Description

The components offered by HARTING in the field of fibre optical data transmission are suitable in combination with different types of FOC. With view to the optical transmission characteristics we differentiate between the following types of fibre:

Cables with Multimode-Gradient-Fibres (GI-Fibres)

- Suitable for transmission distances up to approx. 2 km (850 nm), approx. 5 km (1300 nm)
- Typical POF-connector termination: adhesive technique
- Typical wave length: 850/1300 nm

Cable with HCS-Step-Index-Fibres (HCS-Fibres)

- Suitable for transmission distances up to approx. 2 km (850 nm), approx. 400 m (660 nm)
- Typical POF-connector termination: Crimp termination
- Typical wave length: 660/850 nm

Cable with Plastic-Optical-Fibres (POF)

- Suitable for transmission distances up to approx.100 m
- Typical POF-connector termination: Crimp termination, or HARTING quick assembly technique, no special tool necessary
- Typical wave length: 660 nm

[1] HCS®= Hard Clad Silica, registered trade mark of SpecTran Corporation [2] POF = Polymer Optical Fibre

Fibre Types (typical characteristics)

	Plastic-Optical Fibre	HCS-Optical Fibre	Glass-Optical Fibre	
Fibre type	SI	SI	GI	GI
Core / jacket Ø (µm)	980 / 1000	200 / 230	62.5 / 125	50 / 125
Attenuation coefficient (dB/km)				
at 660 nm	200	10	-	-
at 850 nm	2000	8	≤ 3.5	≤ 3.0
at 1300 nm	-	-	≤ 0.80	≤ 0.70
typ. wave length	660	660 / 850	850 / 1300	850 / 1300
Bandwidth (MHz*km)				
at 660 nm	10	-	-	-
at 850 nm	-	≥ 17	≥ 200	≥ 400

Cable Plastic Materials

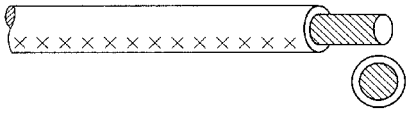
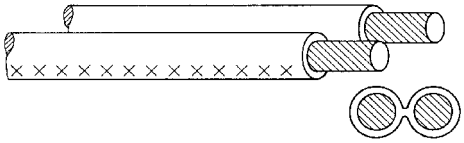
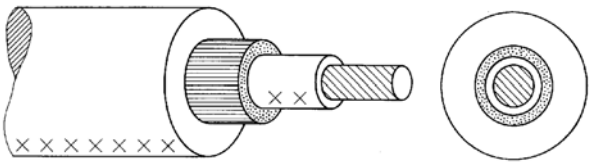
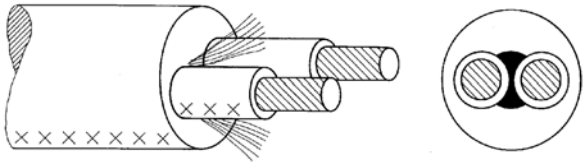
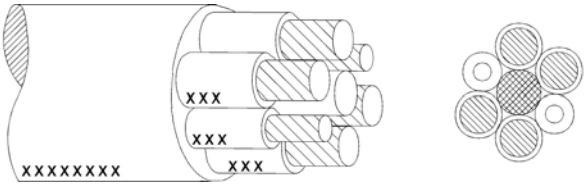
Material designation		Polymers (Low Smoke Zero Halogen)	Polyvinylcloride	Polyethylene	Polyurethane	Polyamide
Abbreviation		LSOH	PVC	PE	PUR	PA
Halogen free		yes	no	yes	yes	yes
Fire behaviour		self-extinguishing	self-extinguishing	combustible	self-extinguishing	combustible
Resistance	to UV radiation	fair - good	fair	good	fair - good	good
	to oil	poor	fair	fair	fair - good	good
	with hydrolysis	fair	good	good	poor - fair	fair
Abrasion resistance		good	fair	good	excellent	good
Mechanical resistance		good	fair	good	good	good

FO-Cables

for internal and external applications
with polymer fibres (POF[2])

Description

- Robust and cost-effective alternative to standard glass fibres
- SI-fibre with 980 µm PMMA-core
- For short distance transmission up to 100 m
- Operating wave length 660 nm
- Easy mechanical crimp technology

Identification	Part-Number	Drawing	Dimensions in mm
FO cable POF[2] Standard cable Simplex ø 2.2 mm PE fibre coating	20 20 001 1011		Technical Details: PMMA-Fibre: 980 / 1000 mm Temperature range: -40°C ... +85°C Bending radius min.: 30 mm
Duplex ø 2.2 x 4.4 mm PE fibre coating	20 20 001 1021		
Special cable with strain relief suitable for SERCOS applications Simplex ø 6.0 mm PE fibre coating PUR cable coating	20 21 001 1011	When ordering please specify cable length in metres. 	
Simplex ø 3.6 mm PE fibre coating PUR cable coating	20 21 001 1012		
Duplex round ø 5.5 mm PE fibre coating PUR cable coating	20 21 001 1021		
Hybrid-cable suitable for ***DESINA***® applications PUR cable coating 2 x POF PA fibre coating 4 x 1.5 mm² 300V/300V ø 10.6 mm	20 23 041 1023		[2] POF = Polymer Optical Fibre