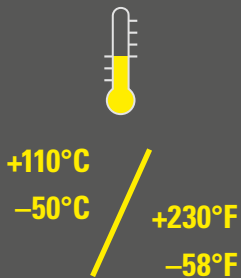
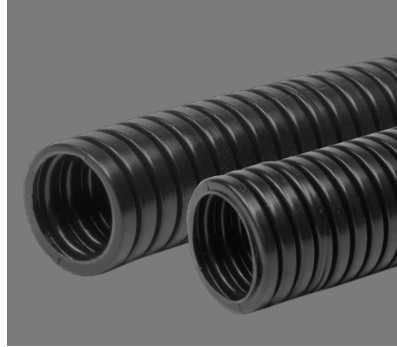


## HPDS

具有优异的抗疲劳及耐候性的厚壁波纹管

*Corrugated conduit with excellent fatigue strength and weathering resistance in heavy version*



	min.	max.
温度范围 Temperature range	██████████	██████████
柔韧性 Flexibility/Ductility	██████████	██████████
动态性能 Dynamic	██████████	██████████
机械保护性能 Mechanical protection	██████████	██████████
防火性能 Fire precaution performance	██████████	██████████
耐化学性 Chemical resistance	██████████	██████████
耐候性 Resistance to weathering	██████████	██████████

### 材料: PA12 MOD BS

HPDS厚壁波纹管由特殊改性尼龙12制成, 增厚的设计提高了管子在重载环境下的线缆保护性能。具有非常好的自熄及动态抗疲劳性能。特别适用于高技术要求的应用场合, 如轨道机车应用。这些波纹管同时能够提供在低温及干燥环境下非常好的抗物理冲击机械强度。

### Material: PA12 MOD BS

*The HPDS conduit is made from specially modified Polyamide 12 and is designed with increased wall thickness for enhanced cable protection demands at heavy application environments. Highest mechanical strength also at low temperatures, very high dynamic fatigue strength as well as very good self-extinguishing characteristics allow these products to be used for technically most demanding applications, for example in rolling stock applications.*

## HPDS

### 产品性能 / Product performances

应用性能 / Application performances	特性 Characteristics	单位 Unit	规范标准 Standards, specifications	备注 Remark
温度范围 Temperature range	-50 到 / to +110 -58 到 / to +230	°C °F	IS FIP	
温度 (短周期) Temperatur (short-term)	150 (500 h); 165 (100 h) 302 (500 h); 329 (100 h)	°C °F	IS FIP	
填充率 (最大) Filling ratio (max.)	70	%	IS FIP	
<b>机械性能 / Mechanical performances</b>				
冲击强度 Impact strength	6	J	IS FIP	23°C / 73,4°F
冲击强度 Impact strength	2	J	IS FIP	-45°C / -49°F
峰值负载 Peak load value	750	N	IS FIP	
拔脱强度 Pull out strength	500	N	IS FIP	23°C / 73,4°F FIPLOCK ONE NW 17
<b>防火性能 / Fire safety performances</b>				
不含卤素和镉 Free from halogens and cadmium	是 / yes			
阻燃等级 Fire classification	V2		UL 94	
产品防火特性 Fire characteristic of the product	自熄 self-extinguishing		UL 1696	
易燃性 Flammability	自熄 self-extinguishing		FMVSS 302	
氧指数 Oxygen index	32	%	EN ISO 4589-2	
灼热丝测试 Glow wire test	850 1562	°C	IEC 60695	
火灾危害等级 Fire hazardous level	HL3 R22 HL3 R23		EN45545-2	
火焰蔓延指数 Flame spread index	符合 compliant		ASTM E162	依照 / acc. NFPA 130
烟雾浓度 Smoke density	符合 compliant		ASTM E662	依照 / acc. NFPA 130
烟雾毒性 Smoke toxicity	符合 compliant		BSS 7239/SMP 800-C	
热释放量 (焓) Heat release (Enthalpy)	20,9	MJ/kg (BTU/lb)	ASTM E1354	50 kW/m² 热通量 / heat flux
火焰蔓延 Spread of fire	非火焰蔓延 non flame propagating		IEC EN 61386	
垂直燃烧测试 Vertical burning behavior	Vi<100 自熄 / self-extinguishing	mm/min	EN ISO 6941:2003	ECE R-118-02 附件 8 / annex 8
<b>耐候性 / Weathering performances</b>				
UV及耐候性 UV and weathering performance	优异 excellent		IS FIP	可达 40 年 up to 40 years

测试条件参照EN ISO 139温度23°C, 湿度 / 50% (如未注明测试条件)。IS FIP=FIP内部测试规范。

Tests carried out acc. EN ISO 139 at 23°C / 50% r. h. (if not indicated different). IS FIP = Internal Specification FIP

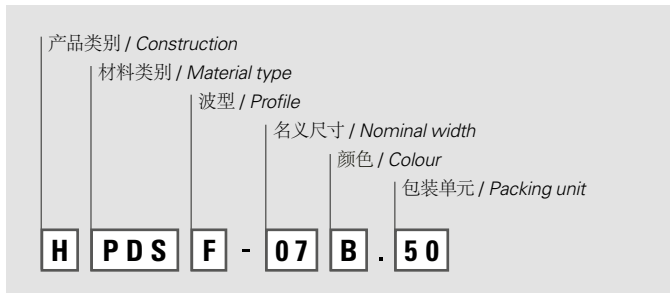
产品号 Part No.	名义尺寸 Nominal width		波型 Profile	尺寸 (mm) Dimensions in mm (nom.)		弯曲半径 (mm) Bending radius in mm		包装单元 PU m
	NW	metr.		ID	外径 / OD	stat. R.	dyn. R.	
HPDSF-07B.50	07	10	F	6,2	10,0	15	40	50
HPDSF-10B.50	10	12	F	9,6	12,8	20	50	50
HPDSF-12B.50	12	16	F	12,0	15,7	25	60	50
HPDSC-17B.50	17	20	C	16,1	21,1	35	80	50
HPDSC-23B.50	23	25	C	22,0	28,3	40	100	50
HPDSC-29B.50	29	32	C	28,3	34,4	50	120	50
HPDSC-36B.25	36	40	C	35,8	42,2	60	180	25
HPDSC-48B.25	48	50	C	46,7	54,0	70	210	25
HPDSC-56B.25	56	68	C	56,3	67,2	120	260	25
HPDSC-70B.25	70	80	C	67,2	79,6	150	340	25
HPDSC-95B.10	95	106	C	91,3	106,0	230	450	10

关于产品库存, 交期, 尺寸及颜色等问题请联系我们本地的经销商或客服。

Please contact our local distribution partner or our customer service regarding product availability, lead time, other sizes and colours.

\* 请参照PM sheet [www.fraenkische.com/pm-sheet-inch](http://www.fraenkische.com/pm-sheet-inch) 查询英制尺寸 / Please refer to the according PM sheet via [www.fraenkische.com/pm-sheet-inch](http://www.fraenkische.com/pm-sheet-inch) for the measurements in inch.

## 产品代码 / Number code:



HPDSF NW 07-12 及 HPDSC NW 17-48 黑色波纹管可与 FIPLOCK® ONE 适配

HPDSF NW 07-12 and HPDSC NW 17-48 in black color in connection with FIPLOCK® ONE fittings



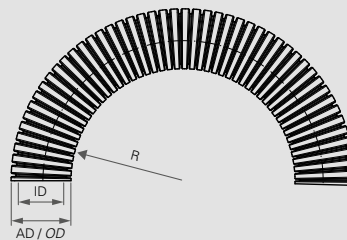
细波型 F / Fine profile F

更小的弯曲半径 / Tight bending radius



粗波型 C / Coarse profile C

更高的拔脱强度 / High pull-out strength



弯曲半径 / Bending radius

stat. R = 静态安装最小弯曲半径

lowest recommended bending radius for static (fixed) installation

dyn. R = 动态安装最小弯曲半径

lowest recommended bending radius for dynamic (flexible) installation

我们尽我们的知识水平所提供的数据, 图像和技术规格图反映了当前的工程技术水平。这并不包含对最后应用有关的任何责任。产品用户需根据应用进行自己的评估, 以确定产品是否符合特殊的应用条件。我们对产品的责任只考虑一般规定条件下的水平。FIP保留对产品数据和数值进行技术调整的权力。例如更改材料和加工工艺, 在保证产品性能数值不下降的情况下不会另行通知。

The provided data, images and technical specification drawings reflect the current engineering level and are to the best of our knowledge. This does not include any liability regarding the final application. Users of the products have to make their own evaluation to determine the suitability for a specific application. Our liability for these products considers the stated level within our General Conditions only. FRAENKISCHE Industrial Pipes (FIP) reserves the right to adjust specified data and values as well as implementing technical adjustments of the products e. g. change of materials and processing technologies without prior notice as long as the specified values are not reduced.