TECHNICAL DATA SHEET

PMAFLEX - VAML - Corrugated Conduit

Flexible, medium-grade

Conduit for fire safety sensitive applications in the passenger zone of rail vehicles

Applications:
- In passenger areas of railway vehicles

Features & Benefits:
- Highest fire safety specification
- Very good compression strength
- Good impact resistance
- Good flexibility
- Outstanding Self-extinguishing characteristics

Materials:
- High-grade, specially formulated polyamide 6

Compatible with:
- PMAFIX Pro, PMAFIX fittings
- PMAGRIP flange
- PMA accessories

Temperature range:
- –40°C ... +105°C continuous, +160°C short-term

Conforms to:
- EN 45545 HL3 (R22 & R23)
- NFPA 130
- UN Regulation No. 118

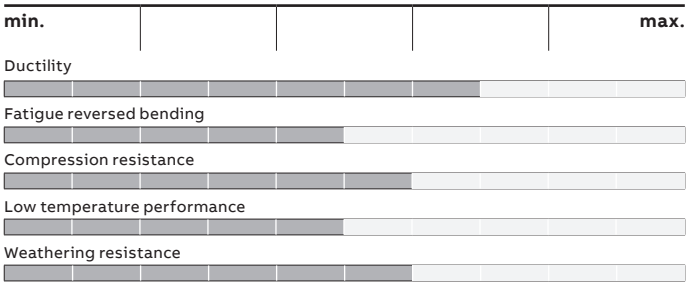
Weathering resistance:
- Very good UV resistance and weathering characteristics, particularly in black

Colour:
- Black
- Grey

Chemical properties:
- Please refer to www.pma.ch
- (Technical Information / Chemical Resistance)

Environmental properties:
- Free from halogens and cadmium
- RoHS and REACH compliant

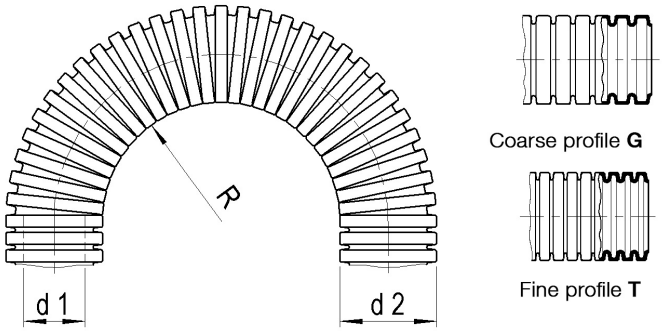
VAML-Index



Product selection:

Part no.		Profile	Conduit size		rec. fitting thread size		Dimensions in mm (nom.)			Weight	Packing unit
black	grey	T/G	NW	metric	PG	metric	d1	d2	stat. R	kg/100 m	metre
VAMLT-07B	VAMLT-07S	T	7	10	7	M12x1.5	6.7	10.0	15	2.2	50
VAMLT-10B	VAMLT-10S	T	10	12	9	M12x1.5	9.7	12.8	20	2.8	50
VAMLT-12B	VAMLT-12S	T	12	16	11	M16x1.5	12.1	15.6	25	3.8	50
VAMLG-17B	VAMLG-17S	G	17	20	16	M20x1.5	15.8	21.1	40	6.3	50
VAMLG-23B	VAMLG-23S	G	23	25	21	M25x1.5	21.9	28.4	50	9.9	50
VAMLG-29B	VAMLG-29S	G	29	32	29	M32x1.5	27.9	34.5	60	13.3	50
VAMLG-36B	VAMLG-36S	G	36	40	36	M40x1.5	36.2	42.4	75	16.0	30
VAMLG-48B	VAMLG-48S	G	48	50	48	M50x1.5	47.0	54.5	90	22.8	30
VAMLG-56B	VAMLG-56S	G	56	68	-	-	56.9	67.5	120	33.0	30
VAMLG-70B	VAMLG-70S	G	70	80	-	-	68.0	79.6	140	46.0	10
VAMLG-95B	VAMLG-95S	G	95	106	-	-	92.5	107.0	190	66.0	10
VAMLG-125B	VAMLG-125S	G	125	146	-	-	126.9	146.0	260	85.0	6

Our customer service dept. or local distribution partner will be pleased to help you concerning product availability and lead time



stat. R. = min. bending radius for static (fixed) installation

Mechanical Properties:	Value:	Test parameters:	Test method:
Impact strength	> 6 J	(+23°C)	PMA DO 9.21-4330
	class 3, > 2 J	(-45°C)	IEC EN 61386
	class 4, > 6 J	(-15°C)	IEC EN 61386
	class 5, > 20 J	(+23°C)	IEC EN 61386
Compression strength	> 200 N	(50 x 50 mm)	PMA DO 9.21-4320
	> 400 N	(100 x 100 mm)	PMA DO 9.21-4320
	class 2		IEC EN 61386
Resistance to fatigue	> 20‘000 cycles		PMA DO 9.21-4420
	> 40‘000 cycles		PMA DO 9.21-4425
	> 5‘000 cycles	(-25°C)	IEC EN 61386-23
	pliable	(-45°C)	IEC EN 61386-22
Pull-out resistance conduit - fitting series			
PMAFIX Pro	> 380 N		PMA DO 9.21-4610
PMAFIX IP68	> 350 N		PMA DO 9.21-4610
PMAFIX IP66	> 300 N		PMA DO 9.21-4610
PMAFIX Pro, PMAFIX IP66	class 1		IEC EN 61386
PMAFIX IP68	class 2		IEC EN 61386

Note: Testing at 23°C, 50% r.h., conduit nominal width 17, unless otherwise stated

Thermal properties:	Value:	Test parameters:	Test method:
Continuous application temperature	–40 ... +105°C		PMA DO 9.21-4510
Upper application temperature	+120°C	(20‘000 h)	PMA DO 9.21-4360
Short-term	+160°C	(168 h)	PMA DO 9.21-4360
Application temperature range	–45 ... +105°C		IEC EN 61386

Fire safety properties:	Value:	Test parameters:	Test method:
Fire performance	non flame-propagating		IEC EN 61386
Fire hazard level	HL3		EN 45545-2 (R22)
Oxygen index	> 32 %		EN ISO 4589-2
Smoke density	< 150 Ds max.		EN ISO 5659-2 (25 kW/m2)
Toxicity	< 0.75 CIT_{NLP}		NF X 70-100-1/-2: (600°C)
Fire hazard level	HL3		EN 45545-2 (R23)
Oxygen index	> 32 %		EN ISO 4589-2
Smoke density	< 300 Ds max.		EN ISO 5659-2 (25 kW/m2)
Toxicity	< 1.5 CIT_{NLP}		NF X 70-100-1/-2: (600°C)
Fire performance NFPA 130:			NFPA 130
- Flammability	compliant		ASTM E 162
- Smoke density	compliant		ASTM E 662
Heat and visible smoke	28.51 MJ/kg		ASTM E 1354
Smoke emission toxicity	compliant		Bombardier SMP 800-C
Smoke emission toxicity	compliant		Boeing BSS 7239

Note: Requirement sets (R22 & R23) apply for conduit sizes up to and including NW48

ABB Switzerland Ltd,
PMA Cable Protection
Aathalstrasse 90
8610 Uster, Switzerland
Phone: +41 58 585 00 11
pma-info@ch.abb.com
www.pma.ch

Let’s write the future.
Together. **abb.com**

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB Installation Products Inc. does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB Inc. Copyright© 2019 ABB Installation Products Inc.
All rights reserved