

Product recommendations for rail infrastructure applications

PMA conduits, braids, fittings and accessories for rail infrastructure applications



PMA offers a wide range of products, designed for and proven in, rail infrastructure applications:

- Many product approvals
- Italian railways (RFI)
- Network Rail (UK)
- German Railways (DB)

Conduits

External trackside applications

- **XVCS1H:** PA6/Polyolefin - Heavy-duty, multilayer conduit for static applications:
 - Excellent compression and impact strengths under all climatic conditions
 - Very good UV resistance, weathering and ageing characteristics
 - Low friction inner layer facilitates cable insertion
 - Resists growth of fungus or mould
 - Good resistance to rodents
 - Black outer layer, green inner layer
 - Wear indicator
- **XVCS2H:** PA12/Polyolefin - Heavy-duty, multilayer conduit for static applications:
 - Excellent compression and impact strengths under all climatic conditions
 - Excellent UV resistance, weathering and ageing characteristics
 - Low friction inner layer facilitates cable insertion
 - Resists growth of fungus or mould
 - Good resistance to rodents
 - Black outer layer, green inner layer
 - Wear indicator
- **XSOL:** PA12/PA6 - Medium-duty multilayer conduit suitable for both dynamic and static applications:
 - Excellent compression and impact strengths under all climatic conditions
 - Excellent flexibility and resistance to fatigue

- Excellent UV resistance, weathering and ageing characteristics
- Low friction inner layer facilitates cable insertion
- Black outer layer, green inner layer bonding material between layers
- Wear indicator
- **VCS:** PA6 - Heavy-duty conduit suitable for static applications:
 - Excellent compression and impact strengths under all climatic conditions
 - Good UV resistance, weathering and ageing characteristics

Tunnel Applications with high fire safety requirements

- **VAM:** PA6 - Heavy-duty conduit preferably for static applications:
 - Complies with strictest international fire safety regulations regarding smoke and toxicity
 - EN45545-2 HL3 according to R22 & R23
 - NFPA130
- **VAML:** PA6 - Medium-duty conduit preferably for static applications:
 - Complies with strictest international fire safety regulations regarding smoke and toxicity
 - EN45545-2 HL3 according to R22 & R23
 - NFPA130
- **POH:** Modified polyolefin - Medium-duty conduit for static applications:
 - BS6853 category 1a int. & ext.



Divisible System Conduits for retrofit and repairs

- **PACOF:** PA6 - Medium-duty conduit preferably for static applications:
 - Can be opened and closed along their length at any time
 - Good compression strength
 - Ingress protection to IP40
 - Complies with strictest international fire safety regulations regarding smoke and toxicity
 - EN45545-2 HL3 according to R22&R23
 - NFPA130
 - Compatible with PMA (BLNO) divisible fittings, (BLN) locknuts but also with standard PMA Fittings allowing repairs using existing fittings
- **PPCOF:** PP - Medium-duty conduit preferably for static applications:
 - Can be opened and closed along their length at any time
 - Ingress protection to IP40
 - Good resistance to chemicals
 - Compatible with PMA divisible fittings (BLNO), locknuts (BLN) but also with standard PMA Fittings allowing repairs using existing fittings

Fittings

All PMA fittings are compliant with EN45545-2 HL3 and NFPA130.

Outdoor Applications with high sealing requirements:

- **PMAFIX Pro**
 - Fittings with metal thread for attachment of conduits to bulkheads, casings and connectors etc.
 - Sealing performance to IP68 and IP69 static and dynamic
 - NKNH (Straight), NKAH (45°), NKBH (90°)

• **PMAFIX Pro with cable strain relief element**

- For the relief of stress on cable terminations
- Sealing performance to IP68 and IP69 static and dynamic
- Zone separation for the prevention of condensation, IP68 along the cable
- NKNZ (Straight), NKWZ (90°)

• **PMAFIX Pro female thread**

- Fittings with metal and polyamide thread for the attachment of conduits to round connectors and other male threads
- Sealing performance to IP68 and IP69 static and dynamic
- NKIS (Metal thread), BKIHG (Polyamide thread)

• **PMAFIX IP68**

- Design ensures correct installation
- Extremely wide range of fittings
- Straight, 45°, 90° elbows
- Male and female threads
- Nickel plated brass or polyamide thread
- Available with metric, PG, NPT, Gas, UNEF threads
- Strain relief fittings also available
- Available as single piece push-in component (GT)

• **PMAFIX IP66**

- Simple push fit IP66 design
- Extremely wide range of fittings
- Straight, 45°, 90° elbows
- Male and female threads
- Polyamide thread
- Available with metric, PG, NPT, Gas, UNEF threads
- Strain relief fittings also available



All PMA polyamide cable protection products demonstrate excellent resistance to oils, greases and other chemicals as well as the cleaning agents commonly used in the railway industry.

For the PMA conduits, fittings and accessories listed in this document fire safety certificates are available according to various global standards:

- EN 45545-2 (Replaces the National standards NF F 16 101/102, DIN5510, BS 6853 etc.)
- NFPA 130 (ASTM E162, ASTM-E662)
- ASTM1354
- BSS 7239
- SMP 800C

All PMA polyamide materials are self-extinguishing, free from halogens and cadmium. PMA RoHS, REACH and Conflict minerals confirmation documents can be supplied on request.

Users of PMA products should make their own evaluation to determine the suitability of each product for a specific application.

If PMA products are used in conjunction with cable protection products from other companies all product liability claims will be rejected.

For technical details and specifications please see our technical data sheets at **www.pma.ch**

Please contact PMA for further application specific technical support:

Either your local PMA representative
or

PMA AG

CH-8610 Uster

Switzerland

Tel: +41 58 585 0011

pma-conduitsystems@ch.abb.com