# Simply Smart Systems

# Conduits & fittings





The brand murrplastik®

# Industry-focused Future-proof Customized

Manufacturing is the driving force in our fast-moving, connected world. Moreso than nearly any other sector of the economy, industry lies at the heart of continuous innovation and change. To survive long term, you have to be able to react to ever-changing developments and conditions flexibly and with foresight. The highest level of economic know-how is just as indispensable here as powerful machines and reliable production facilities.

With over 60 years of experience in the development, production and sale of smart cable management systems and individual components, at murrplastik® we support companies worldwide in optimizing their work processes.

For the customers, this means protected investments, long-lasting machines and shorter downtimes as the basis for a future-proof, up-to-date corporate development.



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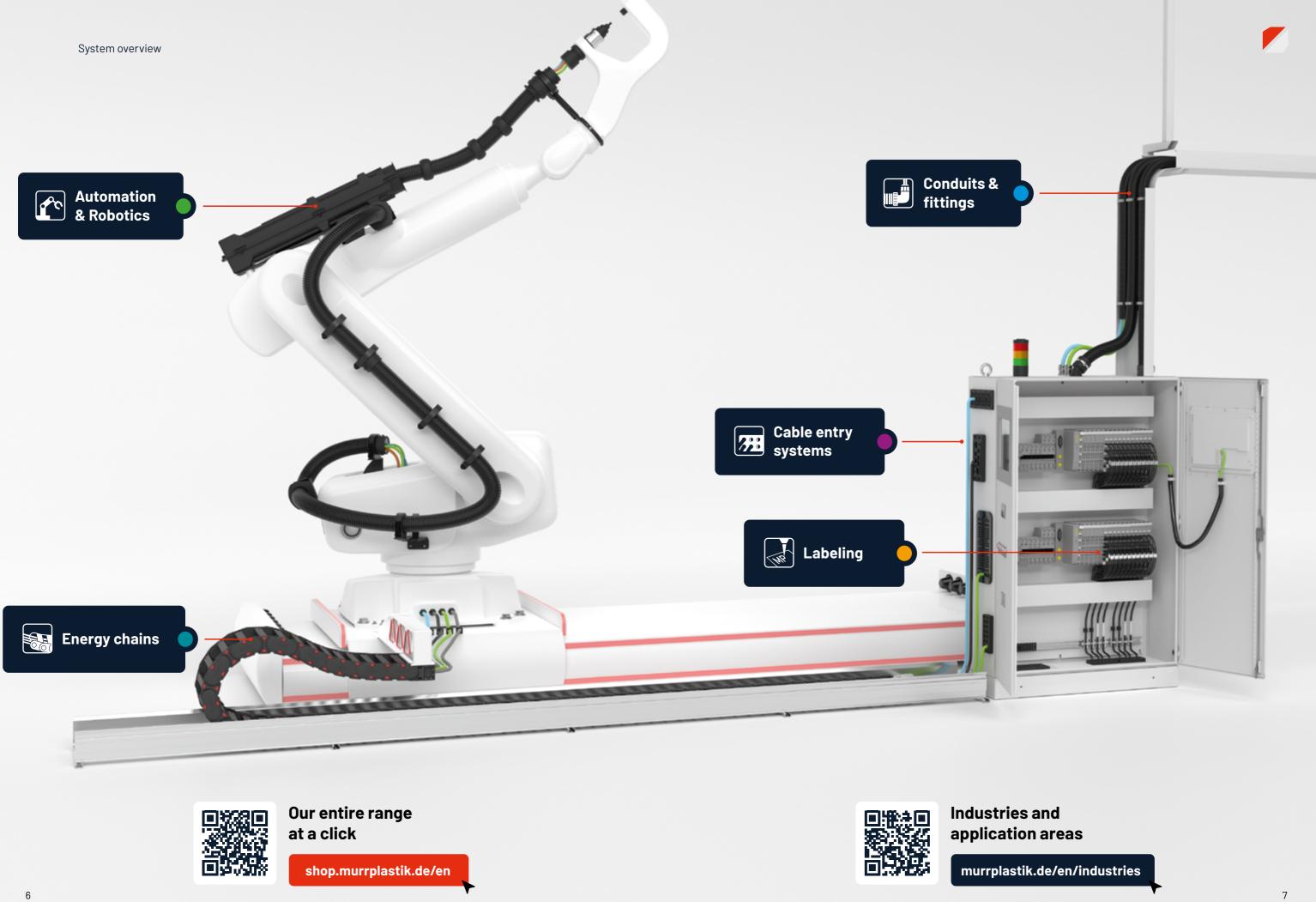
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# We create room for progress Simply Smart Systems

Building on the development of the first computer-assisted labeling system and our decades of experience in the field of intelligent cable management, murrplastik® offers not only individual solutions but also complete cable management solutions - everything from one source.

In close cooperation with our experts, we will find the optimum solution for you and your requirements. Comprehensive consulting is just as much a part of our service portfolio as the rapid implementation, maintenance and support of the systems in case of a service issue.

That is how we can ensure the basis for the modern, future-proof, progressive growth of your company.



### Important notes, information and conformities

### Fire classification HB

The material burns slowly in the horizontal combustion test. The rate of combustion must not exceed 3 inch/min. for wall thicknesses of up to 3 mm (0.12 in), and 1.5 inches/min. for wall thicknesses over 3 mm (0.12 in). Any materials exceeding these combustion rate limits are not registered by UL.

### Fire classification V2

In the vertical combustion test, self-extinguishing must occur after an average of 25 seconds (individual values not to exceed 30 seconds). Any dripping material may ignite cotton wool located underneath. However, any afterglow must not exceed 60 seconds.

### Fire classification V1

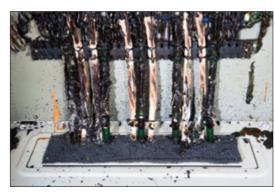


The fire protection mat reacts at temperatures exceeding 160  $^{\circ}$ C (320  $^{\circ}$ F) by expanding

In the vertical combustion test, self-extinguishing must occur also after an average of 25 seconds (individual values are not to exceed 30 seconds). However, any material dropping off must not ignite cotton wool placed underneath. Any afterglow must not exceed 30 seconds.

### Fire classification V0

In the vertical combustion test, self-extinguishing must occur after an average of less than 5 seconds (individual values not to exceed 10 seconds). However, any dripping material must not ignite the cotton wool and any afterglow must not exceed 30 seconds.



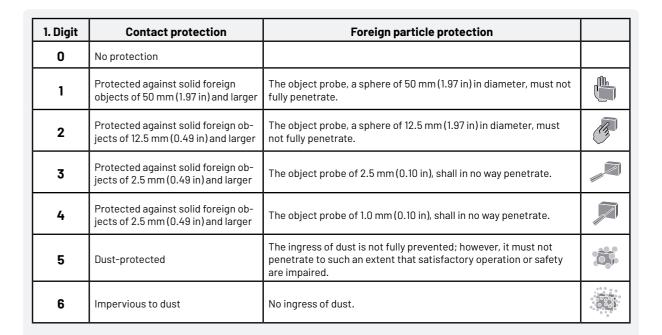
and thereby closing off the opening completely fire resistant.

### Description of the

### Protection classes according to DIN EN 60529

An important element for housings is protection of integrated elements against drilling, foreign particles and water. The various protective abilities are divided into IP protection classes (IP = International Protection). The framework conditions that a protection class must guarantee are laid out in DIN 40050 and IEC-EN 60529.

IP protection classes are indicated through a two digit code (IPXX). The first digit indicates protection against contact and foreign particles, the second the water protection factor. Accordingly the class IP65 is completely protected against contacts, dust-proof (1st digit = 6) and is protected against jets of water from a nozzle in all directions (2nd digit = 5).



2. Digit	Brief description	Water protection	
0	No protection		
1	Protected against vertical falling drops of water	Drops which fall vertically must not have any harmful effect.	
2	Protected against diagonally falling spray (up to 15°)	Drops which fall vertically must not have any harmful effects if the housing is inclined at an angle of up to 15° at either side of the perpendicular.	
3	Protected against diagonally falling spray (up to 60°)	Water which is sprayed at an angle of up to 60° from either side of the perpendicular must not have any harmful effects.	08
4	Protected against spray from all directions	Water splashing against the enclosure from one direction shall have no harmful effect.	
5	Protected against jets of water (nozzle)	Water which is sprayed in a jet against the housing from any direction must not have any harmful effects.	
6	Protected against strong water jets (flooding)	Water projected in powerful jets from any direction against the housing shall have no harmful effects.	
6K	Protected against strong water jets (high pressure)	Water from any direction, strong jet directed against housing, must not have any harmful effects, specifically under increased pressure.	
7	Protected against the effect of temporary immersion in water	Water must not penetrate to an extent that will cause harmful effects if the housing is temporarily submerged in water under pressure and under time conditions.	
7M	Protected against the effect of temporary immersion in water with movement	Water must not enter in a quantity that causes a harmful effect when the housing is temporarily submerged under water under pressure and time conditions, especially during movement / water pressure fluctuations.	
8	Protected against the effect of permanent submersion in water	Water must not penetrate to such an extent that it will cause harmful effects if the housing is permanently submerged in water.	
9K	Protection against highly pressurized water/steam jet cleaning	IP x9K acc. to DIN 40050: Water jet at 0°/30°/60°/90°, cycle: 30 seconds each, distance: 10 – 15 cm (3.94 – 5.91 in) water volume: 14 – 16 liters (3.70 – 4.22 gal) per minute, water temperature: 80 °C +/- 5 °C (176 °F +/- 9 °F), water pressure: 80-100 bar	-1999

# We share your enthusiasm

They are the hub of every technical system and their reliability is indispensable for all electronic work processes: Switchgear engineering.

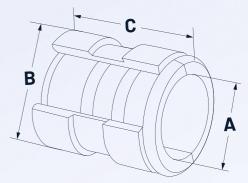
In order to actively prevent increasing competitive, price and time pressure, the use of equally high-performance and cost-efficient materials and systems is a must.

### Seamless protection and long service life

With the SAT-GF, our divisible connection for braided conduits, you can noticeably increase the service life of your cables with minimal effort. Easy to assemble it reliably prevents the conduit fabric from fraying and, thanks to its special design, can be retrofitted without tools (even for conduits with connectors).







# **Application-specific** solutions

With murrplastik® you have an experienced partner at your side.

Easy and space-saving to install, our products contribute to a more efficient workflow and guarantee the product and application safety required in switchgear construction thanks to particularly robust and durable materials as well as outstanding EM and fire protection properties (in accordance with EN 45545-2 with 3x HL3).

### Seamless protection and long service life

With the SAT-GF, our divisible connection for braided conduits, you can noticeably increase the service life of your cables with minimal effort. Easy to assemble it reliably prevents the conduit fabric from fraying and, thanks to its special design, can be retrofitted without tools (even for conduits with connectors).



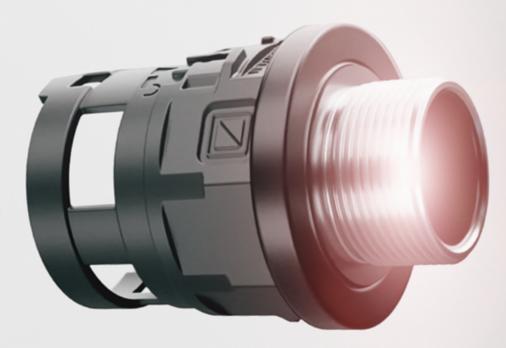
# We combine quality and performance

As the only company in cable management, murrplastik® produces all products for rail transport according to the European fire protection standard DIN EN 45545-2 with 3x HL3 as well as according to EN 45545-3 for room integrity, thermal insulation and thermal radiation.

To ensure the longest possible service life of rail vehicles and to protect human life, we offer particularly high-quality and resistant materials and products for both indoor and outdoor use.











Conduit fitting **M-PRO** 

### Highly dense and cable-friendly.

Our innovative conduit fitting series M-PRO convinces not only with its high density and cable-protecting inner sides, but also with its high fire protection, optimum ease of assembly, impact and tear-out resistance, as well as a wide range of variants.



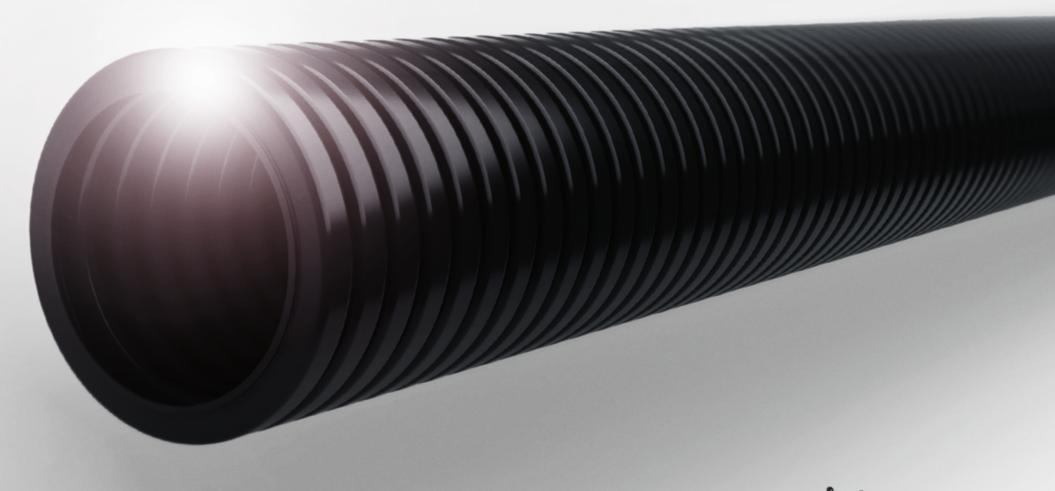
# Powerful and sustainable

When developing our products and systems, we have focused on a balanced interplay of design and choice of materials.

This means that they are not only non-slip and individually configurable, but also particularly hygienic. You will also find a selection of FDA compliant products in our range. These guarantee safe use even in sensitive areas such as working with food or pharmaceuticals.

Conduits and fittings - Corrugated conduit table for size conversion					
Metric	9	W	Inch		
		NW 4.5			
M10	PG07	NW 7	1/4"		
		NW 7.5			
M12	PG09	NW 10	3/8"		
M16	PG11	NW 12	1/2"		
M18	PG13	NW 13	9/16"		
M20	PG16	NW 17	5/8"		
M25	PG21	NW 23	1"		
M32	PG29	NW 29	1-1/4"		
M40	PG36	NW 36	1-1/2"		
M50	PG48	NW 48	2"		
		NW 56	2-1/2"		
		NW 70	3"		
		NW 80			
		NW 95	4"		

Corrugated conduit **EW-R-PP** 



**Turning old into new:** Of course, the ecological aspect is not neglected in the development of our products. Our EW-R-PP protective conduits are not only heat and UV resistant, but also made from recycled plastic. This saves important resources and protects the environment.



# We protect your systems

Cables cannot meet the high demands of our highly industrialized world without adequate protection. Wear, downtime due to breakdowns and a significantly increased safety risk are the consequences. As the world's leading specialist for smart cable management, murrplastik® provides an extensive, high-quality selection of conduits and fittings for every application.

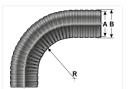
Our high-performance EW-R-PP conduits made from recycled plastics save valuable resources and thus improve your company's life cycle assessment.





### Type EW Variants: 26







The EW cable protection conduits are made of specially modi-

The EW cable protection conduits are characterised by excellent flexibility and good flexural fatigue strength.

### Applications:

- Light mechanical loads
- · Plant engineering
- · Mechanical engineering
- · Control cabinet construction













### **Product information**

fied polyethylene.

The material is halogen, phosphor and cadmium-free.









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Type EW-R-PP

Variants: 30





### Type EW-PP

Variants: 22



### **Product information**

The self-extinguishing EW-PP cable protection conduits are made of specially modified polypropylene. EW-PP cable protection conduits are characterised by excel-

lent chemical resistance and good impact resistance.

The EW-PP is also suitable for static and dynamic applications with medium to high mechanical loads.

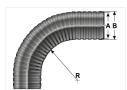
### Applications:

- · Plant engineering
- Mechanical engineering
- Chemical plants

# Type EWS/F

Variants: 6











### **Product information**

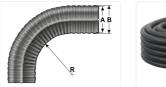
The EWS/F cable protection conduits are made of specially modified polyethylene. The material is halogen, phosphor and cadmium-free.

The self-extinguishing EWS/F cable protection conduits are characterised by excellent flexibility, flexural fatigue strength and by their special colouration of RAL 7035 light grey. For very light mechanical loads in mechanical and plant engineering. (e.g. bundling of cables at the control cabinet door)

### Applications:

- · Control cabinet construction
- Plant engineering







**Product information** 

The EW-R-PP cable protection conduits are made of specially modified as well as elaborately processed recycled polypropy-

EW-R-PP cable protection conduits are characterized by excellent chemical resistance and good impact resistance. The EW-R-PP is also suitable for static and dynamic applicati-

ons with medium mechanical loads.

- Combines environmental protection and quality
- Flexible conduit for simple dynamic applications
- · Medium mechanical load UV resistant
- For mechanical engineering and chemical plants































### Type EW-R-PP-LS

Variants: 10





### **Product information**

- · simple, lightweight version for the installation of pre-assembled cables
- flexible conduit for simple dynamic applications
- medium mechanical load
- · resource-saving through recycled material
- for mechanical engineering and chemical plants









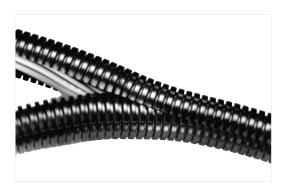


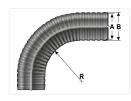




### Type EWT-PP split-flex

Variants: 10







### **Product information**

The EWT-PP cable protection conduits are made of specially modified polypropylene. The material is phosphor and cadmium-free. For static applications involving light to medium me-

The EWT-PP cable protection conduits consist of a two-piece slit corrugated conduit system and feature the following ad-

- Corrugated conduits can be opened and closed at any time.
- Mounting of pre-assembled cables
- · Retrofitting or repair in mechanical and plant engineering















Variants: 43

















### **Product information**

The EWL-PA cable protection conduits are made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-free.

The affordable EWL-PA cable protection conduits are characterised by their good crush and impact resistance.

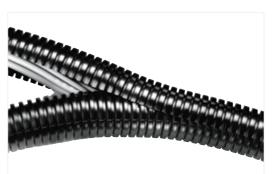
For static applications involving low to medium mechanical

### Applications:

- Plant engineering
- Mechanical engineering
- · Vehicle engineering

### Type EWT-PA split-flex

Variants: 30

















### **Product information**

The EWT-PA cable protection conduits are made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-free. The conduits are suitable for static applications involving light to medium mechanical loads.

The EWT-PA cable protection conduits consist of a two-piece slit conduit system and feature the following advantages:

- Cable protection conduits can be opened and closed at any
- Mounting of pre-assembled cables
- Retrofitting or repair in mechanical and plant engineering











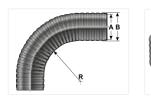


### **Type EW-PAB**

Variants: 31







### **Product information**

The EW-PAB cable protection conduits are made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-free.

The EW-PAB cable protection conduits feature excellent crush resistance, self-extinguish extremely well and produce very low levels of smoke gas.

For static applications involving medium to high mechanical loads.

### Applications:

- Building technologies
- Mechanical engineering
- Plant engineering



















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### Type EWL-PAB

Variants: 47







### **Product information**

The EWL-PAB cable protection conduits are made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-free.

The affordable EWL-PAB cable protection conduits are characterized by their excellent self-extinguishing properties and high crush and impact resistance.

For static applications involving low to medium mechanical loads.

### Applications:

- Plant engineering
- · Mechanical engineering
- Vehicle engineering

























### Typ EWL-PAB, or

Variants: 22







### **Product information**

EWL-PAB cable protection conduits are made of a specially modified UV-stabilized polyamide 6 in the signal color orange (RAL 2003).

They are characterized by excellent self-extinguishing properties as well as high crush and impact resistance and are sui-

static and slightly dynamic applications involving low to medium mechanical loads.

### Applications:

- Electromobility
- Vehicle engineering























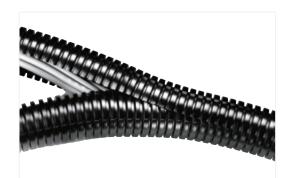




### Type EWT-PAB split-flex

Variants: 11







modified polyamide 6.

The material is halogen, phosphor and cadmium-free. Due to its excellent fire protection properties and very low smoke emission, this product can be used in railway technology and

- · The EWT-PAB cable protection conduits consist of a twopart, slit conduit system and are characterised by the follo-
- The cable protection conduits can be opened and closed
- Mounting of pre-assembled cables
- · Retrofitting or repair in mechanical and plant engineering

















### **Product information**

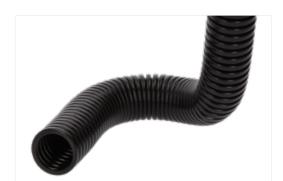
The EWT-PAB cable protection conduits are made of specially

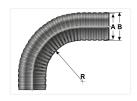
for static applications with medium to high mechanical stress.

- wing advantages:

### **Type EW-PRF**

Variants: 29











### **Product information**

The EW-PRF cable protection conduits are made of specially modified polyamide 12. The material is halogen, phosphor and cadmium-free.

The conduits are suitable for dynamic applications involving medium to high mechanical loads. The EW-PRF cable protection conduits are used both in the robotics engineering as well as in the aviation industry.

They feature the following advantages:

- High flexibility
- · Excellent impact strength
- Excellent self-extinguishing properties
- Very low levels of smoke gas

















### Type EW-PAE

Variants: 36

















### **Product information**

The EW-PAE cable protection conduits are made of specially modified polyamide 12. The material is halogen, phosphor and cadmium-free.

The EW-PAE cable protection conduits are characterised by excellent flexibility, flexural fatigue strength and good crush resistance. For extremely dynamic applications involving medium mechanical loads.

### Applications:

- Robotics
- · Handling systems
- in cable drag chains

### Type EWX-PAE (high corrugation)

Variants: 17



















### **Product information**

The EWX-PAE cable protection conduits are made of specially modified polyamide 12. The material is halogen, phosphor and cadmium-free.

With its excellent flexural fatigue strength, this product is ideal for robotics engineering and in the area of handling systems. For extremely dynamic applications involving medium to high

The EWX-PAE cable protection conduits have a higher corrugation and feature the following advantages:

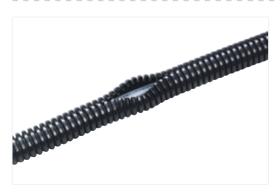
- Very good flexibility
- · Excellent flexural fatigue strength
- · Less wear
- · Good crush resistance



### Type EWX-PAE-LS (high corrugation)

Variants: 7







### **Product information**

The EWX-PAE-LS cable protection conduits are made of specially modified polyamide 12. The material is halogen, phosphor and cadmium-free.

With its excellent flexural fatigue strength, this product is ideal for robotics engineering and in the area of handling systems. For installation of pre-assembled cables, retrofitting or repair of cables. For dynamic applications involving light to medium mechanical loads.

The EWX-PAE-LS cable protection conduits have a higher corrugation and feature the following advantages:

- · Very good flexibility
- · Excellent flexural fatigue strength
- · Less wear
- · Good crush resistance
- · Subsequent installation possible















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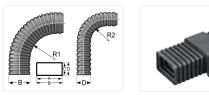




### Type EF (rectangular conduit)

Variants: 2





### **Product information**

The rectangular Energoflex EF cable protection conduits are made of specially modified thermoplastic elastomer. The material is halogen, phosphor and cadmium-free.

The Energoflex EW cable protection conduits are characterised by excellent flexibility and good flexural fatigue strength. With its rectangular shape, the EF conduit can be used as a cost-effective alternative to cable drag chains.

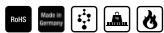
For dynamic applications involving light to medium mechanical loads in mechanical and plant engineering.

Advantages of the Energoflex include:

- Little relative movement of the cables
- · Low-wear interior
- Simultaneous traversing in multiple axes possible
- · Higher stability compared to a conduit

### System affiliation:

- Holder EF/B 26/42
- Flange connection FL-EF 26042



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### **Type EW-PA-EX**

Variants: 8





















### **Product information**

The EW-PA-EX cable protection conduits are made of specially modified polyamide 12 a high discharge capacity. The material is halogen, phosphor and cadmium-free.

EW-PA-EX cable protection conduits meet the electrostatic requirements for conductive materials when earthed. At the same time, they offer outstanding flexibility. With appropriate earthing they can be used in dust explosion hazardous areas of Zone 20, 21 and 22 as well as in gas explosion hazardous areas of Zone 0, 1 and 2 (independent of the explosion group of the existing gas).

These EW-PA-EX conduit properties make them the perfect choice for industrial handling systems and robotics applications and in all areas where antistatic (ESD protection) equipment is required (mining, refineries, chemical industry).

### Type GF-P (braided conduit)

Variants: 25



33





### **Product information**

The GF-P braided conduits are made of specially modified polyester. With this material and the special braiding, the conduit is extremely durable and elastic in both the radial and axial di-

It can be used to bundle and protect a large number of cables and individual wires of all types. The elastic braiding means that configuration of the conduit can be very variable.

The SAT-GF conduit connection serves as an end piece for the braided conduits.

Additional advantages of the GF-P braided conduit include:

- Very good mechanical and thermal resistance
- · Good chemical resistance
- · Very low levels of smoke gas
- Very high abrasion resistance

Specification: EN 45545-2 3x HL3















### **Type GF-P-LS**

Variants: 11









The self-retracting fabric conduit with longitudinal slot provides excellent mechanical protection against abrasion for your lines. First off it prevents rattling even better, plus it can be installed at any place and at any time.

Additional advantages of the GF-P-LS braided conduit include:

- · High mechanical protection
- Light-weight / low mass
- High flexibility
- Great chemical resistance
- Flame resistant

### Specification:

• EN 45545-2 2x HL3 1X HL2







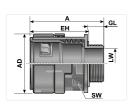


P-VG-K

Variants: 96







### **Product information**

The highly dense and cable-protecting M-PRO P-VG-K conduit fitting with plastic external thread is used for the fast and secure connection of corrugated conduits. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

Further advantages:

- Tool-free assembly / disassembly of corrugated conduits
- High packing density
- High tear-out strength

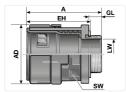
### · Vibration, impact and shock resistant

### P-VG-M

Variants: 86







### **Product information**

The highly dense and cable-protecting M-PRO P-VG-M conduit fitting with metal external thread is used for the fast and secure connection of corrugated conduits. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

### Further advantages:

- Tool-free assembly / disassembly of corrugated conduits
- High packing density
- · High tear-out strength
- Vibration, impact and shock resistant





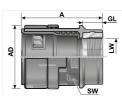




### P-IVG-M

Variants: 60





**Product information** 

The highly dense and cable-protecting M-PRO P-IVG-M conduit fitting with metal internal thread is used for the fast and secure connection of corrugated conduits. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

### Further advantages:

- Tool-free assembly / disassembly of corrugated conduits
- High packing density
- · High tear-out strength
- · Vibration, impact and shock resistant













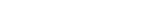










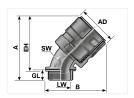




### P-VW 45-K

Variants: 66

















### **Product information**

The highly dense and cable-protecting M-PRO P-VW 45°-K conduit fitting with plastic external thread at a 45° angle is used for the fast and secure connection of corrugated conduits. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

### Further advantages:

**Product information** 

Further advantages:

High packing density

High tear-out strength

· Vibration, impact and shock resistant

• Tool-free assembly / disassembly of corrugated conduits

The highly dense and cable-protecting M-PRO P-VW 45°-M

conduit fitting with metal external thread at a 45° angle is used

for the fast and secure connection of corrugated conduits. It has excellent chemical resistance and is also suitable for out-

Tool-free assembly / disassembly of corrugated conduits

door use due to its UV and weathering resistance.

- High packing density
- · High tear-out strength
- · Vibration, impact and shock resistant



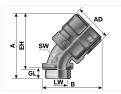




### P-VW 45-M

Variants: 72











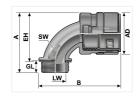


### P-VW 90-K

Variants: 74















### **Product information**

The highly dense and cable-protecting M-PRO P-VW 90°-K conduit fitting with plastic external thread at a 90° angle is used for the fast and secure connection of corrugated conduits. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

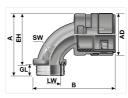
### Further advantages:

- Tool-free assembly / disassembly of corrugated conduits
- High packing density
- · High tear-out strength
- · Vibration, impact and shock resistant

### P-VW 90-M

Variants: 82













The highly dense and cable-protecting M-PRO P-VW 90°-M conduit fitting with metal external thread at a 90° angle is used for the fast and secure connection of corrugated conduits. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

### Further advantages:

**Product information** 

- Tool-free assembly / disassembly of corrugated conduits
- High packing density
- High tear-out strength
- · Vibration, impact and shock resistant





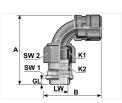


### P-CVW 90-EMV

Variants: 82







### **Product information**

The highly dense and cable-protecting M-PRO P-CVW 90°-EMV conduit fitting with metal external thread and integrated cable fitting with strain relief at a 90° angle is used for the fast and secure connection of corrugated conduits and cables. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

### Further advantages:

- Tool-free assembly / disassembly of corrugated conduits
- High packing density
- · High tear-out strength
- · Vibration, impact and shock resistant







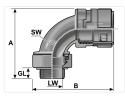




### P-DVW 90-M

Variants: 42















### **Product information**

The highly dense and cable-protecting M-PRO P-DVW 90°-M conduit fitting with metal external thread at a 90° angle is used for the fast and secure connection of corrugated conduits. The 360° rotatable fitting has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

### Further advantages:

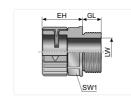
- Tool-free assembly / disassembly of corrugated conduits
- High packing density
- · High tear-out strength
- Vibration, impact and shock resistant

### Type MSV (plug-in fitting)

Variants: 68















### **Product information**

The MSV conduit fittings are made of specially modified polyamide 6. The materials are halogen, phosphor and cadmium-

The affordable MSV conduit fittings feature the following advantages:

- No parts can get lost, delivered completely assembled
- · Cost reduction through simple assembly work, insert conduit and done
- Simple opening mechanism
- Tightness of IP 54 for static and dynamic application, IP 65 with additional mounting of an O-ring

### Specification:

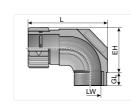
- EN 45545-2 3x HL3
- NFPA 130: ASTM E 162, ASTM E 662
- ECE 324 R 118 Annex 6+8

### Type WSV 90° (angle plug-in fitting)

Variants: 38







The WSV conduit fittings are made of specially modified polyamide 6. The materials are halogen, phosphor and cadmium-

The affordable MSV conduit fittings feature the following ad-

- No parts can get lost, delivered completely assembled
- · Cost reduction through simple assembly work, insert conduit and done
- Simple opening mechanism
- Tightness of IP 54 for static and dynamic application, IP 65 with additional mounting of an O-ring

### Specification:

- EN 45545-2 3x HL3
- NFPA 130: ASTM E 162, ASTM E 662
- ECE 324 R 118 Annex 6+8











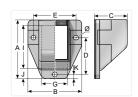




### Typ KFW

Variants: 24

















### **Product information**

The KFW bulkhead fittings are made of specially modified polyamide 6. The material is self-extinguishing, and halogen, phosphor and cadmium-free. Bulkhead fittings are available with a metric or Pg thread. The KFW bulkhead fittings with thread are used with both cable and conduit fittings.

The KFW bulkhead fittings feature the following advantages:

- · System divided in two for very quick and easy installation of cables
- Subsequent installation of cables is simplified by removable upper part
- Gasket included in delivery

### Specification:

- EN 45545-2 3x HL3
- NFPA 130: ASTM E 162, ASTM E 662





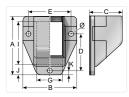


## RoHS Made in Germany (\*) (b) (b) (b) (c) (P)

### Type KFW/D

Variants: 17

















### **Product information**

The KFW bulkhead fittings are made of specially modified polyamide 6. The material is self-extinguishing, and halogen, phosphor and cadmium-free.

With the KFW/D and KFW/X bulkhead fittings, the cable protection conduits EW with standard corrugation and EWX with high corrugation can be directly mounted.

The KFW bulkhead fittings feature the following advantages:

- · System divided in two for very quick and easy installation of cables
- · Subsequent installation of cables is simplified by the removable upper part
- Gasket included in delivery
- · No extra fittings are required

### Specification:

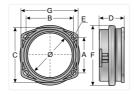
- EN 45545-2 3x HL3
- NFPA 130: ASTM E 162, ASTM E 662

### Type SA-Jumbo (flange connection)

Variants: 8

















### **Product information**

The SA-Jumbo flange connections are made of specially modified polyamide. The material is halogen, phosphor and cadmium-free.

The SA-Jumbo flange connections feature the following advantages:

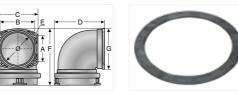
- Split ring makes assembly easy
- Tightness of IP 52 without DS seal
- Tightness of IP 65 with DS seal (DS seal must be ordered separately if required)
- · Dimensionally stable connection ring ensures high tear-out
- · Safety clips ensure protection against connection ring opening by itself
- 0-ring for fastening flange included in delivery

### Type KFW-Jumbo (90° flange connection)

Variants: 8







### **Product information**

The KFW-Jumbo flange connections are made of specially modified polyamide. The material is halogen, phosphor and cadmium-free.

The KFW-Jumbo flange connections feature the following advantages:

- Split ring makes assembly easy
- Tightness of IP 52 without DS seal
- Tightness of IP 65 with DS seal (DS seal must be ordered separately if required)
- Dimensionally stable connection ring ensures high tear-out
- · Safety clips ensure protection against connection ring opening by itself
- O-ring for fastening flange included in delivery













ROHS Mode in Germany (\*) (\*) (\*) (\*) (\*) (\*) (\*)

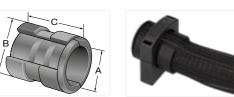


### **Type SAT-GF**

Variants: 12







### **Product information**

The SAT-GF serves as an end piece for the braided conduits GF and GF-P. It consists of an outer sleeve and a divisible inner sleeve and can therefore also be retrofitted. The braided conduit can thus also be combined with the UHE conduit holder or with the m-fix conduit fitting by means of the SAT-GF connector.

### Advantages:

- · Subsequent and tool-free assembly
- · Gapless insertion of the braided conduit into a housing
- Cable protection with low weight









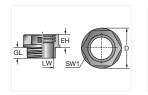


Typ SVT

Variants: 24









### **Product information**

The split conduit fitting is made of specially modified polyamide 6. The material is self-extinguishing, and halogen, phosphor and cadmium-free.

The fittings are used when cable protection conduits fitted with pre-assembled cables need to be fixed or cable protection conduits need to be retrofitted. The SVT is ideal for connecting to our split EWT cable protection conduits and all other Murrflex cable protection conduits with standard corrugation.

Particular benefits of the SVT conduit fitting include:

- Subsequent installation or repairs
- · Perfect for use with the GMT split lock nut • Very good system tear-out strength
- Compact design
- Easy assembly and disassembly

### Specification:

- EN 45545-2 3x HL3
- NFPA 130: ASTM E 162, ASTM E 662



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### **Product information**

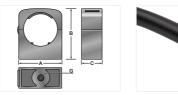
The FL-EF flange connection is made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-

The connection can be used only for the rectangular conduit Type EF and features the following unique advantages:

- Flat construction
- Split
- Quick and easy assembly with a sliding lock

Typ UHE







Variants: 22

### **Product information**

The UHE holder is a one-piece corrugated conduit holder in which the lid is connected to the holder by a film hinge. It is manufactured from a specially modified Polyamide. The material is halogen, phosphor and cadmium-free. The holder is used to fix cable protection conduits to equipment and machinery.

The UHE holder features the following advantages:

- Quick assembly thanks to single-hole fixing
- · Protective conduits only need to be snapped on, which makes them excellent for overhead installations.
- Optimum connection of conduit to holder thanks to double webs of holder
- · Optimized axial strain relief of the corrugated conduit achieved with integrated double webs
- Highest degree of retention power.
- · Suitable for all Murrflex corrugated conduit profiles.











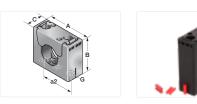


### **Type UH-S**

Variants: 10









de 6. The material is halogen, phosphor and cadmium-free. The UH-S holders, which can be strung together and stacked, are ideally suited to applications with special requirements in terms of stability. Equipped with the appropriate cable protection conduits, the UH-S holders offer excellent performance in terms of stability, flexibility of use and durability - even under high dynamic loads.

The UH-S holders M20/P16 to M63/P56 feature the following

- Safe closing of the holder with no tools required
- Machine safe, can only be opened with a tool
- · The upper part can also be secured with screws if necessary
- Suitable for all Murrflex corrugated conduit profiles.

The UH-S holders in the sizes M10/P07 to M16/P11 are to be fixed











### P-VT/S

Variants: 36















The stable UH-S holder is made of specially modified polyami-

advantages:

- Lower part can be pre-assembled

with two screws. Screws are not included in the delivery.

### **Product information**

The highly dense and cable-protecting M-PRO P-VT/S star plug-in distributor is used for coupling corrugated conduits. It has excellent chemical resistance and is also suitable for outdoor use due to its UV and weathering resistance.

Further advantages:

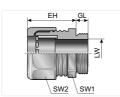
- Tool-free assembly / disassembly of corrugated conduits
- High tear-out strength
- · Vibration, impact and shock resistant

### Type m-seal KV (plastic version)

Variants: 39













### **Product information**

The m-seal cable fittings are manufactured of specially modified Polyamide and the seal is made of NBR.

m-seal cable fittings feature the following advantages:

- Large seal and clamping area
- With integrated strain relief
- High protection class IP 68
- Simple, fast assembly without special tools

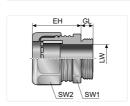
\*Suitable locknut must be ordered separately.

### Type m-seal MV (metal version)

Variants: 36







The m-seal cable fittings are made of nickel-plated brass and the sealing ring of neoprene. The fittings offer excellent strain relief and have a cap nut that is resistant to vibration.

m-seal cable fittings feature the following advantages:

- Large seal and clamping area With integrated strain relief
- High protection class IP 68
- · Simple, fast assembly without special tools

\*Suitable locknut must be ordered separately.









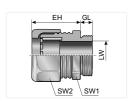


### Type m-seal EMC (EMV)

Variants: 9









### **Product information**

With the m-seal EMC (EMV) cable fittings, simple radial and axial movement of the cable are possible, even at contact location. The contact finger surfaces with rounded edges prevent damage to the conductor.

In addition, the large surface on the contact finger makes low contact resistance possible, even on loosely woven cables (the contact area does not press into the conductor).

The m-seal EMC (EMV) cable fitting features the following ad-

- Large seal and clamping area
- · With integrated strain relief
- High protection class IP 68
- High contract rating, even at vibration conditions
- Very simple and rapid assembly without tools
- Suitable for the highest requirements of today's technology
- Very good shielding attenuation

\*Suitable locknut must be ordered separately.







## ROHS P

# Type KGM (plastic lock nut)

Variants: 38















### **Product information**

The type KGM plastic lock nut is made of self-extinguishing polyamide and is available with metric or Pg thread. Usable for all corresponding conduit and cable fittings, preferably with plastic threads.

### Type GM (metal lock nut)

Variants: 18







### **Product information**

The GM type lock nut is made of brass with nickel plating. It is available with metric or Pg thread and usable for all corresponding conduit and cable fittings, preferably with metal threads.



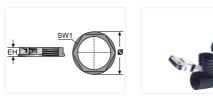




### **Typ GMT**

Variants: 12







### **Product information**

The GMT split lock nut is made of specially modified polyamide 6. The material is halogen, phosphor and cadmium-free.
The lock nuts are used when cable protection conduits fitted

with pre-assembled cables need to be fixed or cable protection conduits need to be retrofitted. The GMT is ideal for connecting to our split EWT cable protection conduits and all other Murrflex cable protection conduits.

Particular benefits of the split lock nuts include:

- Subsequent installation or repairs
- · Perfect for use with the SVT split conduit fitting
- Very good system tear-out strength
- Compact design
- Easy assembly and disassembly













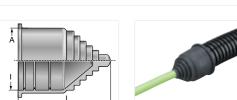


### Type ET (end grommet)

Variants: 22





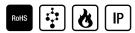


### **Product information**

The type ET end grommet is made of TPE and is used, for example, to close off the open end of a protective conduit, or as centring device for exiting cables.

The end grommet features the following advantages:

- Opening of end grommet variable (depending on the cable diameter used)
- Easy assembly
  Fixing of end grommet to the cable protection conduit using ribs running round the inside







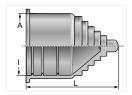


### Type ET-EN (end grommet)

Variants: 8









### **Product information**

The type ET end grommet is made of TPE and is used, for example, to close off the open end of a protective conduit, or as centring device for exiting cables.

The end grommet features the following advantages:

Opening of end grommet variable (depending on the cable diameter used)

Easy assembly

Fixing of end grommet to the cable protection conduit using ribs running round the inside

• Approved for railway technology (EN 45545-2)



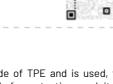












### Typ KE Variants: 2



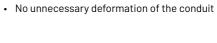




Fast insertion of cables

advantages: Very easy handling

**Product information** 



The KE wire insertion tool is made of specially modified poly-

amide. It facilitates the subsequent insertion of cables into slit

and split cable protection conduits and features the following







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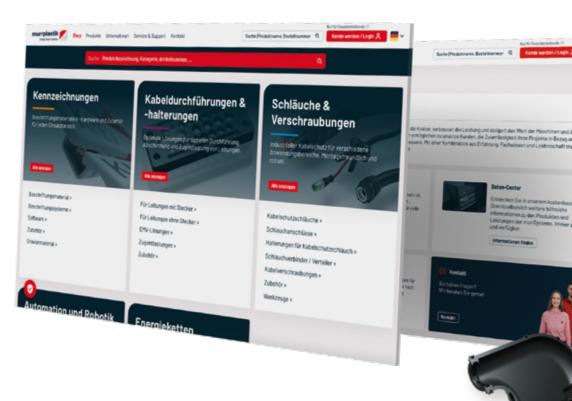
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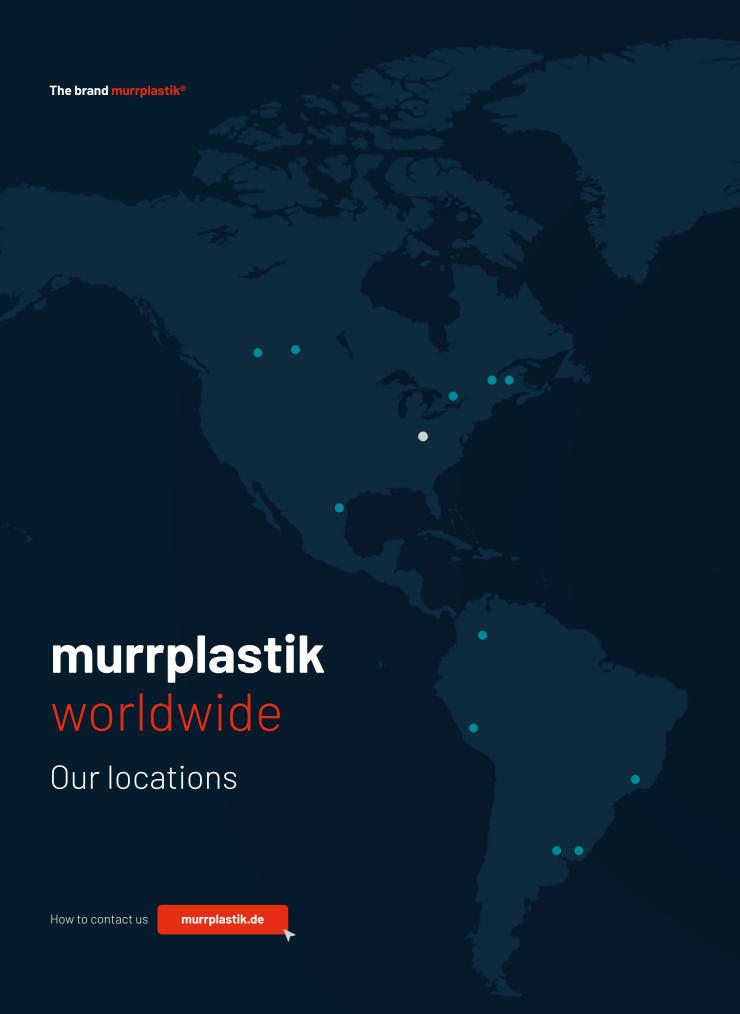




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