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® [1]-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[2])
- 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

Fibre Types (typical characteristics)

	Plastic-Optical Fibre POF[2]	Optical Fibre HCS® [1]	Glass-Optical Fibre	
Fibre type	SI	SI	GI	GI
Core / jacket Ø	980 / 1000 µm	200 / 300 µm	62.5 / 125 µm	50 / 125 µm
Attenuation coefficient				
at 660 nm	200	10	-	
at 850 nm	2000	8	≤ 3.5	≤ 3.0
at 1350 nm	-	-	≤ 0,80	≤ 0,70
typ. wave length	660 nm	660 / 850 nm	850 / 1300 nm	850 / 1300 nm
Bandwidth MHz*km				
at 660 nm	10	-	-	-
at 850 nm	-	≥ 17	≥ 200	≥ 400

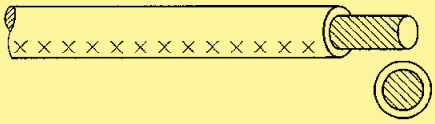
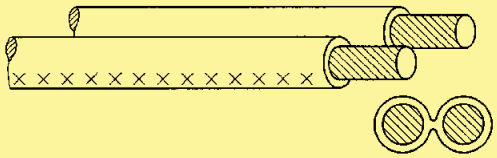
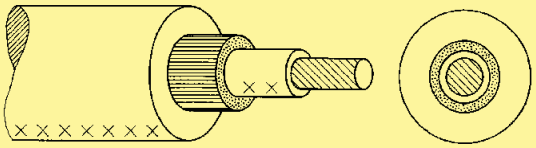
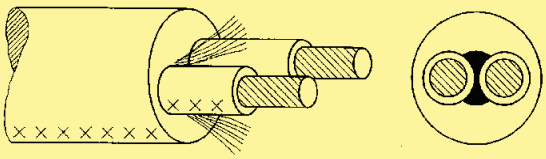
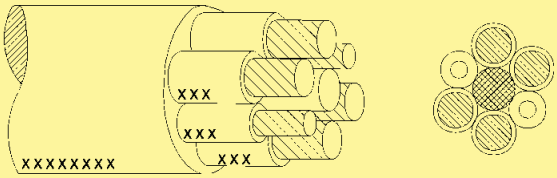
Cable Plastic Materials

Material designation		Polymers (LowSmoke ZeroHalogen)	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	good	good	good	poor - fair	fair
Abrasion resistance		good	fair	good	excellent	good
Mechanical resistance		good	fair	good	good	good

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

F.O. Cables with POF[1)]

F.O. cables with polymer fibres (POF[1)])
for internal and external applications
SI-fibre with 980 µm PMMA-core;
easy mechanical crimp technology

Identification	Part number	Drawing	Dimensions in mm
F.O. cable POF[1)] standard cable		Technical Details: PMMA fibre: 980 / 1000 µm Temperature range: -40 °C ... +85 °C Bending radius min.: 30 mm	
Simplex ∅ 2.2 mm PE fibre coating	20 20 001 1011		
Duplex ∅ 2.2 x 4.4 mm PE fibre coating	20 20 001 1021		
Special cable with strain relief suitable for SERCOS applications		When ordering please specify cable length in metres.	
Simplex ∅ 6.0 mm PE fibre coating PUR cable coating	20 21 001 1011		
Simplex ∅ 3.6 mm PE fibre coating PUR cable coating	20 21 001 1012		
Duplex ∅ 2.2 x 4.4 mm PE fibre coating	20 21 001 1021		
Hybrid cable geeignet für DESINA®-Applikationen			
PUR cable coating 2x POF[1)] PA fibre coating 4x 1.5 mm² 300 V / 300 V ∅ 10.6 mm	20 23 041 1023		

[1)] POF = Polymer Optical Fibre