TECHNICAL DATA SHEET

PMAFLEX - VAML - Corrugated Conduit

Pliable, 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
- 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

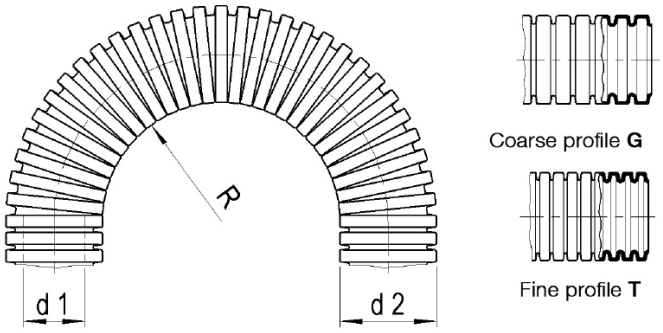
VAML-Index

min.				max.
Ductility				
Fatigue reversed bending				
Compression resistance				
Low temperature performance				
Weathering resistance				

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
	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

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