Prysmian Group

F(432-1728)S1FRLTN
FRL4/EP1

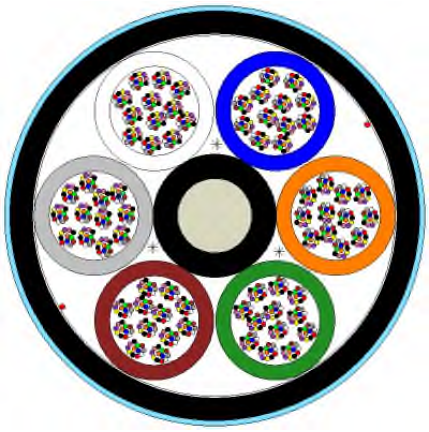
PRYSMIAN Draka General Cable

Masslink™

External Underground Dielectric Optical Cable - FlexRibbon™ in Loosetube

IEC 60794-3
ACMA - AS/CA S008

Cable Design



- Drawing not to scale -

- **Multi-loose tube construction**
- **Central strength member (CSM):** Glass fibre reinforced plastic material (GRP) with or without over-sheathing
- **Flexible Ribbon:** 12 optical fibres formed into a flexible ribbon
- **Tubes:** Thermoplastic material, containing the required numbers of flexible ribbons and water swellable elements (dry-tube technology)
- **Stranding:** The required numbers of elements (tube and fillers) are SZ stranded around the central strength member
- **Longitudinal water tightness:** Water swellable elements (dry-core technology)
- **Sheath:** UV stabilised polyethylene in compliance with AS 1049. Two ripcords provided beneath the sheath for easy removal
- **Outer Jacket:** UV stabilised polyamide (Nylon) in compliance with AS 1049 integrally bonded to PE sheath

This loose tube dielectric optical cable is designed for external underground installations in ducts or by direct burial in open-cut trenches. Polyamide provides anti-termite protection. FlexRibbon™ provides the advantage of mass fusion splicing in a high density cable design.

Technical data

Number of Fibres		**432**	**576**	**864**	**1728**
Number of elements		3Tubes + 1Filler	4 Tubes	6 Tubes	6 Tubes
No. ribbons per tube		12			24
Cable nominal diameter	mm	19.1		22.6	25.7
Cable nominal weight	kg/km	260		310	390
Max. installation tension	kN	2.0		3.0	
Max. crush resistance	kN/100mm	2.0 (Short term) / 1.0 (Long term)			
Min. bending radius	mm	At full load 20 x Cable OD At no load 10 x Cable OD			
Temperature range	°C	Installation 0 -> +45	Transport & Storage -20 -> +70	Operation -10 -> +70	

Optical Characteristics

See the attached cabled optical fibre data sheet: G657.A1 FlexRibbon

Identification

Fibre Colours

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

Ribbon Marking

No.	1	2	3	4	5	6	7	8	9	10	11	12
Marking	I	II	III	IIII	▮	▮I	▮II	▮III	▮IIII	▮▮	▮▮I	▮▮II
No.	13	14	15	16	17	18	19	20	21	22	23	24
Marking	▮▮III	▮▮IIII	▮▮▮	▮▮▮I	▮▮▮II	▮▮▮III	▮▮▮IIII	▮▮▮▮	▮▮▮▮I	▮▮▮▮II	▮▮▮▮III	▮▮▮▮IIII

Buffer Tube Colours

No.	1	2	3	4	5	6
Colour	Blue (BL)	Orange (OR)	Green (GR)	Brown (BR)	Slate (SL)	White (WH)

Filler is natural in colour.

Sheath Colour:

The outer sheath colour is blue.

Sheath Marking:

The outer sheath is marked in 1 metre intervals as follows:

PRYSMIAN DW FLEXRIBBON MASSLINK Part Number T/N #### MM/YY MADE IN AUSTRALIA *****M >> | << *****M

^ *Customised marking legend is available (subject to agreement)*

Main mechanical characteristics

Parameter	Test method	Test conditions	Acceptance criteria*
Tensile strength	IEC 60794-1-21-E1	Load: As per cable maximum installation tension in technical data table above	Fibre strain ≤ 0.6%. No physical damage and no change in attenuation after test.
Crush	IEC 60794-1-21-E3	Load: As per maximum crush resistance in technical data table above Duration: 10 min (short-term) / 120 min (long-term)	No physical damage. No change in attenuation after test (short-term) or during test (long-term).
Impact	IEC 60794-1-21-E4	Impact energy: 15 J Anvil radius: 300 mm	No physical damage. No change in attenuation after test.
Torsion	IEC 60794-1-21-E7	Sample length: 1 m Rotation: +/-180 degree, 10 cycles	No physical damage. No change in attenuation after test.
Bend	IEC 60794-1-21-E11	Mandrel radius: As per Min. bending radius at no load in technical data table above No. of turns/helix: 4, No. of cycles: 3	No physical damage. No change in attenuation after test.
Bend under tension	Concurrent to tensile test	Mandrel radius: As per Min. bending radius at full load in technical data table above Bend: 360º, 1 turn	No physical damage. No change in attenuation after test.
Temperature cycling	IEC 60794-1-22-F1	Sample length: 1000 m (minimum) Temperature range: As per Operation temperature range in technical data table above	No change in attenuation between 10°C & 30°C. Max. change in attenuation ≤0.15dB/km between Min. & Max. operation temperatures.
Water penetration	IEC 60794-1-22-F5C	Sample length=3m, Water height=1m	No water leakage after 24 hours

** All optical measurements for singlemode fibres performed at 1550 nm.*

Logistic

Packing:

Timber drums generally to AS/NZS 2857 with flexible cable wrap protection

Delivery Lengths:

Standard delivery length is 4 km for 432, 576 & 864F, 3km for 1728F; with a tolerance of - 1% / + 3%