ROLLABLE RIBBON FA-KZX167

Description

Specification for Central Core Rollable Ribbon Cable (3456 Fibers, G.657.A1, 250µm fiber, 144f unit)

Optical Fiber Cable for duct application. The Optical Fiber used in this cable complies with fiber attributes of ITU-T G.657.A1 and allows smaller bending radius in comparison with conventional optical fiber.

Optical Fiber

Table 1 - Construction of the Optical Fiber

Item			Specification
Fiber Type			Step Index, Matched Clad type, Single Mode Optical Fiber
Core		Material	Doped silica
Cladding		Material	Silica
Primary Coating	Inner Layer	Material	UV curable acrylate
Primary Coating	Outer Layer	Material	UV curable acrylate
Mode field diameter (at 1310 nm)		Nominal Value	8.6 - 8.9 µm
		Tolerance	± 0.4 µm
Cladding diameter			125 µm ± 1 µm
Core concentricity error			Max. 0.5 µm
Cladding non-circularity			Max. 1 %
Cable cut-off wavelength			Max. 1260 nm
Proof stress			Min. 0.69 GPa (equivalent to 1 % fiber strain)
Zero dispersion wavelength			1300 nm - 1324 nm
Slope at zero dispersion wavelength			Max. 0.092 ps/(nm².km)
Bending characteristics (R=15mm, 10 turns)			≤0.25 dB at 1550 nm ≤1 dB at 1625 nm
Colored coating fiber diameter			250 µm ± 15 µm
Identification			Color coding

Rollable Ribbon

Table 2 - Construction of Optical Fiber Rollable Ribbon

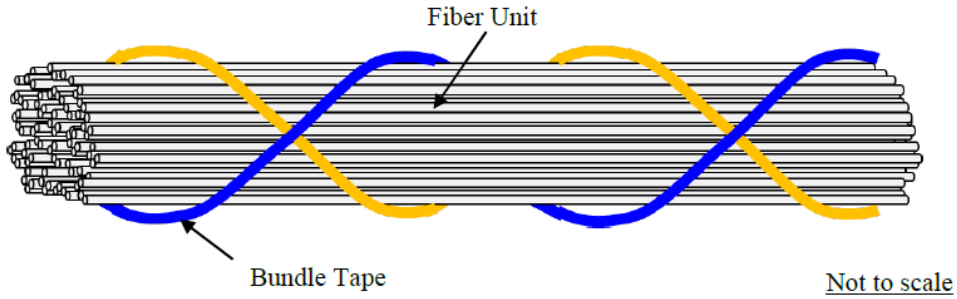
Item		Specification
Optical fiber	Spec.	Same as Table 1
	Number	12
Coupling	Material	UV curable acrylate
Ribbon dimensions	Thickness	Nominal 0.26 mm
	Width	Nominal 3.1 mm
Ribbon type		Intermittently coupled
Identification		Color code shown in Table 5
		Printing on ribbon shown in Table 6

Fiber Unit

Table 3 - Construction of 144 fibers Unit

Item		Specification
Optical Fiber Ribbon	Spec.	Same as Table 2
	Number	12 Total 144 fibers
Bundle tape	Material	Plastic, colored
Identification		Color code shown in Table 7

Fig 1 - Side view of the 144 fibers ribbon unit

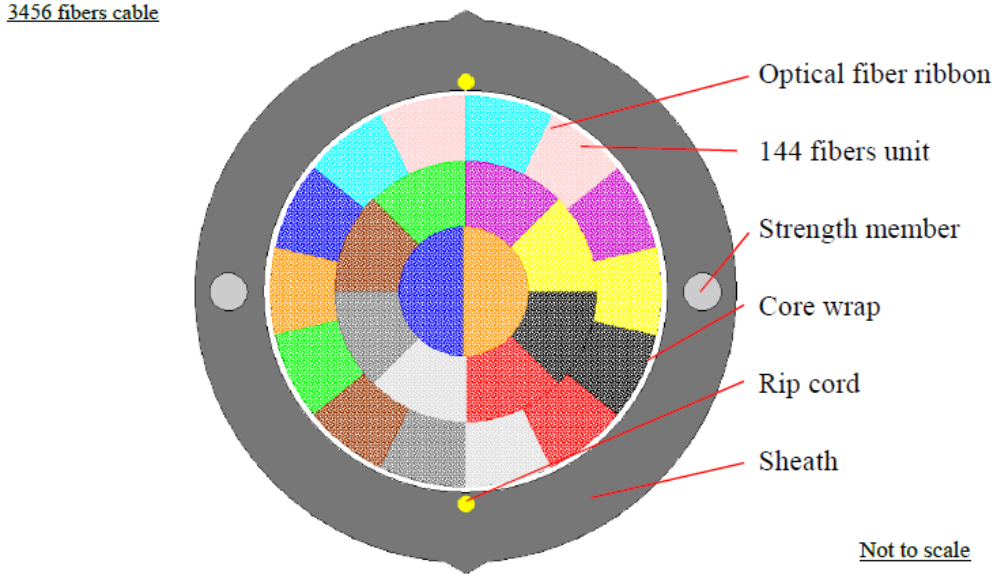


Optical Fiber Cable Construction

Table 4 - Construction of Optical Fiber Cable (3456 fibers)

Item		Description
Fiber count		3456
Fiber ribbon	Spec.	The same as Table 2
	Number	144
144 fibers unit	Spec.	The same as Table 3
	Number	24
Core wrap	Material	Water Blocking tape
Strength member	Material	FRP
	Number	2
Sheath	Material	Polyethylene, black color
Cable dimension (Approx.)		27 mm
Cable weight (Approx.)		500 kg/km
Structure		Fig. 2

Fig 2 - Cross sectional view of the Cable



Optical Fiber Rollable Ribbon Identification

Table 5 - Color code of optical fiber ribbon

Fiber No.	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua

Table 6 - Printing of optical fiber ribbon

Ribbon No.	Printing	Ribbon No.	Printing	Ribbon No.	Printing
1	▌	6	▉▌	11	▉▉▌
2	▌▌	7	▉▌▌	12	▉▉▌▌
3	▌▌▌	8	▉▌▌▌	-	-
4	▌▌▌▌	9	▉▌▌▌▌	-	-
5	▉	10	▉▉	-	-

Fiber Unit Identification

Table 7 - Color code of optical fiber unit

No.	Color 1	Color 2
1	Blue	Red
2	Orange	Red
3	Green	Red
4	Brown	Red
5	Slate	Red
6	White	Red
7	Blue	Black
8	Orange	Black
9	Green	Black
10	Brown	Black
11	Slate	Black
12	White	Black
13	Blue	Yellow
14	Orange	Yellow
15	Green	Yellow
16	Brown	Yellow
17	Slate	Yellow
18	White	Yellow
19	Blue	Violet
20	Orange	Violet
21	Green	Violet
22	Brown	Violet
23	Slate	Violet
24	White	Violet

Optical Characteristics

Table 8 - Optical Properties of Cable

Wavelength	Attenuation		
	L < 0.2 km	**0.2 km ≤ L < 1 km**	**1 km ≤ L**
1310nm	≤ 0.2 dB	≤ 0.25L + 0.15 dB	≤ 0.4L dB
1383nm*	≤ 0.2 dB	≤ 0.25L + 0.15 dB	≤ 0.4L dB
1550nm	≤ 0.2 dB	≤ 0.125L + 0.175 dB	≤ 0.3L dB

*After hydrogen aging according to IEC 60793-2 regarding the B1.3 fibre category.

Physical Characteristics

Table 9 - Technical information of the cable

Item	Specification
Minimum Bending Radius (for dynamic)	20 x D
Minimum Bending Radius (for static)	10 x D
Maximum pulling tension (short term)	2700 N
Maximum pulling tension (long term)	810 N
Temperature range	Storage: -30 °C - +70 °C Installation : 0 °C - +60 °C Operation : -30 °C - +70 °C

Note: Furukawa Electric reserves the right to improve, enhance and modify the features and specification of this product without prior notification.

Mechanical and Environmental Characteristics

Table 10 - Environmental and Mechanical characteristics of cable

Test	Test Method	Test Conditions
Tensile Performance Test	IEC 60794-1-21-E1 Long term	Specimen length: Suitable length Sheave diameter: Suitable sheave Load: 2700 N x 10 min
	IEC 60794-1-21-E1 Short term	Specimen length: Suitable length Sheave diameter: Suitable sheave Load: 810 N x 10 min
Crush Test	IEC 60794-1-21-E3	Specimen length: Suitable length Load: 2200 N/100 mm Duration: 1 minute
Impact Test	IEC 60794-1-21-E4 (7a)	Specimen length: Suitable length Impact energy: 1 kg.m Striking surface: Flat Number of strike: 3 (different place)
Repeated Bending Test	IEC 60794-1-21-E6	Specimen length: Suitable length Mandrel: Minimum bending radius Number of Cycles: 10
Torsion Test	IEC 60794-1-21-E7	Specimen length: 1 m Rotation: ±90° Cycles: 3
Temperature Cycling Test	IEC 60974-1-22-F1	Temperature range: -30 °C to 70 °C Time at temperature: At least 6 hr. each temp. Number of cycles: Not less than 3 cycle
Water Penetration Test	IEC 60794-1-22-F5C	Specimen length: 40 m Height of water: 1 m Duration: 240 h

Marking	The following information shall be printed by suitable method on the outer sheath of the cable with white color in one-meter intervals: Name of Manufacturer Number of fiber-fiber size: “3456F-250” Number of unit: “144U” Year of manufacture Length marking
Package	Drum: the cable shall be delivered at the required length on a non-returnable wooden drum. The drum is designed to prevent damage to the cable during shipment and installation Cable end: the both end of the cable shall be fitted with a suitable cap.

Part Numbers