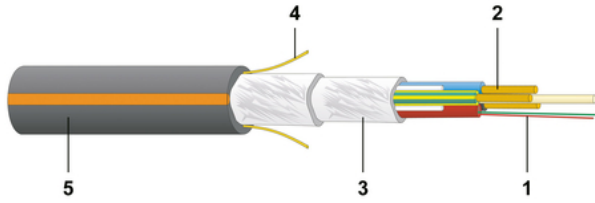


# FO Universal wbGGFR Combi / U-DQS(ZN)BH



Combination cable with 3 stranded copper wires  
dry interstices, rodent protection,  
in accordance with IEC 60332.1 and IEC 60332.3 .C



- 1 Fibres
- 2 Copper wires
- 3 Glass armour
- 4 Ripcord
- 5 FR/LSOH sheath



## DESCRIPTION

The glass armour provides for a combined non-metallic rodent protection and strain relief.  
Two ripcords enable the safe opening of the cable sheath.  
Dry stranding interstices - easy handling.  
Flame retardant, flame resistant cable sheath.

## APPLICATION

For indoor and outdoor use.  
Camera combi cable in tunnels, underground railroads, large-scale industry.  
Pulling in or blowing through thermoplastic ducts.  
Laying on cable platforms and cable trays.

## OPTICAL PROPERTIES

The cables are available with different types of optical fibre (see fibre data sheets).

## MECHANICAL PROPERTIES

Temperature range	storage:	-25 / +70°C	IEC 60794-1-22 F1
	during installation:	-10 / +50°C	
	in operation:	-25 / +60°C	
Tensile performance:	IEC 60794-1-21 E1		
Crush resistance:	IEC 60794-1-21 E3		
Impact:	IEC 60794-1-21 E4		
Repeated bending:	IEC 60794-1-21 E6		
Torsion:	IEC 60794-1-21 E7		
Bend:	IEC 60794-1-21 E11		
Water penetration:	IEC 60794-1-22 F5		

## STANDARDS

Reaction to fire (Euroclass)	EN 13501-6: D <sub>ca</sub>
Imprint	DATWYLER «cable type» «Datwyler designation» «DIN designation» «no. of fibres» «fibre type» «add. text» «batch no.» «meter marks»
Zero halogen, no corrosive gases	IEC 60754-1/-2, EN 60754-1/-2, VDE 0482-754-1/-2
Flame propagation	IEC 60332-1-2, EN 60332-1-2, VDE 0482-332-1-2
Flame spread	IEC 60332-3-24, EN 60332-3-24, VDE 0482-332-3-24
Smoke density	IEC 61034-1/-2, EN 61034-1/-2, VDE 0482-1034-1/-2

## VERSIONS

Article No.	DoP	Product	Reaction to fire (Euroclass)	Number of fibres	Loose Tubes	Sheath colour	Fibre type	Sheath Ø [mm]	Weight [kg/km]	Bending radius [mm]	Tensile load [N]	Crush resistance continuous [N]	Crush resistance short term [N]	Fire load [kWh/m]	PU
18635800DZ		wbGGFR Combi 1x2 + 3x2.5 mm <sup>2</sup>	Dca-s2,d1,a1	2	1	black	E9/125 G.652.D OS2	13.0	242	200	3000	1000	3000	0.774	by the metre