

# Rugged minicord breakout and industry link-TWINFLEX cables



Rugged minicord breakout



Industry Link TWINFLEX

## Design

Cable design	2 single fiber cables with tight tubes 1 ripcord
Strain relief	Aramide yarn
Jacket material	TPU
Jacket colour	black

## Properties

- For indoor and outdoor
- For direct connector assembly with strain relief
- Strain relieved with Aramide yarn
- Ripcord for easy jacket removal
- Halogen free and non-corrosive fire gases
- Metal free
- Improved crush resistance
- For high thermal and mechanical stability
- High chemical resistance against fluids
- High abrasive resistance

## Applications

- For flexible, moved and fixed use
- Industrial Ethernet and LAN
- Machine cabling, drag chains
- As control or data cable in factory automation
- Mobile data cabling for harsh environment
- Connection to outdoor devices

According to IEC 60794-1-2

## Conformance

TWINFLEX cables with H200 and POF meet PROFINET specification.

## Ordering information

Rugged minicord breakout  
TWINFLEX  
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## Rugged minicord breakout and industry link-TWINFLEX cables

Specification							
Cable type	rugged minicord breakout		Industry Link TWINFLEX				
Fiber types	E9, G50, G62	H200	G50, G62	H200	POF980		
Jacket Ø	6.0		7.5 x 8	7.5 x 8	7.5 x 8	mm	
Single fiber cable Ø	1.7		2.2	2.2		mm	
Tube Ø	0.9		0.9	0.9	2.2	mm	
Channel marking on single fiber	numbered		black and orange with arrows				
Approx. weight	28		46	46	46	kg/km	

Mechanical properties								
Tensile strength	during installation	2000	2000	2000	2000	2000	N	IEC 60794-1-2 E1
	in service	1000	500	1000	1000	1000	N	
Min. bend radius	during installation	25	25	40	60	25	mm	IEC 60794-1-2 E11
	in service	25	25	25	50	25	mm	
Crush resistance	short-term	600	200	600	600	600	N/cm	IEC 60794-1-2 E3
	long-term	200	100	200	200	400	N/cm	
Impact resistance	W <sub>p</sub> = 1.5 J W <sub>p</sub> = 2.2 J	200	200	200	200	200	impacts	IEC 60794-1-2 E4
Repeated bending	r = 30 mm / 10 kg r = 60 mm / 1 kg	20'000		10'000	10'000	10'000	cycles	IEC 60794-1-2 E6
Flexing	r = 77 mm <sup>1)</sup> r = 70 mm r = 80 mm	100'000		100'000	100'000	100'000	cycles	HUBER+SUHNER IEC 60794-1-2 E8 IEC 60794-1-2 E8
Torsion	± 360° ± 1440°	3		100	10	10	cycles	IEC 60794-1-2 E7

1) Drag chain test

Thermal properties								
Temperature range	during installation	-20 to +60	-20 to +60	-20 to +60	-20 to +60	-30 to +60	°C	IEC 60794-1-2 F1
	in service	-40 to +80 <sup>3)</sup>	-40 to +80 <sup>3)</sup>	-40 to +85	-40 to +85	-40 to +85	°C	
	in storage	-40 to +80 <sup>3)</sup>	-40 to +80 <sup>3)</sup>	-45 to +85	-45 to +85	-40 to +85	°C	

Combustion properties								
Fire load	0.6	0.6	0.75	0.75	0.93	MJ/m		
2002/95/EC (RoHS)	compliant							

Conformance							
PROFINET	Specification <sup>2)</sup>				yes	yes	

2) Standard with H+S marking. According to PROFINET specification with PROFINET marking (PROFINET Type C 2K200/230 or PROFINET Type C 2P980/1000)

3) Maximal temperature for single fiber cables without cable jacket +70 °C