

Masslink™

External Underground Dielectric Optical Cable - FlexRibbon™ in Loosetube

Cable Design

**IEC 60794-3
ACMA - AS/CA S008**



- Drawing not to scale -

- **Multi-loose tube construction** – Double Layer
- **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 tubes 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

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		3456	6912
Number of tubes	1 st layer	9	9
	2 nd layer	15	15
No. ribbons per tube		12	24
Cable nominal diameter	mm	32	40
Cable nominal weight	kg/km	680	1000
Max. installation tension	kN	2.7	
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.

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					■	■	■	■	■	■	■	■
No.	13	14	15	16	17	18	19	20	21	22	23	24
Marking	■	■	■	■	■	■	■	■	■	■	■	■

Buffer Tube Colours

No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua
No.	13	14	15	16	17	18	19	20	21	22	23	24
Colour	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua

Sheath Colour:

The outer sheath colour is blue for 3456F or black for 6912F.

Sheath Marking:

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

PRYSMIAN DW FLEXRIBBON MASSLINK Part Number T/N ##### MM/YY *****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: 360°, 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 1 km with a tolerance of - 1% / + 3%

© PrysmianGroup 2020 , All Rights Reserved

All sizes and values without tolerances are reference values. Specifications are for product as supplied by PrysmianGroup: any modification or alteration afterwards of product may give different result.

The information contained within this document must not be copied, reprinted or reproduced in any form, either wholly or in part, without the written consent of PrysmianGroup. The information is believed to be correct at the time of issue. PrysmianGroup reserves the right to amend this specification without prior notice. This specification is not contractually valid unless specifically authorised by PrysmianGroup.