



Product overview | June 2016

# Flexible cable protection systems For applications with high requirements

**PMA**

**Thomas & Betts**  
A Member of the ABB Group

# From pioneer to market leader: Setting new standards and trends in cable protection



## There is no better reference than satisfied customers We provide customer specific solutions worldwide

PMA has been developing, producing, and selling top quality cable protection systems since 1975. Our high-quality products have rapidly earned us an excellent reputation worldwide and established us as the market leader. Our range of more than 6,500 products gives customers the protection they need in railway, mechanical engineering, and shipbuilding applications worldwide. PMA products are the solution of choice where power and data cables require dependable protection. We offer cable protection solutions and services that are tailored to meet requirements in every type of application.

Our range extends from basic items right up to the most demanding high-tech products. We can develop system solutions and special products that are designed to meet specific customer requirements. Our intensive research and development activities, which include the field of new materials, are a major reason why PMA continues to set new standards and trends in the cable protection marketplace. These efforts together with excellent quality and service have helped us build an outstanding reputation with leading corporations around the world.

### Worldwide recognitions

All PMA products are rigorously tried and tested to meet the demands of industry worldwide.





# Endless areas of applications

## For diverse applications and technical requirements



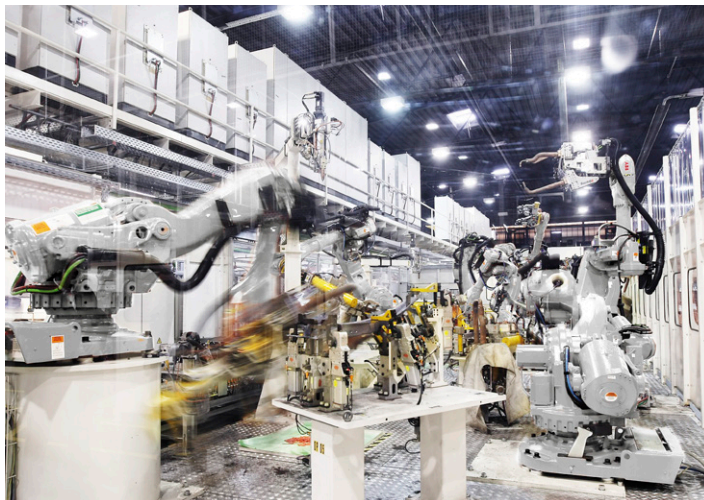
### Rail vehicles/Rail infrastructure

Our special railway engineering product line provides protection and safety on signalling systems, couplings, bogies, and gangways, as well as roof, and underfloor equipment. The range of applications is very extensive. PMA products contribute to the safe operation of trams, locomotives, freight cars, high-speed trains, and even roller coasters.



### Mechanical engineering

PMA cable protection solutions safeguard cables, wires and data links against heat, cold, tensile stress, pressure stress, and other external influences in the important mechanical engineering industry. You find our products in machine tools, packaging machines, printing machines, as well as heating, ventilation, conveyer, emergency power systems etc.



### Automation/Robotics

In the field of automation, there is a need for products that can withstand the stress of motion-intensive applications. PMA solutions for the automation industry fully meet these requirements. Special conduit designs, supports and abrasion protection sleeves provide optimal protection along the entire length of all moving elements, enabling engineers to achieve a massive reduction in torsional forces.



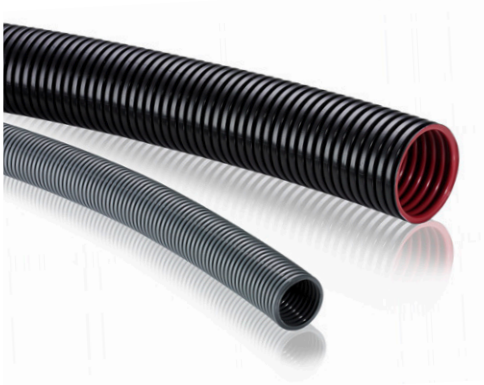
### Countless applications

PMA cable protection products can be used in an extremely wide range of applications. The list is virtually endless and includes industries such as telecommunications, food & beverages industries, construction and medical equipment. PMA product portfolio provides safe, dependable, forward-looking solutions or we will develop them specially for you to meet your individual needs.



# PMA Conduits

We offer many different conduit types for diverse applications with various technical requirements



PMA offers many different conduit types to diverse applications with various technical requirements to protect cables. Conduit sizes range from 6 mm to 125 mm, from lightweight to heavyweight, and from pliable to highly flexible. PMA also offers slit and divisible conduits. Standard colours are black and grey. Many conduits are specially approved, e.g. CSA, UL Recognition, NF, etc.

**PMAFLEX** – best selling and very popular – offers more than 30 different conduit types for a variety of cable protection applications.

The next generation **PMAFLEX Pro** conduits offer previously unattained performance levels.

The **PMAFLEX multilayer conduits** (X-Series) are based upon advanced Multi-Layer-Extrusion technology allowing the manufacture of three layer corrugated conduits combining the best characteristics of different materials on inner and outer layers.



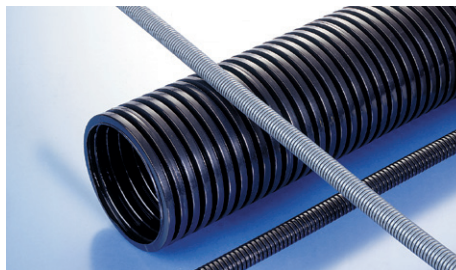
## PMAFLEX Pro

- Very good impact resistance
- Very good flexibility
- Excellent fire safety requirements
- For extreme temperature conditions



## PMAFLEX Plus

- Approval acc. to UL 1660 (UL Listing)
- For dynamic applications
- For machine building and installation industries



## PMAFLEX

- For static and dynamic applications
- Outside applications in railway
- Machine building and installation
- For automation and robotics
- For high fire safety requirements



## PMA Smart Line

- For machine building, installation and construction industries
- For applications with high fire safety requirements



## PMAFLEX Multilayer

- Easy cable insertion due to low friction inner layer
- For equipment with high requirements
- For track side applications and other exterior static applications



## PMA Jumbo sizes

- Excellent conduit pullout strength
- High impact resistance
- All PMA Jumbo conduits have a coarse (G) profile



# PMAFIX, PMAFIX Pro and Smartline Connectors

## A comprehensive portfolio of fittings for every situation and requirement



**PMAFIX** fittings offer solutions that meet the highest expectations: **IP66 – IP68 + IP69K**. It is based on a perfected system technology that makes installation easy. You can choose from a very large, varied range of connectors and conduit which have demonstrated their dependability in all types of applications for more than 30 years.

The new generation **PMAFIX Pro** fittings are the product of experience gained over many years in the most varied application areas. The PMAFIX Pro has two components, an outer body and an inner sealing element. The sealing element functions both as a seal and as a locking mechanism providing all ingress protection grades up to **IP68 and IP69K** even in applications where there is long term continuous movement.

One-piece design, **IP66** protection and simple, fast installation are the outstanding features of the **Smart Line**. Other characteristics including a modern, functional design and an excellent price/performance ratio make this product line a very attractive solution.



### PMAFIX Pro metric, metal thread with strain relief

- Highest sealing through fully closed system also in highest dynamic applications
- Simple “push-in” installation



### PMAFIX polyamide thread with strain relief

- For cable protection systems in a wide range of applications
- Excellent conduit pull-out strength
- High impact resistance



### PMAFIX Pro polyamide UNEF thread

- Highest sealing through fully closed system also in highest dynamic applications
- Simple “push-in” installation



### PMAFIX with strain relief

- For the separation of damp and dry areas
- For applications in railway vehicles and heavy machine construction



### PMAFIX metallic thread

- For cable protection systems in a wide range of applications
- Excellent conduit pull-out strength
- High impact resistance



### PMA Smartline polyamide thread

- For machine building, installation and construction industries
- excellent price/performance ratio



# PMA Divisible System and PMAJACK

## Additional ways to bundle and protect electrical cables



The one-piece **DIVISIBLE System** is the ideal solution for repairs, retrofit and pre-loomed applications. Main characteristics of these new products are: Divisible, one-piece design, simple, fast, for retrofit and pre-loomed applications, modern and functional design, excellent price/performance ratio. It comes with as Simple push-in installation without de-installation of the complete loom.

Braided protection with **PMAJACK** comes with polyamide, polyester and steel braids – an alternative way to bundle and protect electrical cables. Various braid types to fulfill different requirements complimented by a range of braid terminations for simple and clean assembly.



### Flexible divisible conduits

- For machine building, installation and construction industries
- For trouble-free retrofitting and applicable for repairs



### Connectors, lock nuts

- Compatible with PMA standard, slit and divisible conduits with standard nominal widths
- In industries, plant construction, machine building as well as in-house and electrical installations
- For retrofit installation or repair



### Divisible T and Y piece, one-piece

- Compatible with PMA standard, slit and divisible conduits with standard nominal widths
- In industries, plant construction, machine building as well as in-house and electrical installations
- For retrofit installation or repair



### PMAJACK Plastic braided hoses

- Various types with coverage from 65% up to 90%
- Monofile Ø: 0.22 mm - 0.28 mm for increased abrasion properties



### PMAJACK terminations, connectors

- For termination and fixation of plastic braided hoses
- Connector for plastic braids, female thread



### PMAJACK Stainless steel braided hose, connectors and adapters

- Stainless steel braided hose, surface coverage: >90 %
- Connector and adapter for overbraided conduits

# Special products and accessories

## To meet our customer's individual demands



Besides the standard products we also provide custom built solutions with **special productions** of fittings and conduits, support in planning as well as technical service.

This can cover an adaptation of our standard products to the individual customer demands or the construction and realisation of fittings and conduits which fulfill project specific requirements.

Additionally PMA offers a vast array of practical **accessories** in order to complete the PMA cable protection system.



### Connections, connection splices,

- For to solid metal tube and flexible conduits
- Quick connection of solid metal tubes with flexible PMA conduits
- Designed for optimal connection of PMA conduits



### Metal connectors

- For PMA conduits, metric thread
- For high temperature applications
- Suitable for high mechanical loads



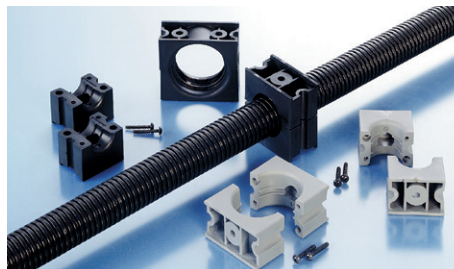
### Special/Positioning 45° elbow adapters

- Where a certain cable outlet angle is required
- In connection with PMA connectors
- Enables different mounting positions



### Swivel and positioning adapters

- Allow PMA connectors to swivel freely in applications
- Allows easy positioning of elbow connectors with metal thread



### A vast array of practical accessories

- Lock nuts produced from polyamide or metal thread
- Reducers and enlargers, conduit adapters, swivel adapters
- Different mounting clips for conduits

# Contact us

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