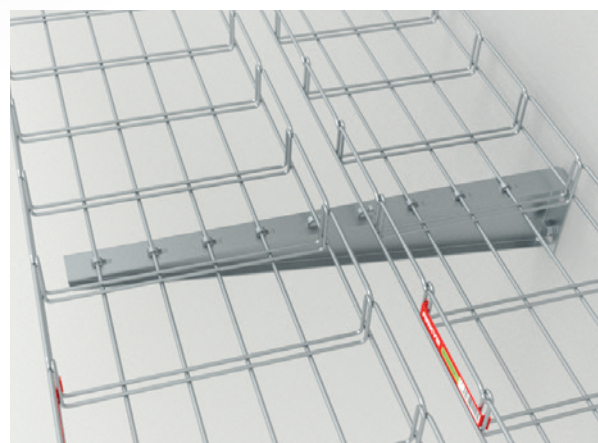
## NZM Beam



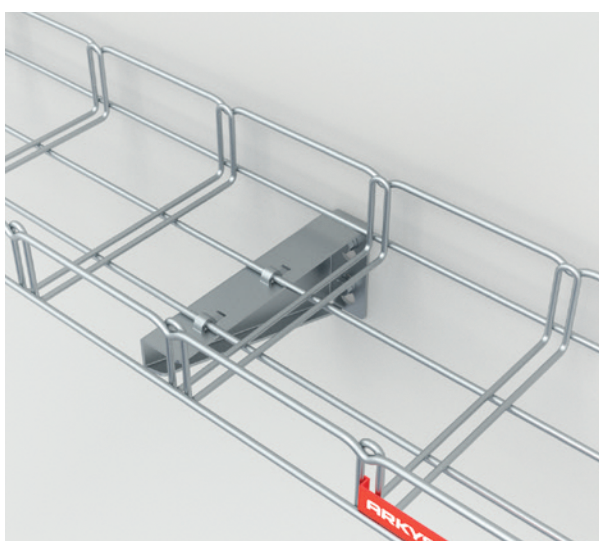
The beams of the NZM series are used as wall elements for the installation of the cable route. In the case of multi-level wall or spatial mounting, STPM rail struts with appropriate holders can be used. In the case of wall mounting of several routes above each other, they can be mounted on a rail strut attached to the building structure.

**For easy installation of ducts and their fixing, the beams are equipped with screwless mounts.**

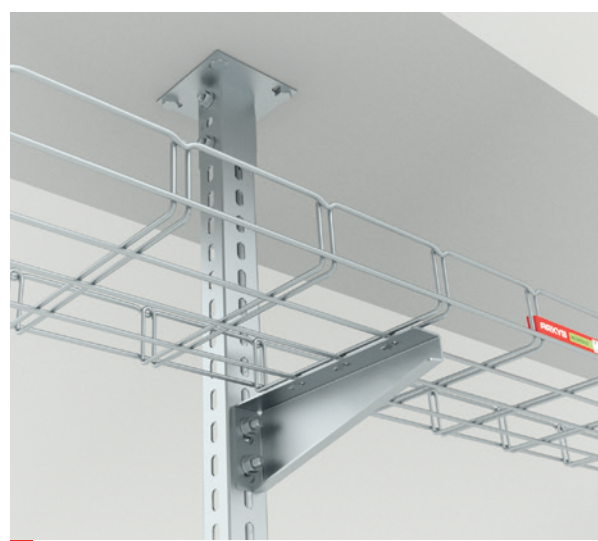
Multiple ducts can be mounted on one beam until the width capacity of the support element is exhausted. The rules for combining ducts on the support element are common to all support elements equipped with screwless MERKUR M2 system mounts and are described below.



Multiple ducts can be mounted on one support element at the same time.



Wall mounting for anchoring cable routes directly into the masonry, or on another vertical structure of the construction.




Mounting on a rail strut for spatially guided cable routes, or for combined wall mounting of several cable routes above each other.

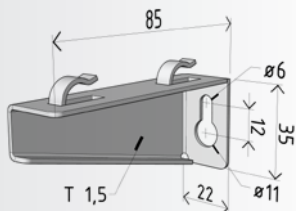


### NZM 50

- GZ ARK-215005
- ZZ ARK-225005
- A2 ARK-235005
- A4 ARK-245005

 60 pcs


 max. 60 kg

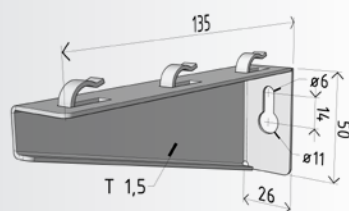


### NZM 100

- GZ ARK-215010
- ZZ ARK-225010
- A2 ARK-235010
- A4 ARK-245010

 40 pcs


 max. 40 kg

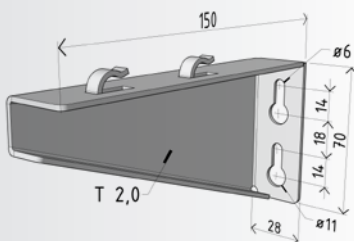


### NZM 150

- GZ ARK-215015
- ZZ ARK-225015
- A2 ARK-235015
- A4 ARK-245015

 20 pcs


 max. 90 kg

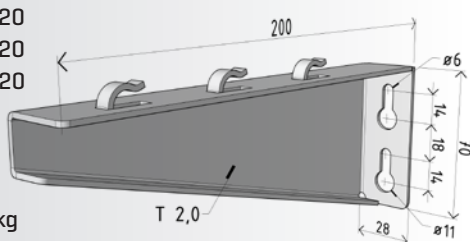


### NZM 200

- GZ ARK-215020
- ZZ ARK-225020
- A2 ARK-235020
- A4 ARK-245020


 20 pcs


 max. 100 kg

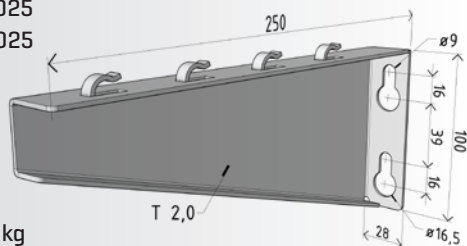


### NZM 250

- GZ ARK-215025
- ZZ ARK-225025
- A2 ARK-235025
- A4 ARK-245025

 10 pcs


 max. 110 kg

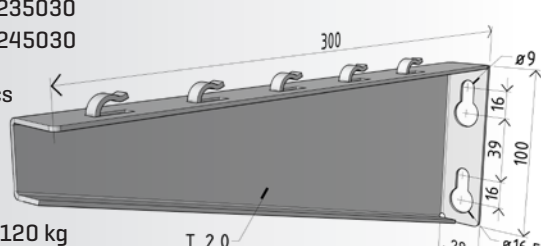


### NZM 300

- GZ ARK-215030
- ZZ ARK-225030
- A2 ARK-235030
- A4 ARK-245030

 10 pcs


 max. 120 kg

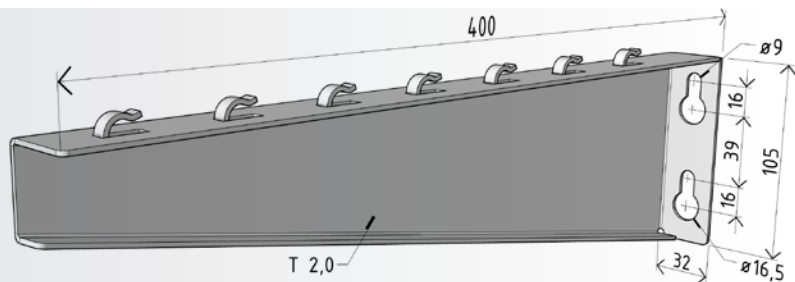


### NZM 400

- GZ ARK-215040
- ZZ ARK-225040
- A2 ARK-235044
- A4 ARK-245044


 10 pcs


 max. 130 kg

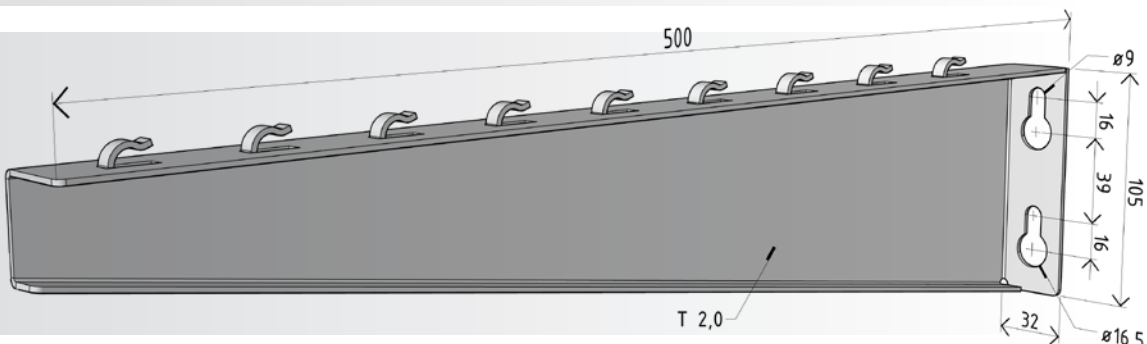


### NZM 500

- GZ ARK-215050
- ZZ ARK-225050
- A2 ARK-235054
- A4 ARK-245054

 10 pcs

 max. 150 kg

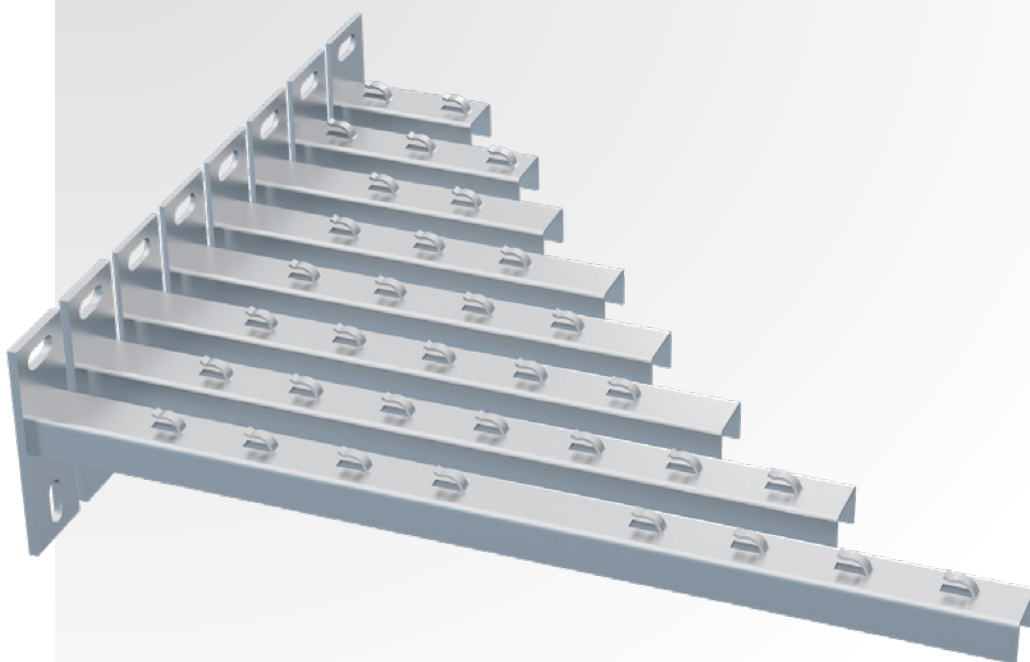


You can find an overview of the possibilities of combinations of ducts on beams on our website >>>

<https://www.arkys.cz/cs/merkur-2/prislusenstvi/nosniky/kombinace-zlabu-na-nosnicich-a-podperach>



## NPZM Beam

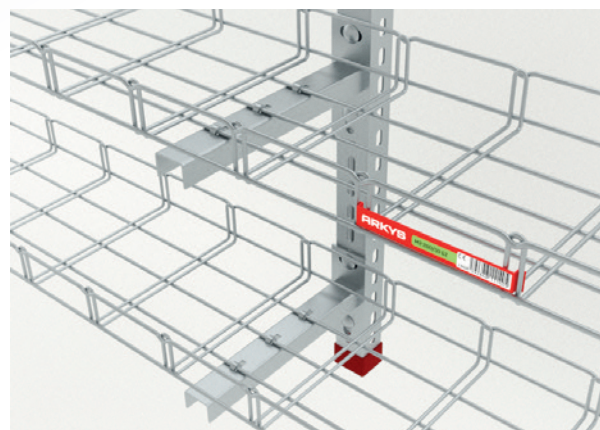


The beams of the NPZM series are used as wall elements for the installation of the cable route. In the case of multi-level wall or spatial mounting, STPM rail struts with appropriate holders can be used. In the case of wall mounting of several routes above each other, they can be mounted on a rail strut attached to the building structure.

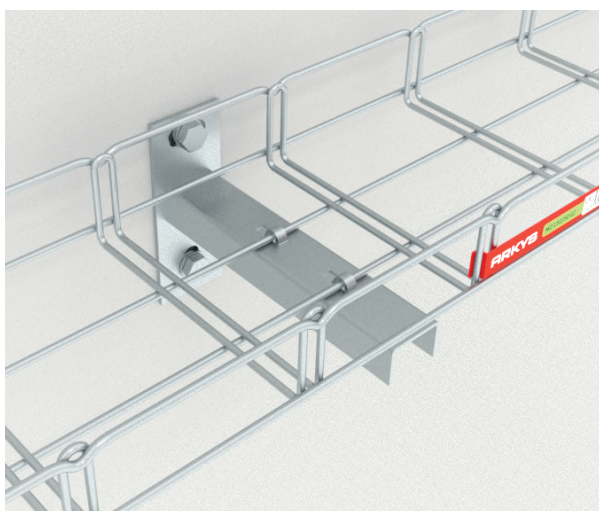
For easy installation of ducts and their fixing, the beams are equipped with screwless mounts.

**Multiple ducts can be mounted on one beam until the width capacity of the support element is exhausted.**

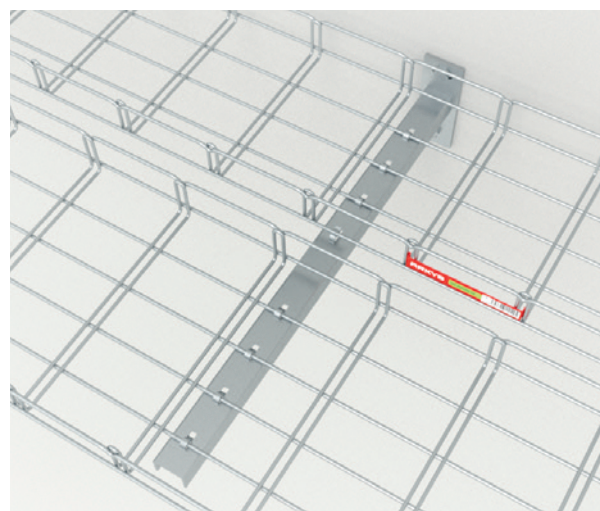
The rules for combining ducts on the support element are common to all support elements equipped with screwless MERKUR M2 system mounts and are described below.



▲ Mounting on a rail strut for spatially guided cable routes, or for combined wall mounting of several cable routes above each other.



▲ Wall mounting for anchoring cable routes directly to masonry or to another vertical structure of the construction.



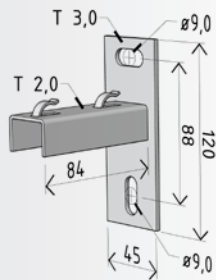
▲ Multiple ducts can be mounted on one support element at the same time.

~~X~~ **NPZM 50**

GZ ARK-215105  
ZZ ARK-225105

10 pcs

max. 90 kg

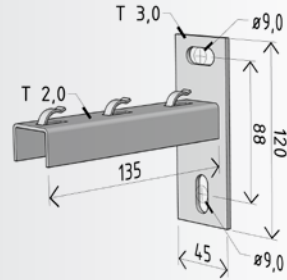


~~X~~ **NPZM 100**

GZ ARK-215110  
ZZ ARK-225110

10 pcs

max. 88 kg

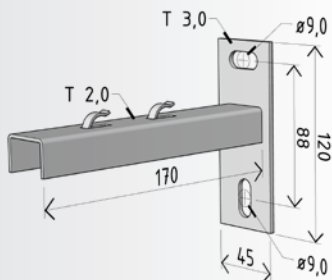


~~X~~ **NPZM 150**

GZ ARK-215115  
ZZ ARK-225115

10 pcs

max. 86 kg

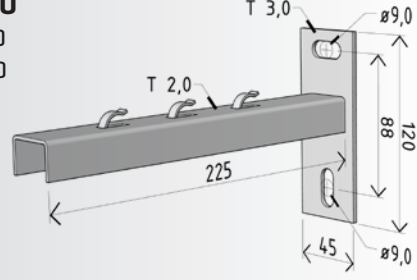


~~X~~ **NPZM 200**

GZ ARK-215120  
ZZ ARK-225120

10 pcs

max. 85 kg

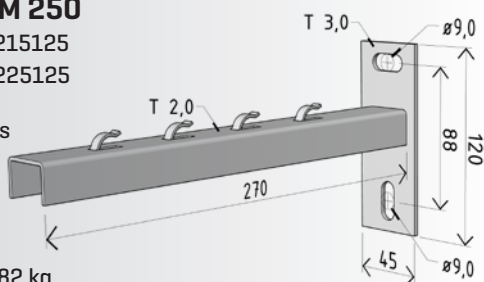


~~X~~ **NPZM 250**

GZ ARK-215125  
ZZ ARK-225125

10 pcs

max. 82 kg

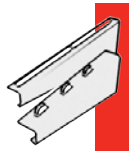
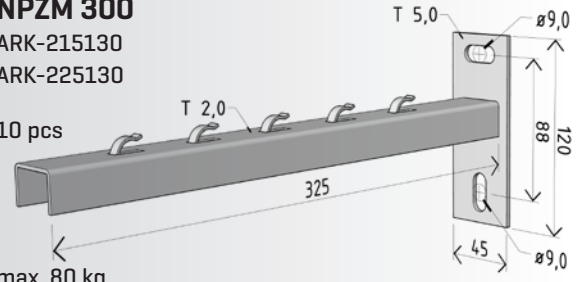


~~X~~ **NPZM 300**

GZ ARK-215130  
ZZ ARK-225130

10 pcs

max. 80 kg

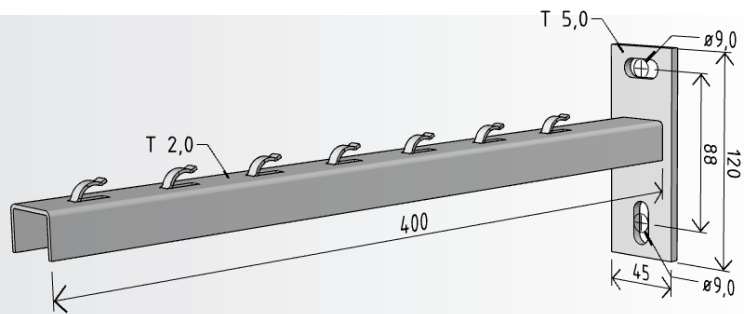


~~X~~ **NPZM 400**

GZ ARK-215140  
ZZ ARK-225140

10 pcs

max. 78 kg

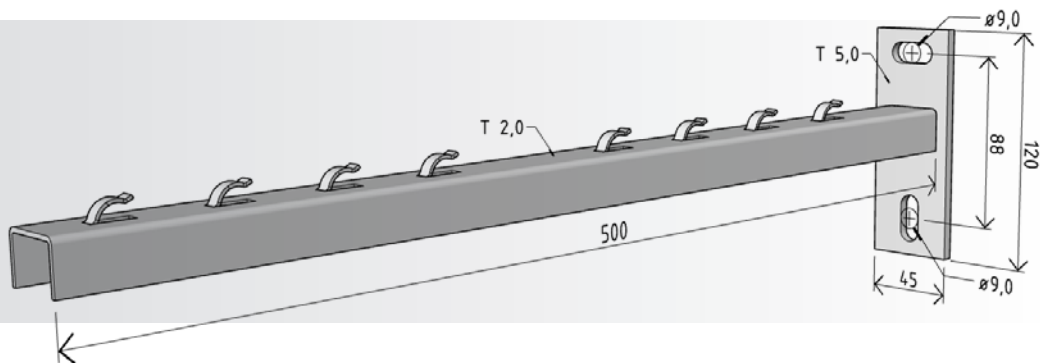


~~X~~ **NPZM 500**

GZ ARK-215150  
ZZ ARK-225150

10 pcs

max. 75 kg



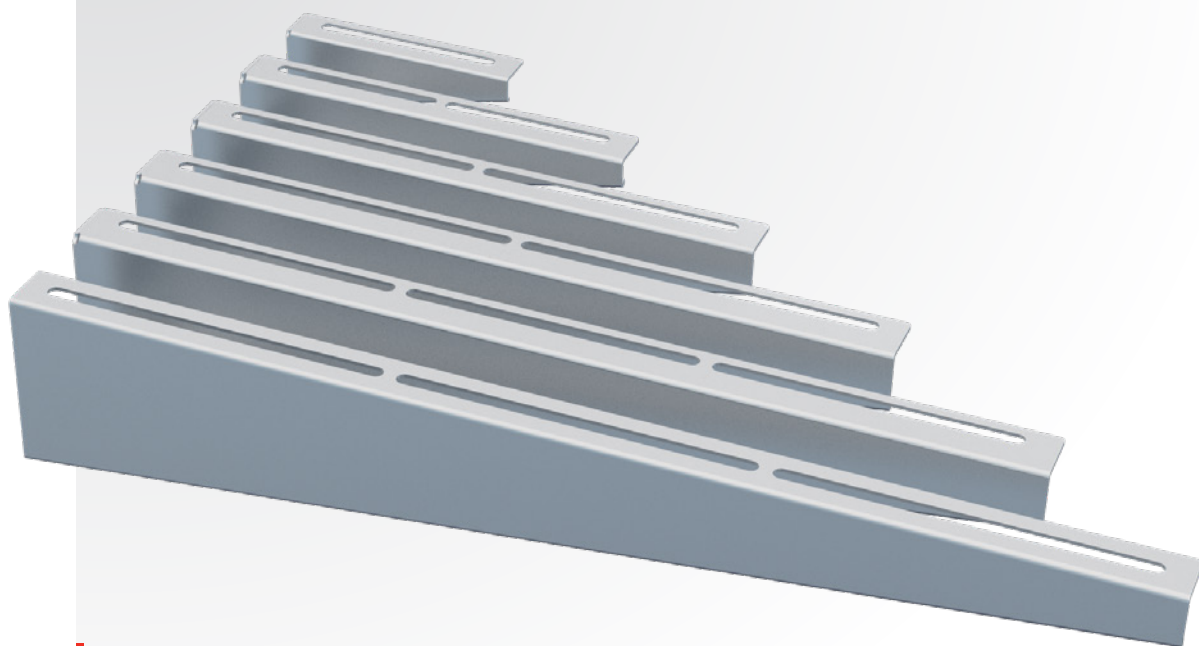
You can find an overview of the possibilities of combinations of ducts on beams on our website >>>

<https://www.arkys.cz/cs/merkur-2/prislusenstvi/nosniky/kombinace-zlabu-na-nosnicich-a-podperach>





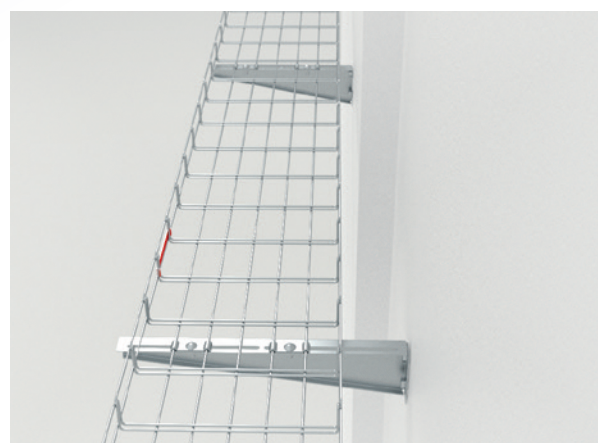
## NZMU Universal beam



The beams of the NZMU series are used as wall elements for the installation of the cable route. The universal design enables the installation of MERKUR 2 wire ducts using the DZM 11 holder (for fire-resistant routes, PZSM 2 clips must be used), steel sheet ducts using a coach screw and nut (SPM connection set), other types of media (water/hot water) using the corresponding clamps and clips.

Individual types of cable ducts and media installed on the beam can be combined as needed until the width capacity of the beam is exhausted. It is necessary to leave sufficient distances between individual ducts and lines so that they do not affect each other.

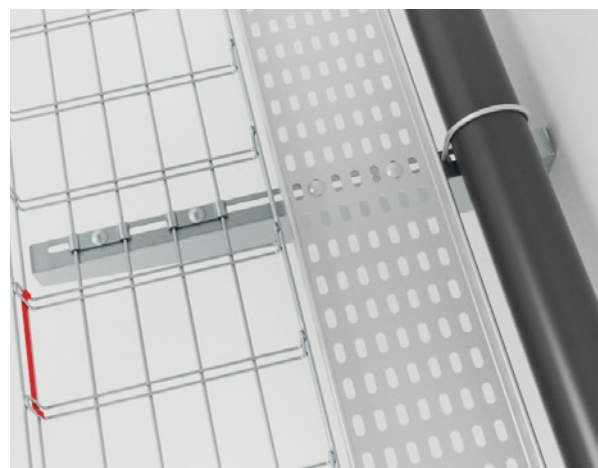
In the case of multi-level wall or spatial mounting, STNM or STPM rail struts with appropriate holders can be used.



▲ The NZMU beam mounting system allows for easy compensation of installation differences caused by unevenness on the wall on which the route is installed.



▲ MERKUR 2 ducts are attached to NZMU beams using DZM 11 holders (PZSM 2 clips must be used for fire-resistant routes).

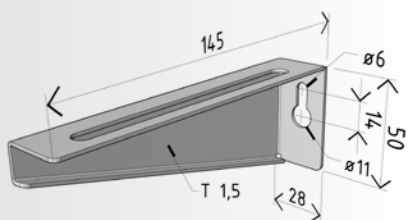



▲ It is possible to combine various duct systems and other media lines on the NZMU beams.

### NZMU 100

- GZ** ARK-215310
- ZZ** ARK-225310
- A2** ARK-235310

 40 pcs

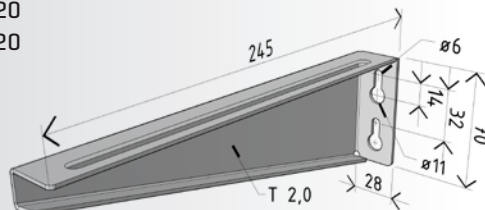



 max. 40 kg

### NZMU 200

- GZ** ARK-215320
- ZZ** ARK-225320
- A2** ARK-235320


 20 pcs

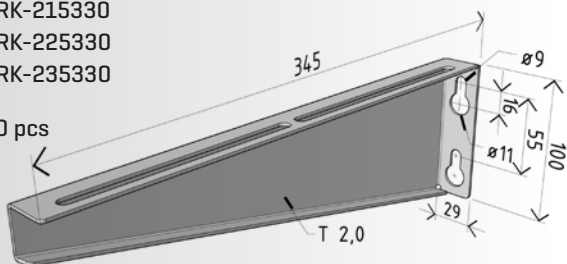



 max. 50 kg

### NZMU 300

- GZ** ARK-215330
- ZZ** ARK-225330
- A2** ARK-235330


 10 pcs

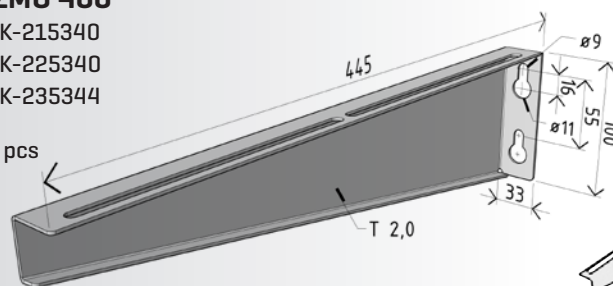



 max. 75 kg

### NZMU 400

- GZ** ARK-215340
- ZZ** ARK-225340
- A2** ARK-235344


 10 pcs

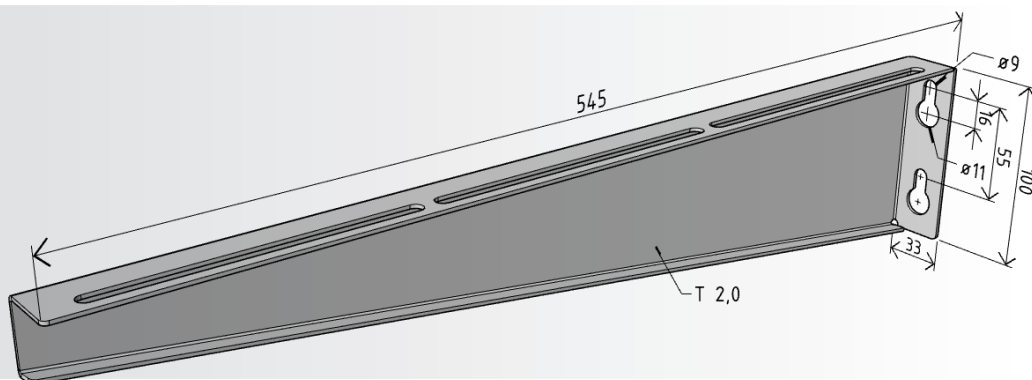



 max. 100 kg

### NZMU 500

- GZ** ARK-215350
- ZZ** ARK-225350
- A2** ARK-235354

 10 pcs

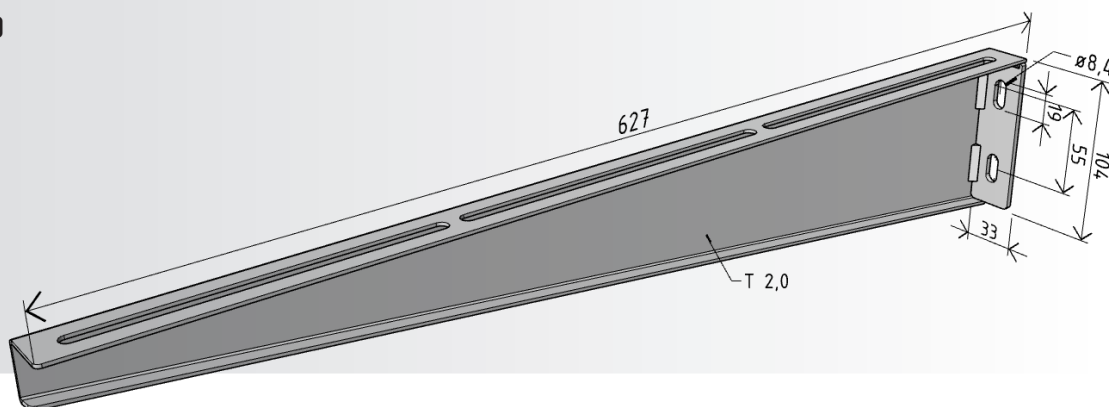



 max. 125 kg

### NZMU 600

- GZ** ARK-215360
- ZZ** ARK-225360
- A2** ARK-235364

 10 pcs



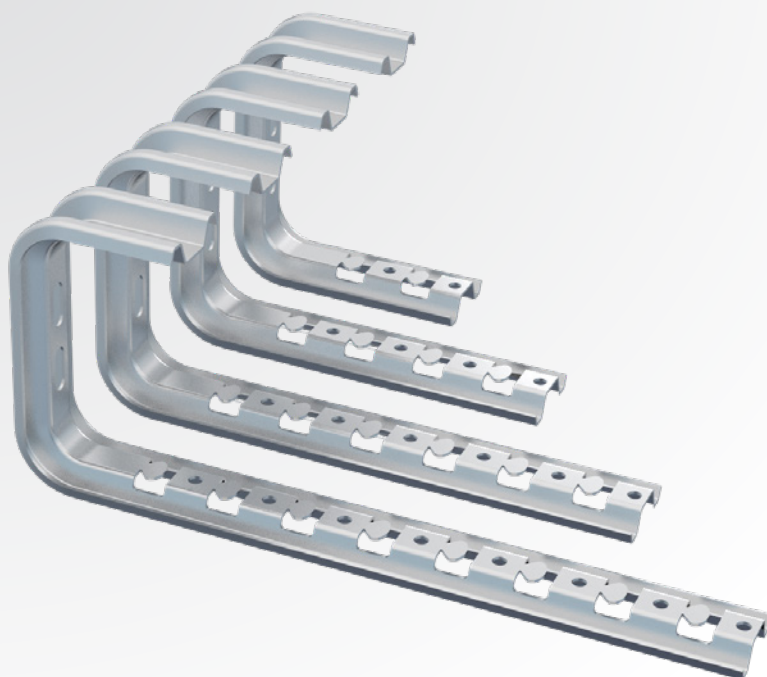
 max. 150 kg

You can find an overview of the possibilities of combinations of ducts on beams on our website >>>

<https://www.arkys.cz/cs/merkur-2/prislusenstvi/nosniky/kombinace-zlabu-na-nosnicich-a-podperach>



## NZMC Spatial beam



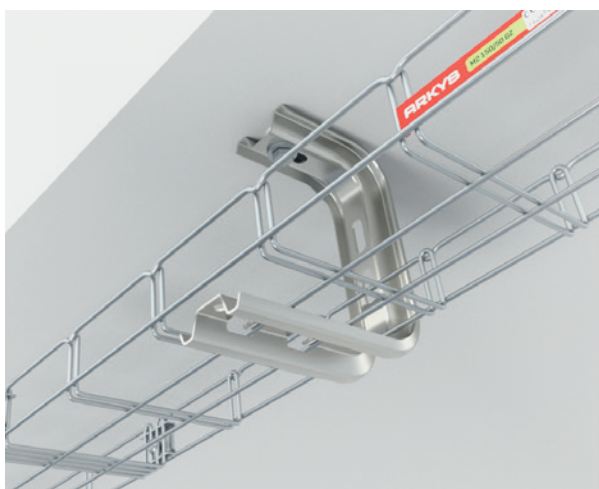
Beams of the NZMC series are mainly used as load-bearing elements of spatial under-ceiling installation. Their biggest advantage is easy access to the ducts when laying cables, which is not possible with other technical solutions for spatial assembly, except for more complex structural exceptions. For easy installation of ducts, the beams are equipped with screwless mounts.

Due to the design of the beams and their mounts, there are restrictions on the maximum width of the installed duct:

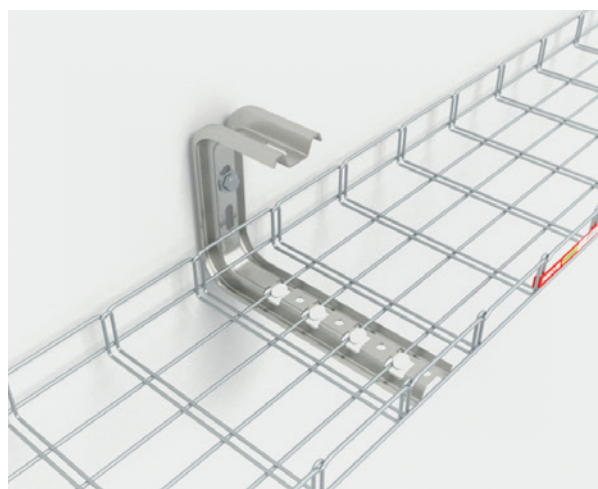
NZMC 100	only for 50/50 duct
NZMC 200	max. duct width 200 mm
NZMC 300	max. duct width 300 mm
NZMC 400	max. duct width 400 mm



▲ NZMC beams can also be used as a support element for suspension mounting on a threaded rod.



▲ NZMC beams are suitable for suspended ceiling mounting directly on the beam, the upper handle of which is adapted to be anchored to the suspended ceiling structures of the construction.



▲ The side openings of the beam allow anchoring to the vertical structures of the construction in direct wall mountings.



**NZMC 100**  
**SZ** ARK-225210

1 pcs

max. 140 kg  
 max. 85 kg

**NZMC 200**  
**SZ** ARK-225220

1 pcs

max. 90 kg  
 max. 50 kg

**NZMC 300**  
**SZ** ARK-225230

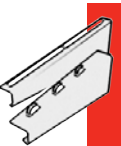
1 pcs

max. 50 kg  
 max. 30 kg

**NZMC 400**  
**SZ** ARK-225240

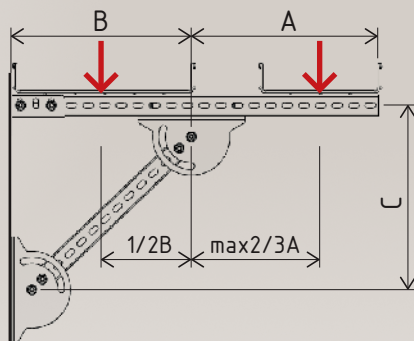
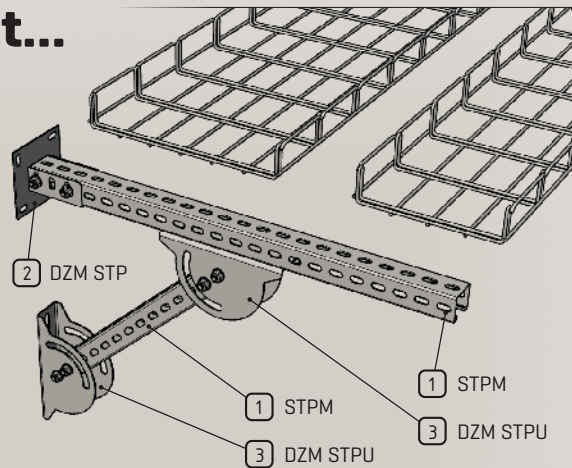
1 pcs

max. 37 kg  
 max. 23 kg



## But it can also be different...

Sometimes even the biggest beam isn't big enough or doesn't have enough load capacity. **Within the framework of the MERKUR 2 system, it is possible to create a variety of support assemblies consisting of rail struts and holders** (not only the one we show in this example). Realizing that such a solution is suitable, we have tested the support assembly according to the diagram in the image on the right, and the load capacities are listed in the table below. The assembly can be used in cases where it is necessary to place a route with a large projection and in cases where a higher load capacity is needed than provided by the standard beams of the system.



Unloading the A+B beam	lengths A, B, C	load capacity of the part A	load capacity of the part B	total load capacity
500 mm	250 mm	179 kg	1,008 kg	<b>1,187 kg</b>
600 mm	300 mm	124 kg	840 kg	<b>964 kg</b>
700 mm	350 mm	91 kg	720 kg	<b>811 kg</b>
800 mm	400 mm	70 kg	630 kg	<b>700 kg</b>
900 mm	450 mm	55 kg	560 kg	<b>615 kg</b>
1,000 mm	500 mm	45 kg	504 kg	<b>549 kg</b>
1,100 mm	550 mm	37 kg	458 kg	<b>495 kg</b>
1,200 mm	600 mm	31 kg	420 kg	<b>451 kg</b>

# Principles for anchoring and loading beams

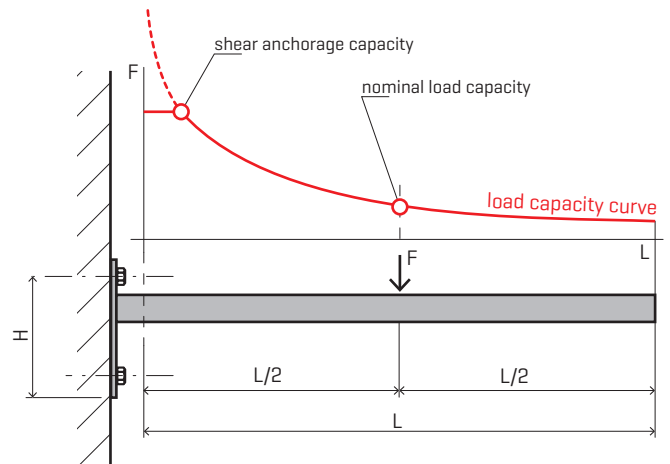
In order to achieve the declared load capacity values of the cable route, it is important to observe several rules when installing the beams and placing the cabling in the ducts.

## Optimal load distribution

The load capacity of the cable route is affected by the load distribution along the beam. **The declared load capacity values given for individual types and sizes of beams correspond to a uniform distribution of the load on the beam.** The resultant of the forces is located in the middle and corresponds to the sum of the weights of the individual cables. Where it is not possible or advisable to maintain a uniform load distribution, it is important that the heavier cables are placed closer to the foot of the beam.

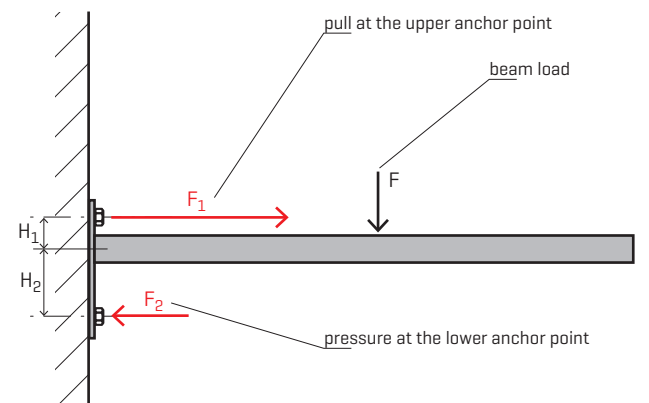
If even this is not possible, it is necessary to take into account a reduced load capacity, which is greater, the greater the asymmetry of the load [see figure and graph on the right].

bearing capacity of the route is achieved. This method is suitable for the most heavily loaded routes installed directly into the wall.



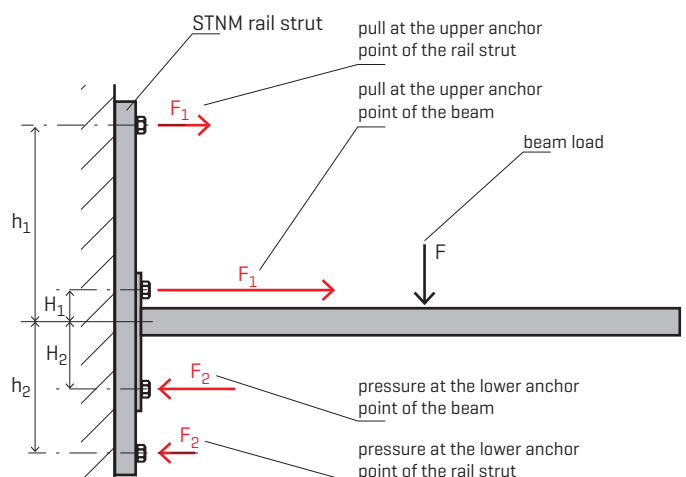
## Correctly selected and executed anchoring

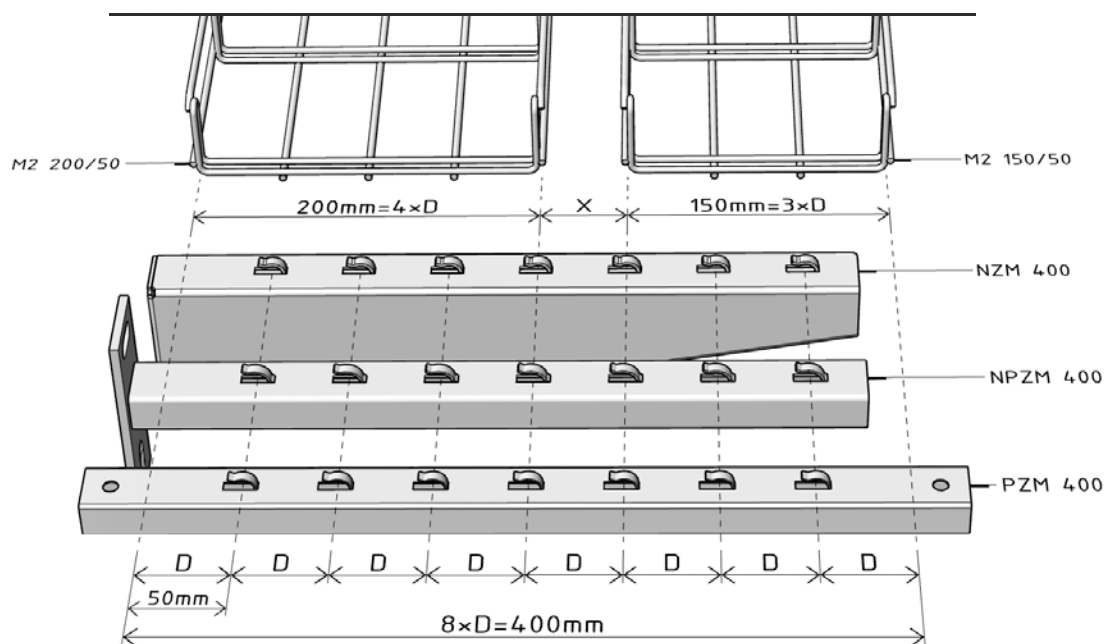
The bearing capacity of the anchor points is often the most important for the load capacity of the cable route. It follows from the distribution of forces that the higher of the two anchor points is always the most stressed and is most stressed by tension. Therefore, it is very important to check the quality and type of masonry in which the route is anchored for routes with a higher load requirement, throughout the entire length of the installation, because the situation can change significantly along the route. The correct choice of the anchoring method and its correct execution is a basic condition for achieving higher load capacities of the routes.



Our offer includes a comprehensive set of anchoring elements from renowned suppliers that cover a wide range of construction requirements and solve most common situations when installing routes.

In the event that the quality of the masonry does not allow for sufficient solid anchoring, or in cases where it is not possible to verify the quality of the masonry, it is advisable to use the option of installing beams on the wall through the STNM rail strut. In this case, the distribution of the forces acting on the anchor points is significantly more favourable and, therefore, a higher





## Installation of load-bearing elements with combinations of ducts

All supporting elements of the MERKUR 2 system, with the exception of the NZMU beams, are equipped with screwless mounts for easy and quick assembly without the need for additional connecting material and tools. The numerical designation of the supporting element corresponds to the width of the largest duct that can be installed on the element. However, it is possible to install a smaller duct or more ducts on the supporting element until the width capacity of the supporting element is achieved. A few simple principles apply to the fitting.

1. Each load-bearing element is divided into width sections – modules – with a width of 50 mm by means of tab fasteners. At the same time, the first and last width modules are outside the tab fasteners. In the case of some beams, the overlapping body of the beam behind the last fastener is less than 50 mm [the installed duct extends beyond the beam], which is not a problem. The duct mounted on the support element rests on the stringers and no additional support is needed for the duct side.

2. Each load-bearing element is divided into width sections – modules – with a width of 50 mm by means of tab attachments.

3. When combining several ducts on a supporting element, it is necessary to take into account that, for technical reasons, it is not possible to place the ducts directly next to each other. Therefore, one width module remains free between every two ducts.

4. A special case are 50 and 100 mm wide ducts [their construction does not include stringers in the bottom of the duct], which are fixed behind the bottom stringer in the side of the duct. These ducts do not overlap the side wall, and therefore when placed on the edge of the width of the supporting element, it is possible to attach them to only one of the rectangles, namely the one that is situated towards the inside of the width of the supporting element. Such assembly is possible if the free length of the duct lies on the supporting element and the fixation of the duct on the supporting element is ensured in another way [for example, by the shape of the route, the use of a common cover, fixation of tape, etc.]. The principle of combining ducts on a supporting element is described in the figure on this page. It is also possible to use a complete overview of the possibilities of installing ducts on supporting elements and all available combinations of ducts, which you can find on our website.

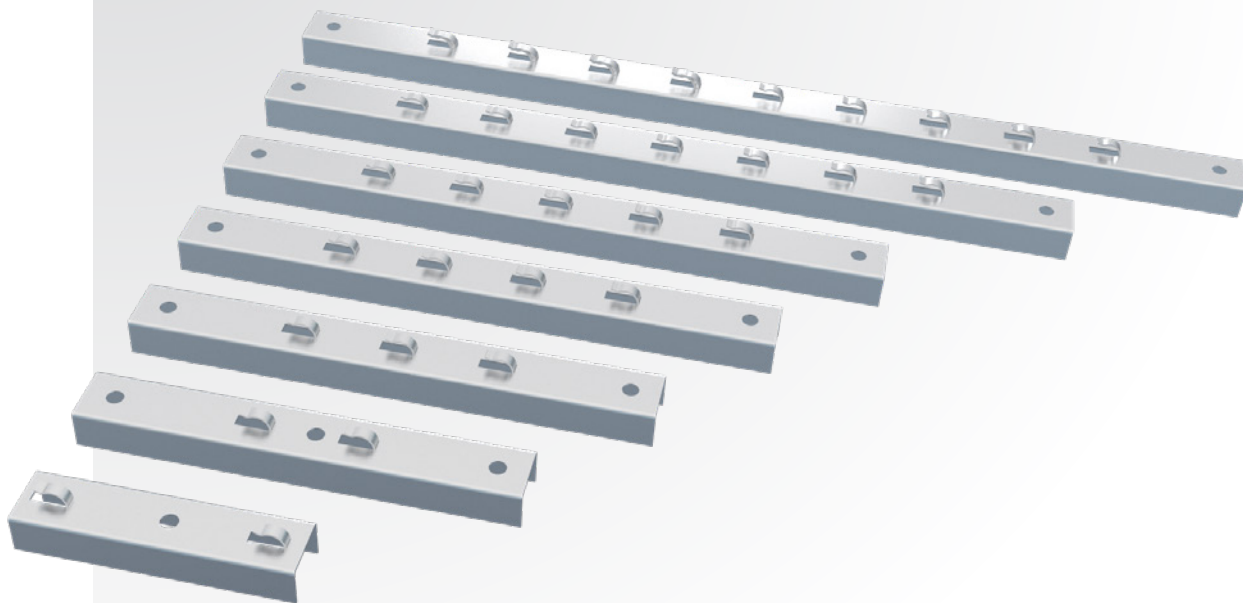
You can find a complete overview of the possibilities of combining ducts for load-bearing elements with all usable duct combinations on our website >>>



<https://www.arkys.cz/cs/merkur-2/prislusenstvi/nosniky/kombinace-zlabu-na-nosnicich-a-podperach>



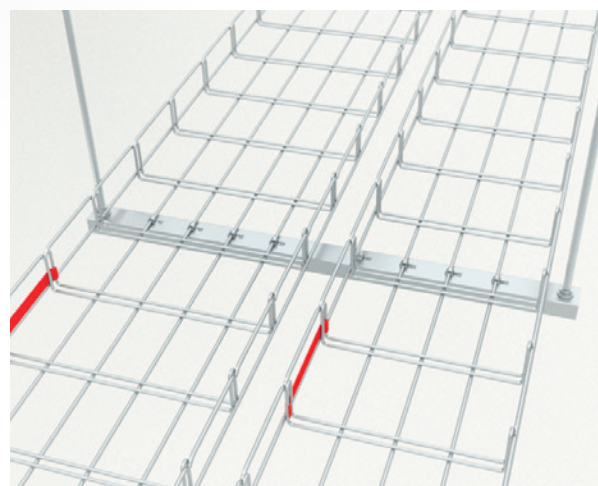
## PZM Support



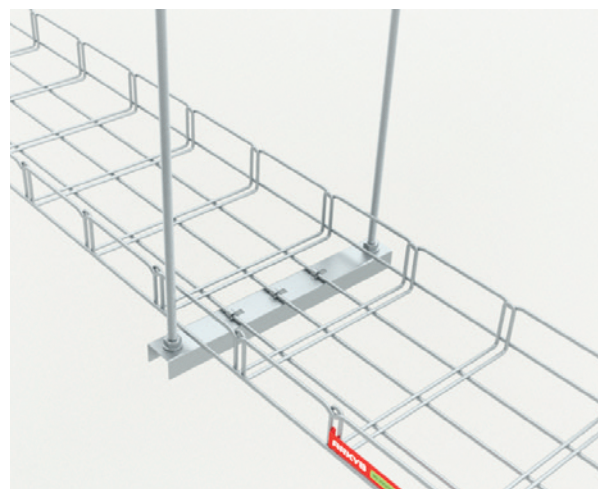
The supports of the PZM series are used as a supporting element of spatial assemblies suspended on M8 threaded rods. The PZM 100 support is intended only for mounting on one threaded rod located in the middle of the support. In the case of the PZM 150 support, it is possible to install it on one threaded rod or on a pair of threaded rods. Other sizes of supports are always installed on a pair of threaded rods. The supports are mounted on the threaded rod using pairs of M8 collar nuts (the appropriate number of nuts are included in the delivery of each support). The PZM supports can be used in combination with the DZM 14 holder for floor mounting, e.g. of cable distribution installed in double floors.

PZM supports are not suitable for flat wall mounting of riser and horizontal routes. For this type of assembly, it is necessary to use more robust PZMP supports! For easy installation of the ducts, the supports are equipped with screwless mounts.

**The supports of the PZM series are not intended for the installation of fire-resistant routes. This function is performed by the reinforced version of the PZMP supports!**




It is possible to place several ducts on one support at the same time.

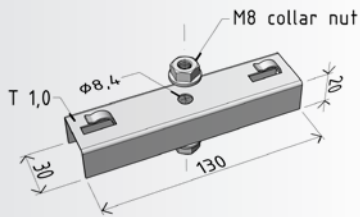


The supports of the PZM series are used as a supporting element of spatial assemblies suspended on M8 threaded rods.

~~X~~ **PZM 100**

- GZ ARK-216010
- ZZ ARK-226010
- A2 ARK-236010
- A4 ARK-246010

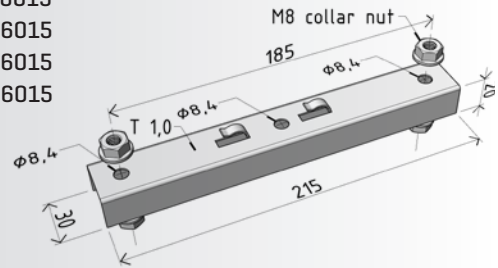
 25 pcs



~~X~~ **PZM 150**

- GZ ARK-216015
- ZZ ARK-226015
- A2 ARK-236015
- A4 ARK-246015

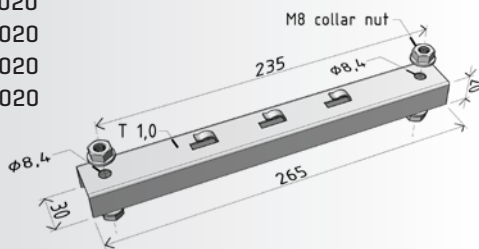
 25 pcs



~~X~~ **PZM 200**

- GZ ARK-216020
- ZZ ARK-226020
- A2 ARK-236020
- A4 ARK-246020

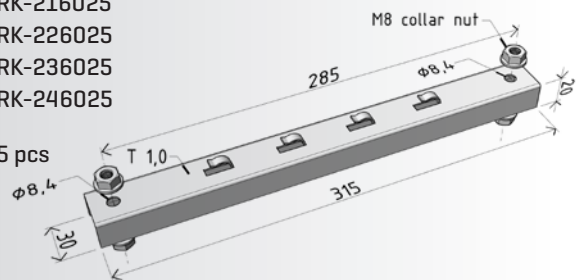
 25 pcs



~~X~~ **PZM 250**


- GZ ARK-216025
- ZZ ARK-226025
- A2 ARK-236025
- A4 ARK-246025

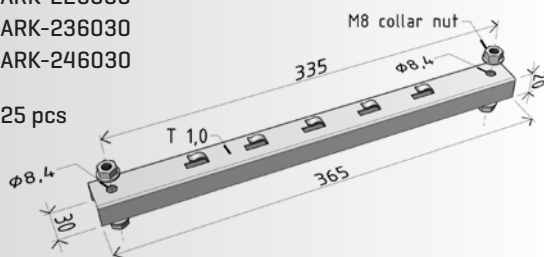
 25 pcs



~~X~~ **PZM 300**

- GZ ARK-216030
- ZZ ARK-226030
- A2 ARK-236030
- A4 ARK-246030

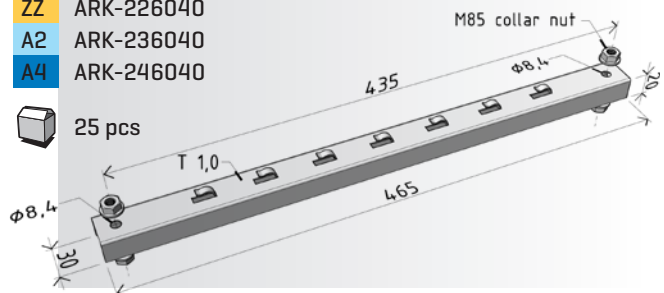
 25 pcs



~~X~~ **PZM 400**

- GZ ARK-216040
- ZZ ARK-226040
- A2 ARK-236040
- A4 ARK-246040

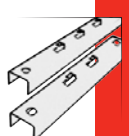
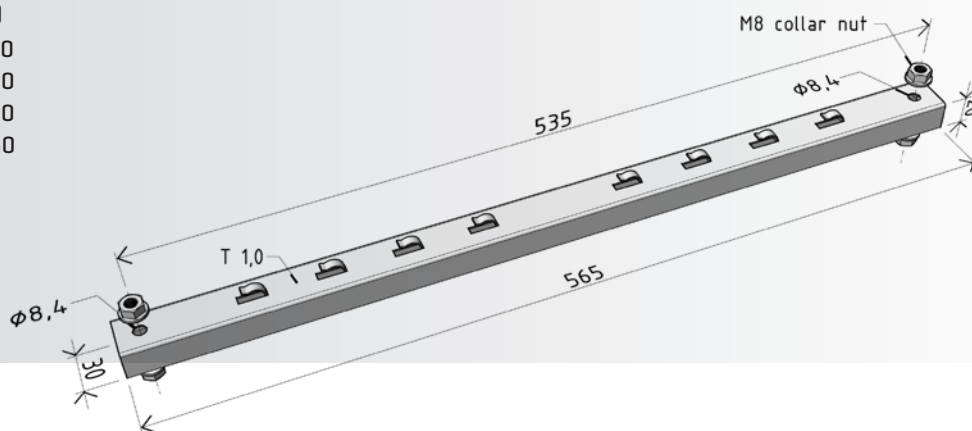
 25 pcs



~~X~~ **PZM 500**

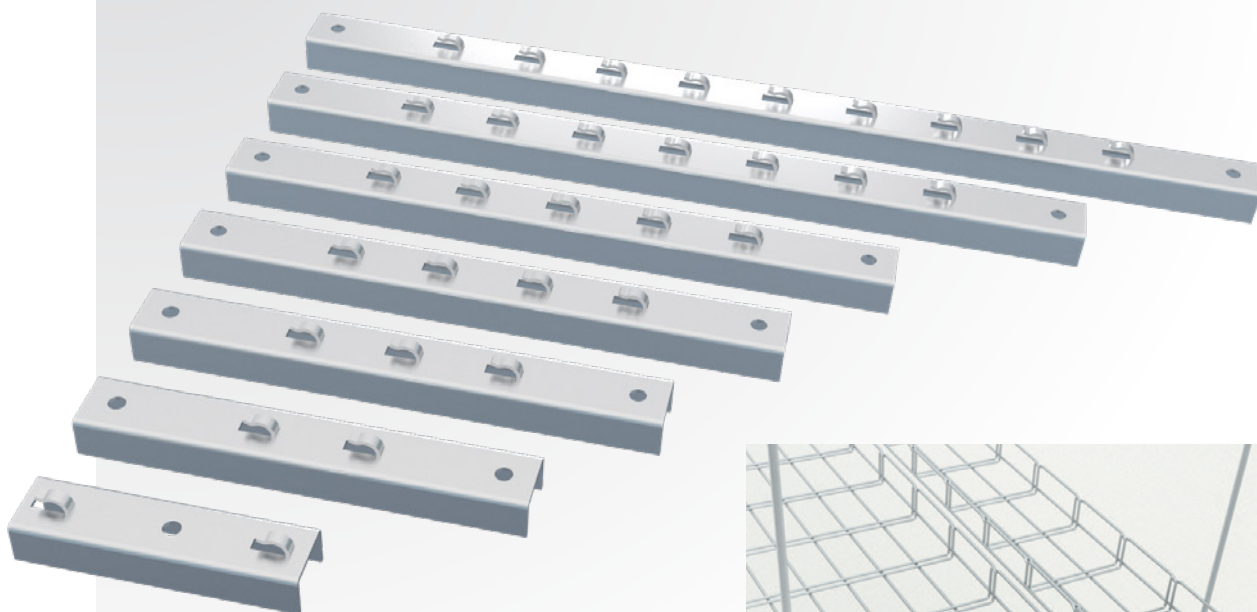
- GZ ARK-216050
- ZZ ARK-226050
- A2 ARK-236050
- A4 ARK-246050

 25 pcs



You can find an overview of the possibilities of combinations of ducts on beams on our website >>>  
<https://www.arkys.cz/cs/merkur-2/prislusenstvi/nosniky/kombinace-zlabu-na-nosnicich-a-podperach>

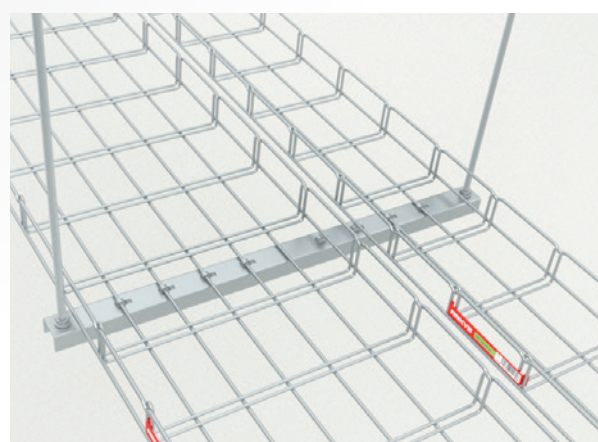




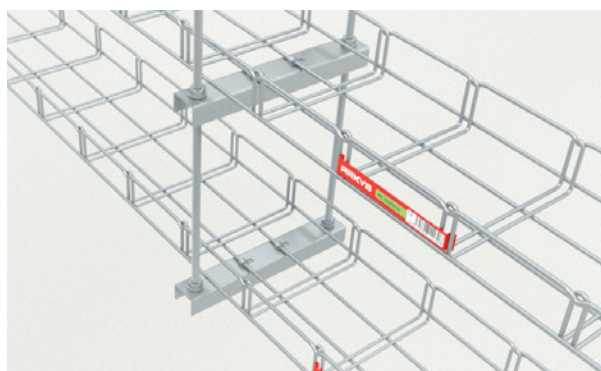
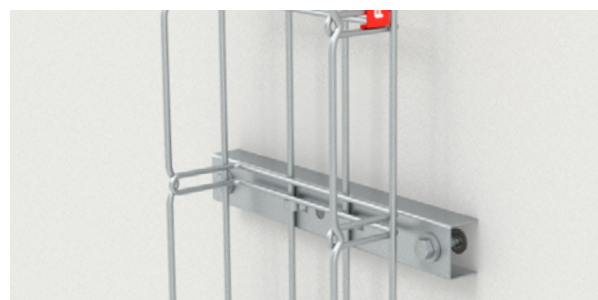
The supports of the PZMP series are used as a supporting element of spatial assemblies suspended on M8 threaded rods. The PZMP 100 support is intended only for mounting on one threaded rod located in the middle of the support. Other sizes of supports are always installed on a pair of threaded rods. The supports are mounted on the threaded rod using pairs of M8 collar nuts (the appropriate number of nuts are included in the delivery of each support). PZMP supports can also be used for flat wall mounting of riser and horizontal routes, or for floor mounting. For easy installation of the ducts, the supports are equipped with screwless mounts.

**PZMP series supports are tested for fire resistance and can be used for:**

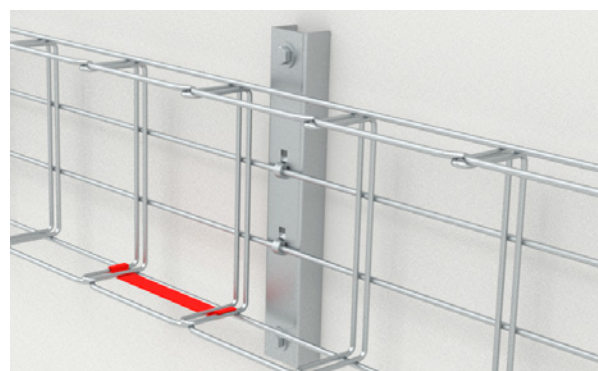
- spatial hanging mounting on M8 threaded rods
- riser wall mounting
- ceiling surface-mount mounting



▲ Combined assembly for multiple ducts on one support.



▲ PZMP supports are used as a supporting element of fire-resistant spatial assemblies on M8 threaded rods.



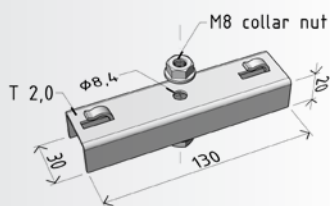
▲▲ Mounting on a rail strut for spatially guided cable routes, or for combined wall mounting of several cable routes above each other.



**PZMP 100**

- GZ ARK-216210
- ZZ ARK-226210
- A2 ARK-236210

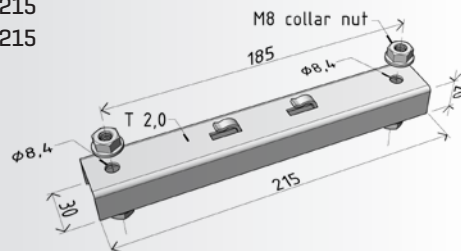
25 pcs



**PZMP 150**

- GZ ARK-216215
- ZZ ARK-226215
- A2 ARK-236215

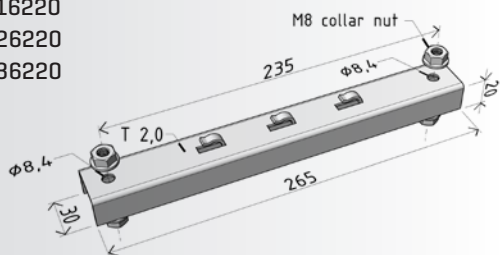
25 pcs



**PZMP 200**

- GZ ARK-216220
- ZZ ARK-226220
- A2 ARK-236220

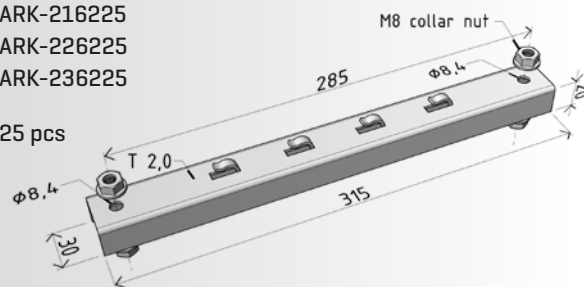
25 pcs



**PZMP 250**

- GZ ARK-216225
- ZZ ARK-226225
- A2 ARK-236225

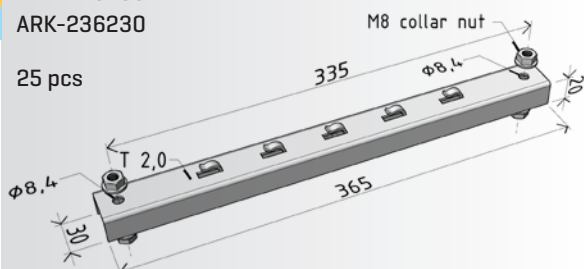
25 pcs



**PZMP 300**

- GZ ARK-216230
- ZZ ARK-226230
- A2 ARK-236230

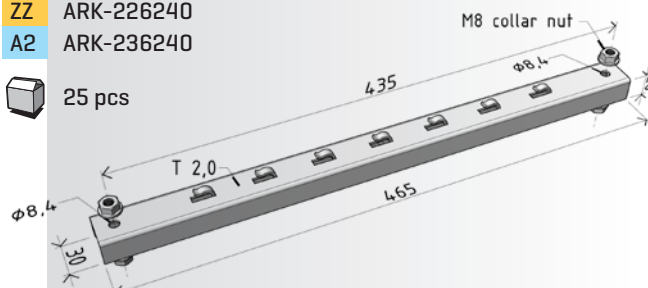
25 pcs



**PZMP 400**

- GZ ARK-216240
- ZZ ARK-226240
- A2 ARK-236240

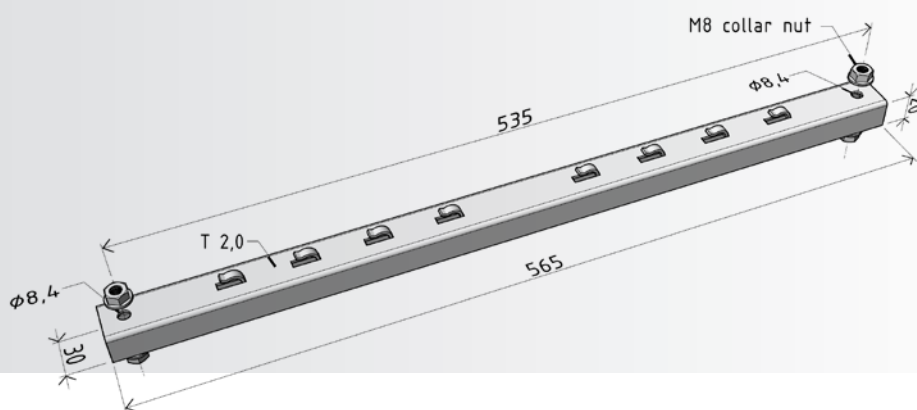
25 pcs



**PZMP 500**

- GZ ARK-216250
- ZZ ARK-226250
- A2 ARK-236250

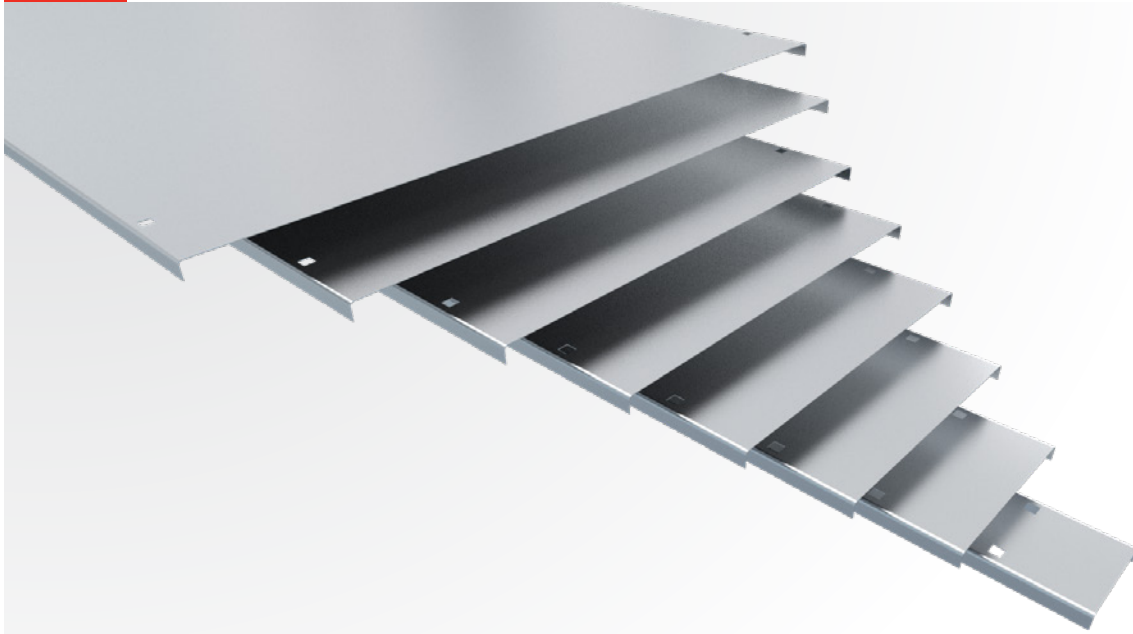
25 pcs



You can find an overview of the possibilities of combinations of ducts on beams on our website >>>

<https://www.arkys.cz/cs/merkur-2/prislusenstvi/nosniky/kombinace-zlabu-na-nosnicich-a-podperach>



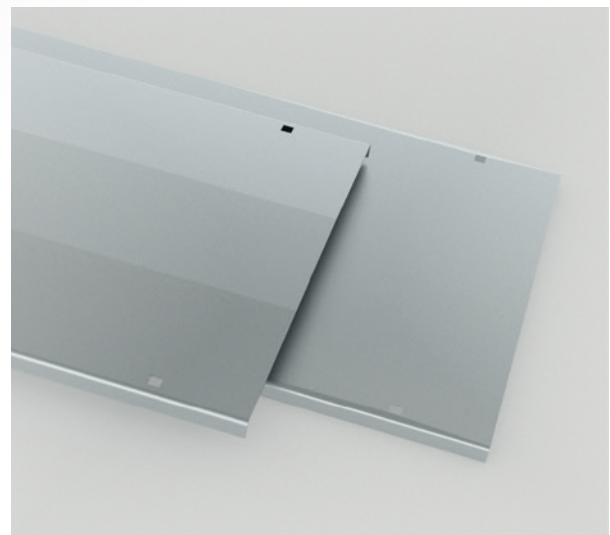


Covers of the VZM series are used **to cover the cable route against possible mechanical damage to the cables. In an outdoor, uncovered environment, they are used as protection against UV radiation.**

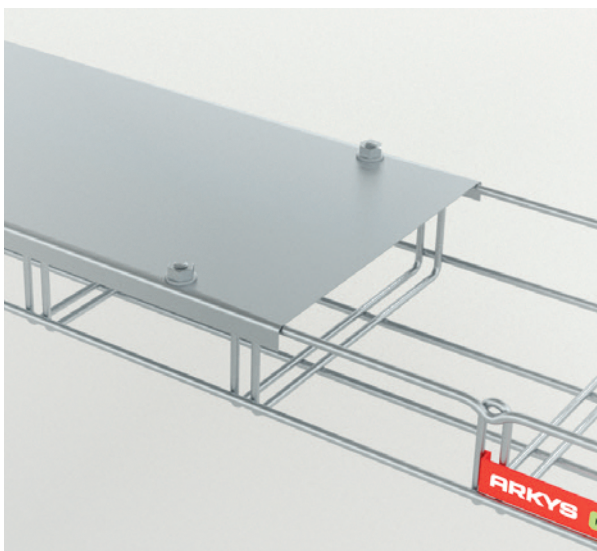
The covers are attached to the ducts using SVM 1 fittings.

The numerical designation in the cover type determines the module width of the cover and at the same time determines the width of the duct for which the cover is intended [e.g. VZM 50 is only intended for a duct of width 50 mm, etc.].

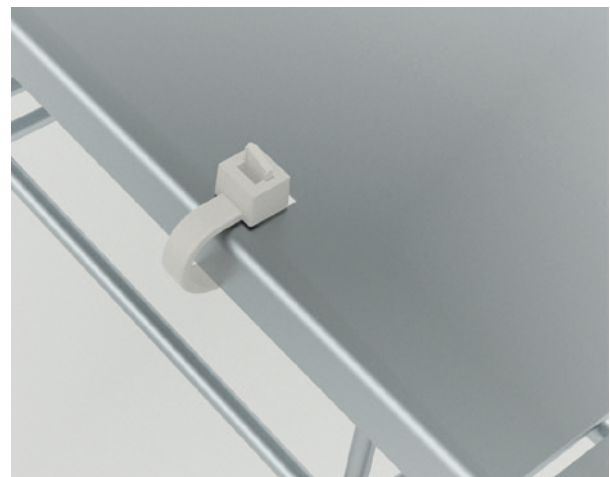
Covers in the ZZ design – hot-dip zinc are produced in lengths of 1,000 mm and in widths from 250 mm have a double-bent cross-section.



Hot-dip galvanized covers are produced in some dimensions with a double-bent cross-section.



The covers are attached to the ducts using SVM 1 fittings.



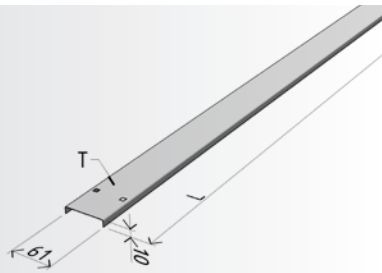
Alternatively, it is possible to use tape to fix the cover.



### VZM 50

- SZ** ARK-222005
- ZZ** ARK-222204
- A2** ARK-232005
- A4** ARK-242005

1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.55 mm	1.0 mm

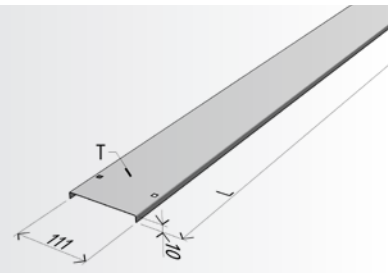
**SZ** **A2** **A4** **ZZ**



### VZM 100

- SZ** ARK-222010
- ZZ** ARK-222209
- A2** ARK-232010
- A4** ARK-242010

1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.55 mm	1.0 mm

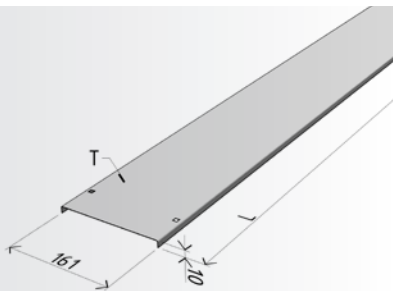
**SZ** **A2** **A4** **ZZ**



### VZM 150

- SZ** ARK-222015
- ZZ** ARK-222214
- A2** ARK-232015
- A4** ARK-242015

1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.55 mm	1.2 mm

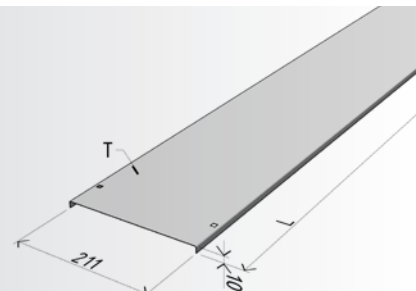
**SZ** **A2** **A4** **ZZ**



### VZM 200

- SZ** ARK-222020
- ZZ** ARK-222219
- A2** ARK-232020
- A4** ARK-242020

1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.80 mm	1.2 mm

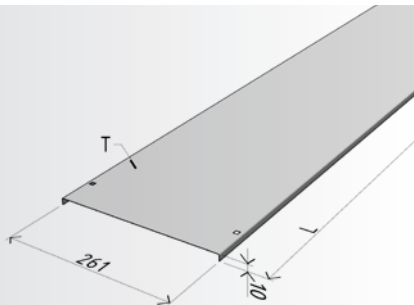
**SZ** **A2** **A4** **ZZ**



### VZM 250

- SZ** ARK-222025
- ZZ** ARK-222224
- A2** ARK-232025
- A4** ARK-242025

1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.80 mm	1.2 mm

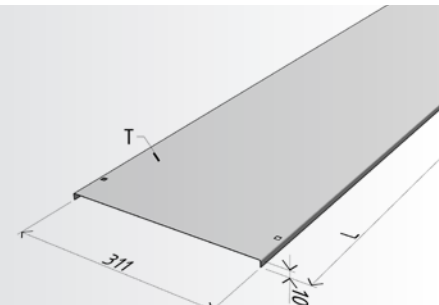
**SZ** **A2** **A4** **ZZ**



### VZM 300

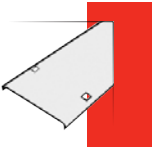
- SZ** ARK-222030
- ZZ** ARK-222229
- A2** ARK-232030
- A4** ARK-242030

1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.80 mm	1,2 mm.

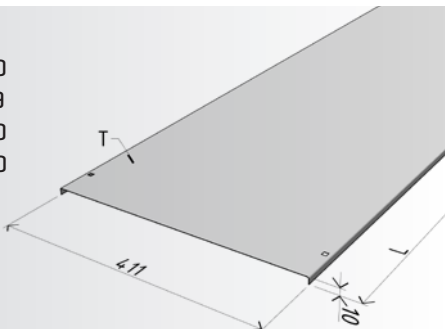
**SZ** **A2** **A4** **ZZ**



### VZM 400

- SZ** ARK-222040
- ZZ** ARK-222239
- A2** ARK-232040
- A4** ARK-242040

1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.80 mm	1.2 mm

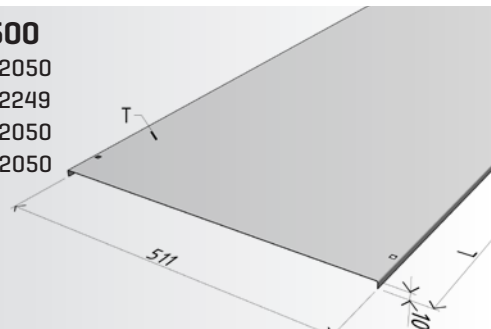
**SZ** **A2** **A4** **ZZ**



### VZM 500

- SZ** ARK-222050
- ZZ** ARK-222249
- A2** ARK-232050
- A4** ARK-242050

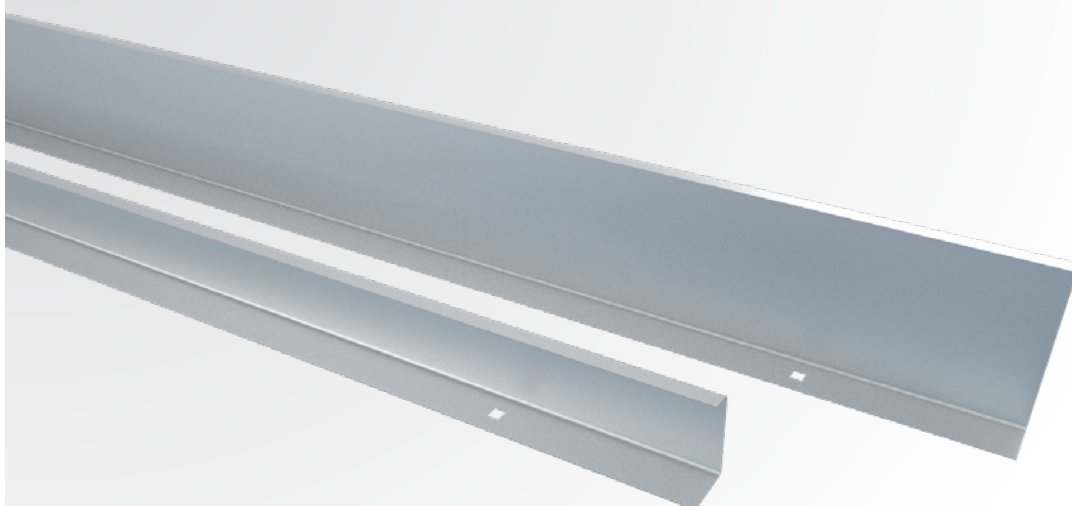
1 pc



L - cover length	2,000 mm	1,000 mm
T - thickness of sheet metal	0.80 mm	1.2 mm

**SZ** **A2** **A4** **ZZ**



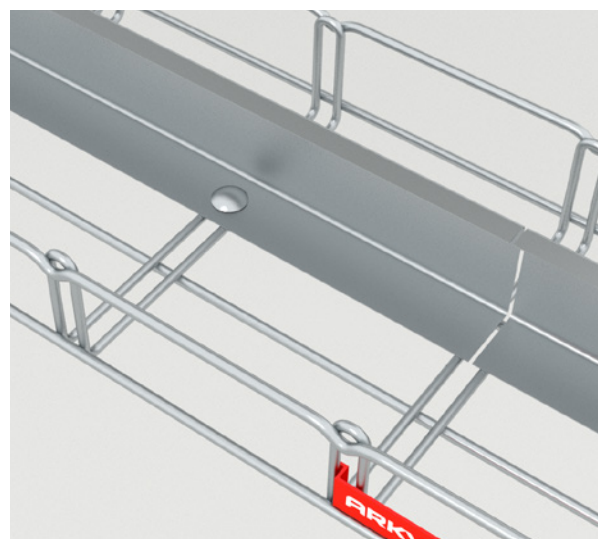



Partitions of the KPZM series are used to partition the duct, e.g. **to separate high-current from low-current lines or for greater clarity of routes**. Standard KPZM partitions are not suitable for installing fire-resistant routes. Reinforced partitions of the KPZMP are intended for them.

Fire-resistant partitions of the KPZMP series, in contrast to KPZM partitions, are made of thicker sheet metal with a thickness of 1.5 mm and are intended for the installation of fire-resistant routes in which they perform the function of a standard duct partition. Other dimensions and connecting elements are the same as KPZM partitions. The KPZMP partition can also be used for standard routes [routes without a fire resistance requirement].

The partitions of both rows are attached to the ducts using the SPM 1 connection set.

The numerical designation in the partition type determines the modular height of the partition and at the same time determines the height of the duct for which the partition is intended. The KPZM 50 partition is designed for 50 mm high ducts, but it can also be used in 100 mm high ducts, while the KPZM 100 partition is designed for 100 mm high ducts and cannot be used in 50 mm high ducts!



 The partitions are attached to the ducts using SPM 1 fittings.

~~X~~ **KPZM 50**

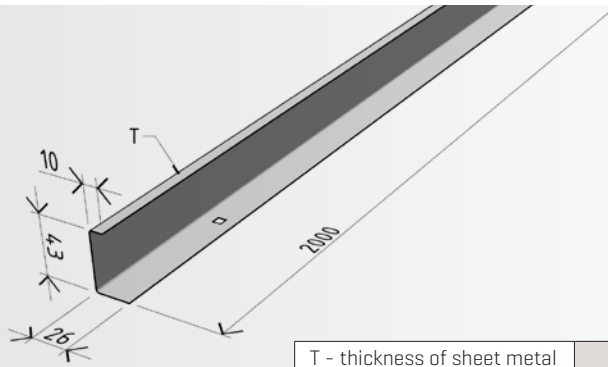
**SZ** ARK-222105

**ZZ** ARK-222305

**A2** ARK-232105

**A4** ARK-242105

 1 pc



T - thickness of sheet metal	0.8 mm	1.0 mm
	<b>SZ</b> <b>A2</b> <b>A4</b>	<b>ZZ</b>

~~X~~ **KPZM 100**

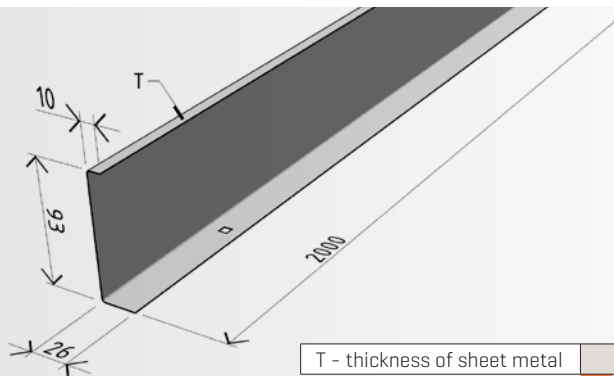
**SZ** ARK-222110

**ZZ** ARK-222310

**A2** ARK-232110

**A4** ARK-242110

 1 pc



T - thickness of sheet metal	0.8 mm	1.0 mm
	<b>SZ</b> <b>A2</b> <b>A4</b>	<b>ZZ</b>

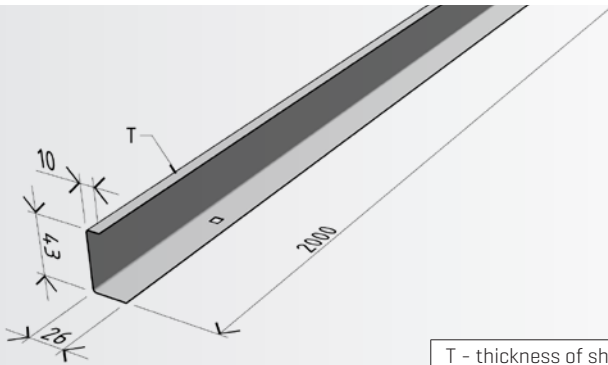
 **KPZMP 50**

**SZ** ARK-222115

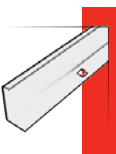
**ZZ** ARK-222315

**A2** ARK-232115

 1 pc



T - thickness of sheet metal	1.5 mm
	<b>SZ</b> <b>ZZ</b> <b>A2</b>



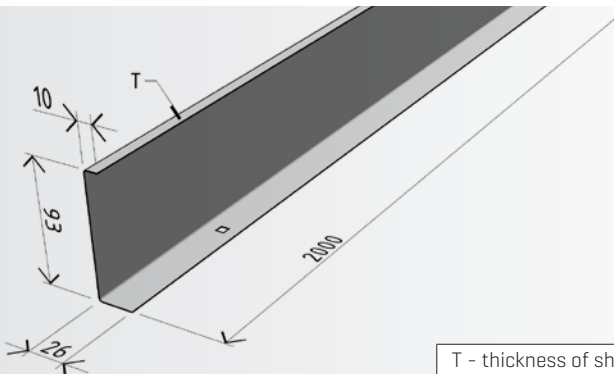
 **KPZMP 100**

**SZ** ARK-222120

**ZZ** ARK-222320

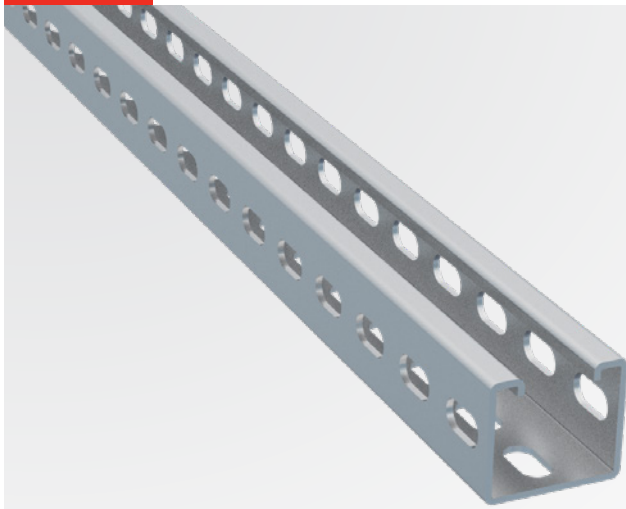
**A2** ARK-232120

 1 pc



T - thickness of sheet metal	1.5 mm
	<b>SZ</b> <b>ZZ</b> <b>A2</b>

## STPM Rail strut for spatial mounting

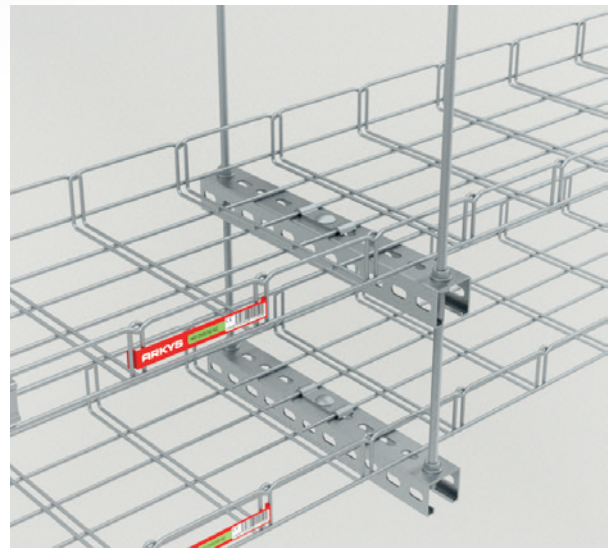


Spatial rail struts of the STPM series are used to create spatial support structures for cable routes. The rail struts are attached to the ceiling structure of the construction using DZM STP or DZM STPU holders. NZM, NZMU and NPZM series beams are installed on rail struts as supporting elements for cable ducts. The OK 2 rail strut cover is intended for safety protection of the free end of the rail strut.

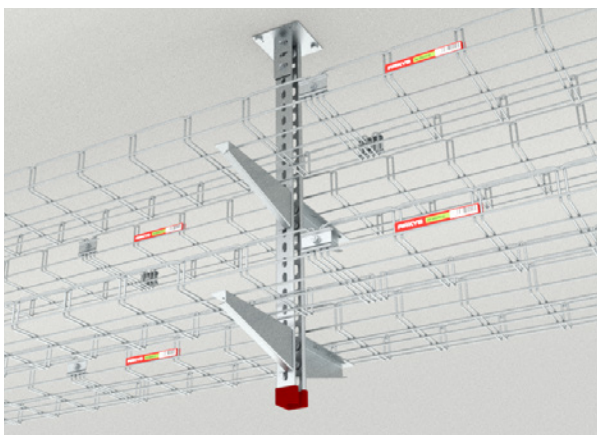
The rail struts can be used as supports to create three-dimensional hanging mountings on threaded rods, or for wall-mounted flat mountings for horizontal and riser routes. These methods of use are especially suitable for fire-resistant routes.

**Only STPM (2.0 mm) rail struts are suitable for fire-resistant routes, which are tested for fire resistance and can be used for:**

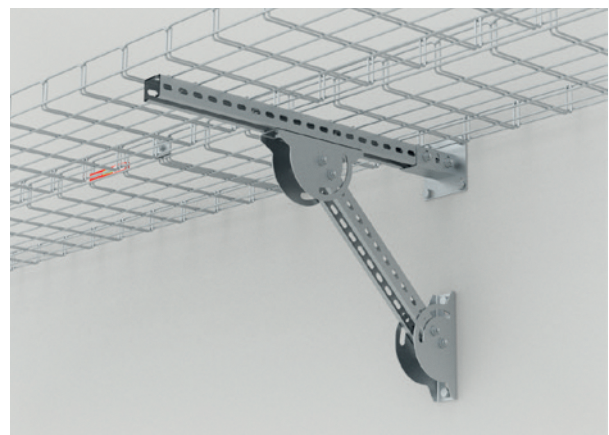
- **suspended spatial mounting at STPM rail struts**
- **spatial hanging mounting on M8 threaded rods**
- **riser wall mounting**
- **Ceiling surface-mount mounting**



STPM rail struts can be used as supports to create three-dimensional suspension mountings on threaded rods.



Spatial rail struts of the STPM series are used to create spatial support structures for cable routes.



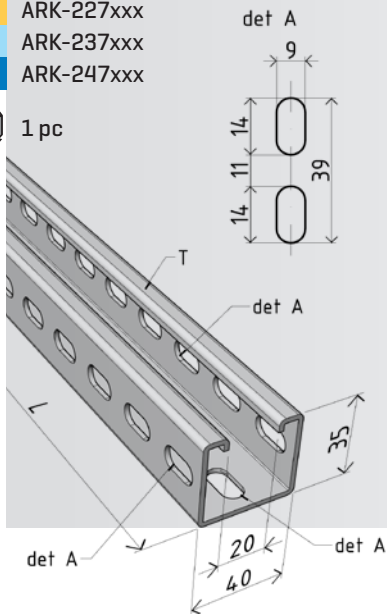
Various atypical load-bearing structures are possible using STPM rail struts, for example a beam with a large outrigger.



## ✗ STPM [1,5 mm]

- SZ** ARK-227xxx
- ZZ** ARK-227xxx
- A2** ARK-237xxx
- A4** ARK-247xxx

1 pc



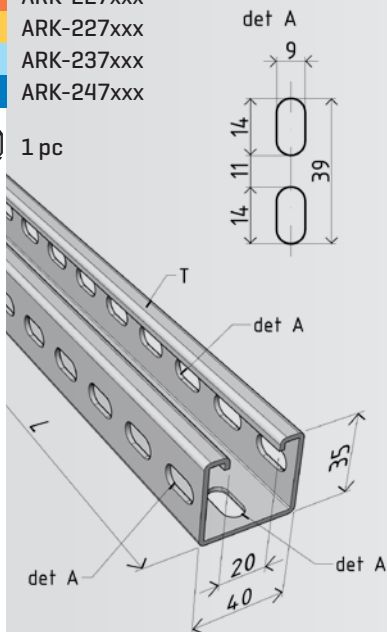
	length	SZ	ZZ	A2	A4
STPM 200 [1.5 mm]	200 mm	ARK-227020	ARK-227620	*ARK-237020	-
STPM 250 [1.5 mm]	250 mm	ARK-227025	ARK-227625	*ARK-237025	-
STPM 300 [1.5 mm]	300 mm	ARK-227030	ARK-227630	*ARK-237030	-
STPM 400 [1.5 mm]	400 mm	ARK-227040	ARK-227640	*ARK-237040	-
STPM 500 [1.5 mm]	500 mm	ARK-227050	ARK-227650	*ARK-237050	-
STPM 600 [1.5 mm]	600 mm	ARK-227060	ARK-227660	*ARK-237060	-
STPM 700 [1.5 mm]	700 mm	ARK-227070	ARK-227670	*ARK-237070	-
STPM 800 [1.5 mm]	800 mm	ARK-227080	ARK-227680	*ARK-237080	-
STPM 900 [1.5 mm]	900 mm	ARK-227090	ARK-227690	*ARK-237090	-
STPM 1000 [1.5 mm]	1,000 mm	ARK-227100	ARK-227700	*ARK-237100	-
STPM 1100 [1.5 mm]	1,100 mm	ARK-227110	ARK-227710	*ARK-237110	-
STPM 3000 [1.5 mm]	3,000 mm	ARK-227300	ARK-227900	-	ARK-247300

[\*] STPM rail struts in version A2 are made of sheet metal with a thickness of 2.0 mm.

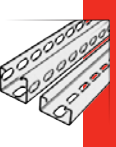
## 🔥 STPM [2,0 mm]

- SZ** ARK-227xxx
- ZZ** ARK-227xxx
- A2** ARK-237xxx
- A4** ARK-247xxx

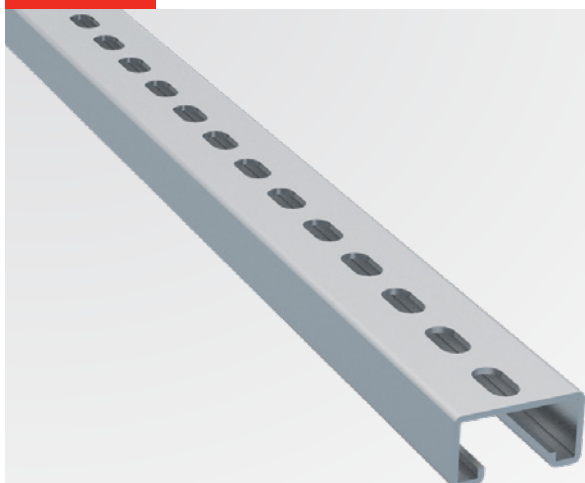
1 pc



	length	SZ	ZZ	A2	A4
STPM 1200 [2.0 mm]	1,200 mm	ARK-227120	ARK-227720	ARK-237120	-
STPM 1300 [2.0 mm]	1,300 mm	ARK-227130	ARK-227730	ARK-237130	-
STPM 1400 [2.0 mm]	1,400 mm	ARK-227140	ARK-227740	ARK-237140	-
STPM 1500 [2.0 mm]	1,500 mm	ARK-227150	ARK-227750	ARK-237150	-
STPM 1600 [2.0 mm]	1,600 mm	ARK-227160	ARK-227760	ARK-237160	-
STPM 1700 [2.0 mm]	1,700 mm	ARK-227170	ARK-227770	ARK-237170	-
STPM 1800 [2.0 mm]	1,800 mm	ARK-227180	ARK-227780	ARK-237180	-
STPM 1900 [2.0 mm]	1,900 mm	ARK-227190	ARK-227790	ARK-237190	-
STPM 2000 [2.0 mm]	2,000 mm	ARK-227200	ARK-227800	ARK-237200	-
STPM 2100 [2.0 mm]	2,100 mm	ARK-227210	ARK-227810	ARK-237210	-
STPM 2200 [2.0 mm]	2,200 mm	ARK-227220	ARK-227820	ARK-237220	-
STPM 2300 [2.0 mm]	2,300 mm	ARK-227230	ARK-227830	ARK-237230	-
STPM 2400 [2.0 mm]	2,400 mm	ARK-227240	ARK-227840	ARK-237240	-
STPM 2500 [2.0 mm]	2,500 mm	ARK-227250	ARK-227850	ARK-237250	-
STPM 2600 [2.0 mm]	2,600 mm	ARK-227260	ARK-227860	ARK-237260	-
STPM 2700 [2.0 mm]	2,700 mm	ARK-227270	ARK-227870	ARK-237270	-
STPM 2800 [2.0 mm]	2,800 mm	ARK-227280	ARK-227880	ARK-237280	-
STPM 2900 [2.0 mm]	2,900 mm	ARK-227290	ARK-227890	ARK-237290	-
STPM 3000 [2.0 mm]	3,000 mm	ARK-227302	ARK-227902	ARK-237302	ARK-247302
STPM 6000 [2.0 mm]	6,000 mm	ARK-227602	-	-	-



## STNM Rail strut for wall mounting

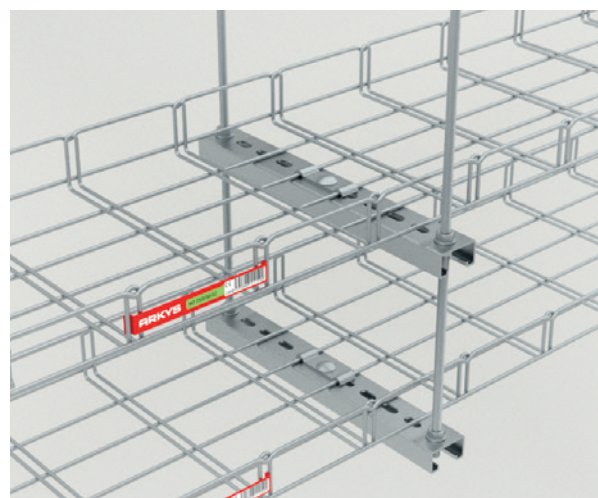


Wall rail struts of the STNM series are used to create auxiliary support structures for cable routes. They are used in cases where it is necessary to distribute the load along a route in lower quality masonry. Their use is also suitable for routes with a larger number of floors, when the load-bearing elements of the route are combined on a rail strut anchored to the wall. The rail struts are anchored to the vertical structure of the construction in the usual way, in a position with the open part of the rail strut facing the wall - for cases of combined assembly with a fixed position of the beams, or facing the space - for sliding storage of the beams using MSM nuts. The OK 3 rail strut cover is intended for safety protection of the free end of the rail strut.

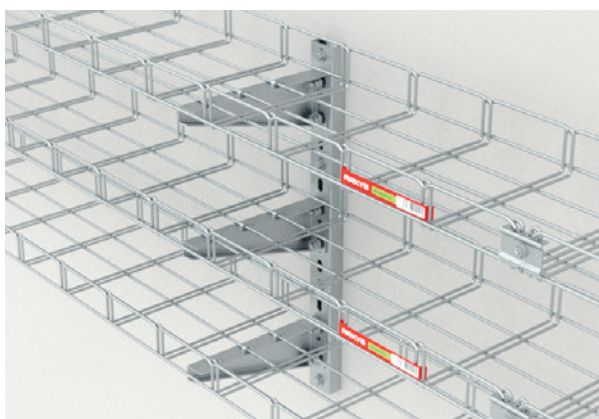
The rail struts can be used as supports to create three-dimensional hanging mountings on threaded rods, or for wall-mounted flat mountings for horizontal and riser routes. These methods of use are especially suitable for fire-resistant routes.

**Only STNM (2.0 mm) rail struts are suitable for fire-resistant routes, which are tested for fire resistance and can be used for:**

- spatial hanging mounting on M8 threaded rods



STNM rail struts can be used as supports to create three-dimensional suspension mountings on threaded rods.



Wall-mounted rail struts of the STNM series are used as supporting structures of combined wall-mounted cable routes.



The rail struts can be mounted on the vertical structures of the construction in a position with the open side facing the space, which makes it possible to create a sliding storage of the beams.

## ~~X~~ STNM [1.5 mm]

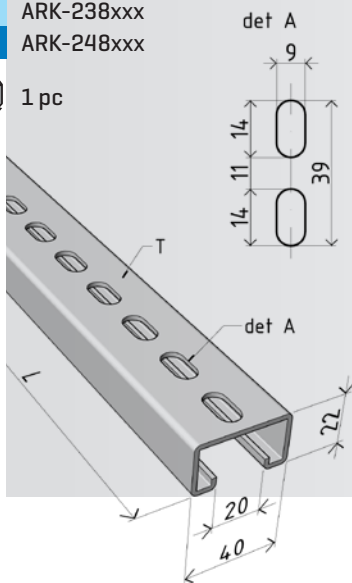
**SZ** ARK-228xxx

**ZZ** ARK-228xxx

**A2** ARK-238xxx

**A4** ARK-248xxx

 1 pc



	length	SZ	ZZ	A2	A4
STNM 200 [1.5 mm]	200 mm	ARK-228020	ARK-228620	ARK-238020	-
STNM 250 [1.5 mm]	250 mm	ARK-228025	ARK-228625	ARK-238025	-
STNM 300 [1.5 mm]	300 mm	ARK-228030	ARK-228630	ARK-238030	-
STNM 400 [1.5 mm]	400 mm	ARK-228040	ARK-228640	ARK-238040	-
STNM 500 [1.5 mm]	500 mm	ARK-228050	ARK-228650	ARK-238050	-
STNM 600 [1.5 mm]	600 mm	ARK-228060	ARK-228660	ARK-238060	-
STNM 700 [1.5 mm]	700 mm	ARK-228070	ARK-228670	ARK-238070	-
STNM 800 [1.5 mm]	800 mm	ARK-228080	ARK-228680	ARK-238080	-
STNM 900 [1.5 mm]	900 mm	ARK-228090	ARK-228690	ARK-238090	-
STNM 1000 [1.5 mm]	1,000 mm	ARK-228100	ARK-228700	ARK-238100	-
STNM 1100 [1.5 mm]	1,100 mm	ARK-228110	ARK-228710	ARK-238110	-
STNM 3000 [1.5 mm]	3,000 mm	ARK-228300	ARK-228900	ARK-238300	ARK-248300

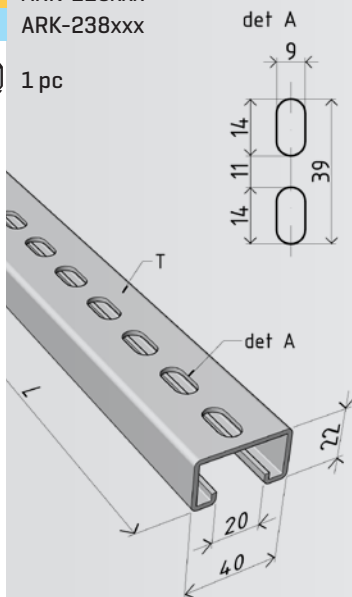
## STNM [2.0 mm]

**SZ** ARK-228xxx

**ZZ** ARK-228xxx

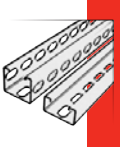
**A2** ARK-238xxx

 1 pc



	length	SZ	ZZ	A2	A4
STNM 1200 [2.0 mm]	1,200 mm	ARK-228120	ARK-228720	*ARK-238120	-
STNM 1300 [2.0 mm]	1,300 mm	ARK-228130	ARK-228730	*ARK-238130	-
STNM 1400 [2.0 mm]	1,400 mm	ARK-228140	ARK-228740	*ARK-238140	-
STNM 1500 [2.0 mm]	1,500 mm	ARK-228150	ARK-228750	*ARK-238150	-
STNM 1600 [2.0 mm]	1,600 mm	ARK-228160	ARK-228760	*ARK-238160	-
STNM 1700 [2.0 mm]	1,700 mm	ARK-228170	ARK-228770	*ARK-238170	-
STNM 1800 [2.0 mm]	1,800 mm	ARK-228180	ARK-228780	*ARK-238180	-
STNM 1900 [2.0 mm]	1,900 mm	ARK-228190	ARK-228790	*ARK-238190	-
STNM 2000 [2.0 mm]	2,000 mm	ARK-228200	ARK-228800	*ARK-238200	-
STNM 2100 [2.0 mm]	2,100 mm	ARK-228210	ARK-228810	-	-
STNM 2200 [2.0 mm]	2,200 mm	ARK-228220	ARK-228820	-	-
STNM 2300 [2.0 mm]	2,300 mm	ARK-228230	ARK-228830	-	-
STNM 2400 [2.0 mm]	2,400 mm	ARK-228240	ARK-228840	-	-
STNM 2500 [2.0 mm]	2,500 mm	ARK-228250	ARK-228850	-	-
STNM 2600 [2.0 mm]	2,600 mm	ARK-228260	ARK-228860	-	-
STNM 2700 [2.0 mm]	2,700 mm	ARK-228270	ARK-228870	-	-
STNM 2800 [2.0 mm]	2,800 mm	ARK-228280	ARK-228880	-	-
STNM 2900 [2.0 mm]	2,900 mm	ARK-228290	ARK-228890	-	-
STNM 3000 [2.0 mm]	3,000 mm	ARK-228302	ARK-228902	-	-
STNM 6000 [2.0 mm]	6,000 mm	ARK-228602	-	-	-

[\*] STNM rail struts in version A2 are made of sheet metal with a thickness of 1.5 mm.





## CONNECTING MATERIAL

### threaded rod M6/1 m

GZ ARK-219011  
A2 ARK-239011  
A4 ARK-249011

 50 pcs



### threaded rod M6/2 m

GZ ARK-219012  
A2 ARK-239012  
A4 ARK-249012

 25 pcs



### threaded rod M8/1 m

GZ ARK-219021  
A2 ARK-239021  
A4 ARK-249021

 50 pcs



### threaded rod M8/2 m


GZ ARK-219022  
A2 ARK-239022  
A4 ARK-249022

 25 pcs



### threaded rod fitting M6×16

GZ ARK-219051  
A2 ARK-239051  
A4 ARK-249051

 100 pcs



### threaded rod fitting M8×23

GZ ARK-219053  
A2 ARK-239053  
A4 ARK-249053

 100 pcs



### metal dowel M6×25

GZ ARK-219061  
A2 ARK-239061  
A4 ARK-249061

 100 pcs



*For anchoring cable routes in concrete.*

### metal dowel M8×30

GZ ARK-219065  
A2 ARK-239065  
A4 ARK-249065


 100 pcs



*For anchoring cable routes in concrete.*

### metal dowel with collar M8×30

GZ ARK-219066

 100 pcs



*For anchoring cable routes in concrete.*

### coach screw M6×16


- GZ ARK-219103
- G5 ARK-229103
- A2 ARK-239103
- A4 ARK-249103

 100 pcs



### coach screw M6×20

- GZ ARK-219104
- G5 ARK-229104
- A2 ARK-239104
- A4 ARK-249104

 100 pcs



### coach screw M8×16

- GZ ARK-219123
- G5 ARK-229123
- A2 ARK-239123
- A4 ARK-249123

 100 pcs



### coach screw M8×20

- GZ ARK-219124
- G5 ARK-229124
- A2 ARK-239124
- A4 ARK-249124

 100 pcs



### M6×16 screw hexagonal head

- GZ ARK-219163
- A2 ARK-239163
- A4 ARK-249163

 100 pcs



### M6×20 screw hexagonal head

- GZ ARK-219164
- A2 ARK-239164
- A4 ARK-249164

 100 pcs



### M6×40 screw hexagonal head


- GZ ARK-219167
- A2 ARK-239167
- A4 ARK-249167

 100 pcs



### M8×16 screw hexagonal head


- GZ ARK-219183
- A2 ARK-239183
- A4 ARK-249183

 100 pcs



### M8×20 screw hexagonal head


- GZ ARK-219184
- A2 ARK-239184
- A4 ARK-249184

 100 pcs



### M8×25 screw hexagonal head

- GZ ARK-219185
- A2 ARK-239185
- A4 ARK-249185

 100 pcs



## CONNECTING MATERIAL

### M8×30 screw hexagonal head

GZ ARK-219186  
A2 ARK-239186  
A4 ARK-249186

 100 pcs



### M8×40 screw hexagonal head

GZ ARK-219187  
A2 ARK-239187  
A4 ARK-249187

 100 pcs



### M8×50 screw hexagonal head

GZ ARK-219188  
A2 ARK-239188  
A4 ARK-249188

 100 pcs



### M8×100 screw hexagonal head

GZ ARK-219198  
A2 ARK-239198  
A4 ARK-249198

 100 pcs



*Suitable for installation with DZM 5 holder.*

### M8×120 screw hexagonal head

GZ ARK-219202  
A2 ARK-239202  
A4 ARK-249202

 100 pcs



*Suitable for installation with DZM 5 holder.*

### M8×140 screw hexagonal head

GZ ARK-219206  
A2 ARK-239206  
A4 ARK-249206

 100 pcs



*Suitable for installation with DZM 5 holder.*

### M8 washer

GZ ARK-219320  
G5 ARK-229320  
A2 ARK-239320  
A4 ARK-249320

 100 pcs



### M6 large-area washer

GZ ARK-219311  
A2 ARK-239311  
A4 ARK-249311

 100 pcs



### M10 washer

GZ ARK-219330  
A2 ARK-239330  
A4 ARK-249330

 100 pcs



### M8 large-area washer

GZ ARK-219321  
A2 ARK-239321  
A4 ARK-249321

 100 pcs





### M6 collar nut (washer)

- GZ ARK-219411
- G5 ARK-229411
- A2 ARK-239411
- A4 ARK-249411

 100 pcs



### M8 collar nut (washer)

- GZ ARK-219421
- A2 ARK-239421
- A4 ARK-249421

 100 pcs



### M8 nut

- GZ ARK-219420
- G5 ARK-229420
- A2 ARK-239420
- A4 ARK-249420

 100 pcs



### 6x60 screw with hexagonal head

- GZ ARK-219510
- A2 ARK-239510
- A4 ARK-249510

 100 pcs



### 6x70 screw with hexagonal head

- GZ ARK-219511
- A2 ARK-239511
- A4 ARK-249511

 100 pcs



### 6x80 screw with hexagonal head


- GZ ARK-219512
- A2 ARK-239512
- A4 ARK-249512

 100 pcs



### 8x70 screw with hexagonal head

- GZ ARK-219521
- A2 ARK-239521
- A4 ARK-249521

 100 pcs




### 8x90 screw with hexagonal head

- GZ ARK-219523
- A2 ARK-239523
- A4 ARK-249523

 100 pcs



 The advantage of the unique double cross member is its popular and simple installation using a large-area pad and commonly available hammering dowels.

## ANCHOR MATERIAL

plastic

### 10×60 NYLON UH-L dowel

ARK-219091



100 pcs



For anchoring cable routes in concrete, perforated sand-lime bricks, solid sand-lime bricks, natural stone, solid blocks of lightweight concrete, solid bricks, plasterboard, vertically perforated bricks, aerated concrete.

plastic

### 12×72 NYLON UH-L dowel

ARK-219092



100 pcs



For anchoring cable routes in concrete, perforated sand-lime bricks, solid sand-lime bricks, natural stone, solid blocks of lightweight concrete, solid bricks, plasterboard, vertically perforated bricks, aerated concrete.

GZ

### M8/60 metal dowel

ARK - 219081



100 pcs



For anchoring cable routes in concrete, perforated sand-lime bricks, solid sand-lime bricks, natural stone, solid blocks of lightweight concrete, solid bricks, plasterboard, vertically perforated bricks, aerated concrete.

GZ

### M10/60 metal dowel

ARK-219083



100 pcs



For anchoring cable routes in concrete, perforated sand-lime bricks, solid sand-lime bricks, natural stone, solid blocks of lightweight concrete, solid bricks, plasterboard, vertically perforated bricks, aerated concrete.

GZ

### M6×65 slide anchor

ARK-219071



100 pcs



For anchoring cable routes into concrete without cracks.

GZ

### M8×85 slide anchor

ARK-219075



100 pcs



For anchoring cable routes into concrete without cracks.

GZ

### HM S M6/12×52 metal dowe

ARK-219067



100 pcs



For anchoring routes into plasterboard and gypsum fibre boards, building boards made of light wood wool, chipboards, plywood boards.

GZ

### HM SS M8/13×55 metal dowe

ARK-219069



100 pcs



For anchoring routes into plasterboard and gypsum fibre boards, building boards made of light wood wool, chipboards, plywood boards.

### HM S M6/12×65 metal dowel

GZ ARK-219068

 100 pcs



*For anchoring routes into plasterboard and gypsum fibre boards, building boards made of light wood wool, chipboards, plywood boards.*

### HM SS M8/13×68 metal dowel

GZ ARK-219070

 100 pcs



*For anchoring routes into plasterboard and gypsum fibre boards, building boards made of light wood wool, chipboards, plywood boards.*

### KD 6 folding dowel

GZ ARK-219095

 100 pcs



*For anchoring routes into plasterboard and gypsum fibre boards, chipboards, plywood boards, trapezoidal sheet.*

### KD 8 folding dowel

GZ ARK-219097

 100 pcs



*For anchoring routes into plasterboard and gypsum fibre boards, chipboards, plywood boards, trapezoidal sheet.*

### Chemical anchoring CH-VSF-300C

ARK-219601 300 ml, summer

 1 pc



*For anchoring routes in concrete, stone and solid or hollow masonry.*

### Chemical anchoring CH-VSF-300C/W

ARK-219602 300 ml, winter

 1 pc



*For anchoring routes in concrete, stone and solid or hollow masonry.*

### Metal mesh 12×1,000 mm

GZ ARK-219603 for chemical anchoring M6/M8

 1 pc







## Special offer of anchoring material of the renowned Hilti brand

Since we have long been concerned with the issue of routes with the requirement to maintain functional integrity in the event of fire, and since anchoring is an integral part and often a sensitive point in terms of load-bearing capacity and strength of the cable route, we have decided to focus on suitable anchoring methods and their fire resistance.

As part of this activity, we established cooperation with the renowned company Hilti, which is one of the world leaders in the field of anchoring technology, and during our regular fire resistance tests we tested selected anchoring elements directly in combination with our supporting cable route systems.

Therefore, on this double page, we offer you a complete set of elements for anchoring in a wide range of building materials, which are suitable for standard installations and at the same time meet the increased resistance requirements for use in the installation of fire-resistant routes.

From this offer, we also draw your attention to the following element of anchoring technology...

### **Threaded nail S-BT-MF M8/7 AN6**

A quick, easy and reliable solution that does not require finishing work on the base material. Installation to steel materials with a surface treatment in a corrosive environment without preparatory work. Ideal for use on high strength painted steels. Installation of a threaded nail does not require an external power source.

The threaded nail type S-BT-MF is especially suitable for mounting and fixing lighter elements, such as cable routes, individual electrical cables, line connectors, lighting distribution boxes, switchboards, pipe hangers, supports, etc. This threaded nail is suitable for equipping steel structures with boxes, lighting, signage and the like.



### screw HUS3-H 6x40/5

GZ ARK-219611

A4 ARK-249611

100 pcs



For fixing cable routes in cracked and non-cracked concrete, aerated concrete and solid brick masonry.



### screw HUS3-I 6x55 M8/M10

GZ ARK-219614

100 pcs



For fixing cable routes in cracked and non-cracked concrete, aerated concrete and solid brick masonry.



### screw HUS3-A 6x55 M8/16

GZ ARK-219617

100 pcs



For fixing cable routes in cracked and non-cracked concrete, aerated concrete and solid brick masonry.



### anchor HST3 M8x75 -/10

GZ ARK-219675

A4 ARK-249675

100 pcs



For anchoring in concrete without cracks or with cracks.



### dowel HRD-C 8x120

GZ ARK-219622

A4 ARK-249622

100 pcs



For anchoring in cracked and uncracked concrete, solid and perforated brickwork, aerated concrete and natural stone.



### dowel HRD-H 10x120

GZ ARK-219625

A2 ARK-239625

100 pcs



For anchoring in cracked and uncracked concrete, solid and perforated brickwork, aerated concrete and natural stone.



### anchor with internal thread HKD M8x30

GZ ARK-219666

A4 ARK-249666

100 pcs



For anchoring in concrete with cracks during multiple anchoring, also usable for concrete without cracks.



### threaded nail S-BT-MF M8/7 AN6

GZ ARK-219682

A4 ARK-249682

100 pcs



For anchoring in steel with a minimum thickness of 6 mm. Fitting without full penetration through the material.



## ACCESSORIES AND TOOLS

### OK 3 protective cover for rail struts

plastic ARK-219971


 50 pcs



### OK 2 protective cover for rail struts

plastic ARK-219972


*for STNM rail struts*

 1 pc



### OK 3 protective cover for rail struts


plastic ARK-219973 *for STNM rail struts*

 1 pc



### protective cap for supports OK 4


plastic ARK-219974 *for PZM supports (PZMP)*

 1 pc



### wire 3 mm (FeZn)


GZ ARK-219910

 50 m



### cable clamp 3 mm

GZ ARK-219920

 1 pc





### MERKUR bolt cutters

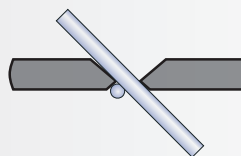
ARK-219952



1 pc



Use of MERKUR scissors – correct use of scissors on cut wire:



correct cutting edge



wrong blade



### trapezoidal scissors for the M2 system

ARK-219954



1 pc



medium – for plate thickness max. 1.2 mm

### trapezoidal scissors for the M2 system

ARK-219955



1 pc



large – for plate thickness max. 1.5 mm

### threaded rod cutter

ARK-219958



1 pc



for threaded rods M8 and M10

### set of spare blades of trapezoidal scissors

ARK-219954-1 for medium scissors [ARK-219954]  
ARK-219956 for large scissors [ARK-219955]



1 pc



prices on request

### UKH settling tool

ARK-219960



1 pc



for metal dowel M8x30

### HMZ 1 pliers

ARK-219959



1 pc



for metal dowels in hollow spaces

### zinc spray 98% zinc (400 ml)

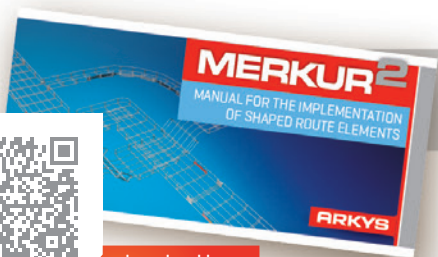
ARK-219981



1 pc



# Another ARKYS publication



[download here](#)

## MANUAL FOR THE IMPLEMENTATION OF SHAPED ROUTE ELEMENTS

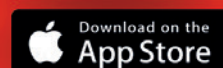
Manual for the execution of shape elements of routes for all dimensions of ducts and all route options.

# SMART AND EFFICIENT WITH THE MERKUR 2 APP



## MERKUR 2 app

- will offer the appropriate size of the duct depending on the weight and volume of the cabling
- will determine the distance of the supports
- a pocket manual for quick shaping



**ARKYS**

pathways for energy



