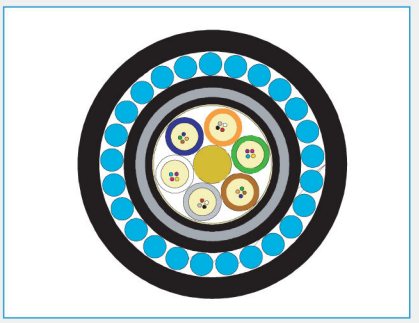
SM-LVLVWV

Loose Tube Fibre Optic Cable - Dry Core - Lead Sheath - Steel Wire Armour - FR-PVC Sheaths



Application

This cable is especially designed for harsh environments. The steel wire armour and the PVC outer sheath make the cable suitable for installation under and above ground. Swellable water blocking tape over the stranding and water tightness compound within loose tube provide resilient and robust moisture protection to the fibre. Having an outer PVC sheath over an inner lead sheath make this cable relatively flexible, flame retardant, and resistant to chemical solvent , oil , and abrasion.

Fire Rating

- IEC 60332-1, IEC 60332-3-24

Features

- **Central Strength Member (CSM):** glass fiber reinforced plastic rod (FRP), with plastic oversheathing when needed
- **Loose Tube:** thermoplastic material, containing up to 12 fibers and filled with a suitable water tightness compound
- **Filler Elements:** thermoplastic rods, where needed
- **Stranding:** loose tubes (and fillers), SZ stranded around the CSM
- **Cable core:** swellable water blocking tapes are applied over the stranding
- **1st Inner sheath:** Flame retardant PVC (Black)
- **Lead sheath:** lead compound 0,55% antimoon
- **2nd Inner sheath:** Flame retardant PVC (Black)
- **Armour:** one layer of galvanized steel wires
- **Outer sheath:** The outer sheath is of a flame retardant PVC compound

Configuration

No.of Fibres	12	16	24	48	96
No: of tubes/ fillers	2 / 0	4 / 0	4 / 0	4 / 0	8 / 0
Loose Tube / Filler – Ø [mm]	2.1	2.1	2.1	2.4	2.4
CSM – Ø [mm]	2.3	2.3	2.3	2.6	2.6 [4.2]
1st Inner sheath [mm]	1.0	1.0	1.0	1.0	1.0
Lead Sheath [mm]	1.0	1.0	1.0	1.0	1.0
Lead Weight [kg/km]	410	410	410	440	460
2nd Inner sheath [mm]	1.0	1.0	1.0	1.0	1.0
Armor wire [mm]	1.0	1.0	1.0	1.0	1.0
Outer Sheath [mm]	2.0	2.0	2.0	2.0	2.0
Cable Diameter [mm]	19.6	19.6	19.6	20.5	21.9
Cable Weight [kg/km]	980	980	980	1070	1161
Pulling Force Da £ 0.05 dB [kN]	7	7	7	8	8

Main Mechanical and Environmental Characteristics

Test	Standard	Specified value	Acceptance Criteria*
Max. Tension(long term)	IEC 60794-1-2-E1	See configuration	Δα ≤ 0.10 dB
Crush	IEC 60794-1-2-E3	4000 N / 100 mm ; reversible	Δα ≤ 0.10 dB
Impact	IEC 60794-1-2-E4	30 Nm, R= 200 mm, 3 spots	Δα ≤ 0.10 dB
Repeated bending	IEC 60794-1-2-E6	R=20x D, 100 cycle	Δα ≤ 0.10 dB
Cable bend	IEC 60794-1-2-E11	R=15x D	Δα ≤ 0.10 dB
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water column=1m	no water leakage in 24h, up to inner sheath
Flame retardancy Single cable test Bundle cable test	 IEC 60332-1 IEC 60332-3-24 (Cat C)	Reduced flame propagation, In IEC	In IEC

All optical measurements at 1550 nm.

Temperature Range	Transportation & Storage:	- 30 to + 70°C
Temperature range	Installation:	- 10 to + 50°C
	Operation:	- 30 to + 70°C

Ordering Information

SM-LVLVWV SERIES FO Cable part numbers are made up using the table below.

The part number always starts with the letters SM-LVLVWV to denote that it is a SM-LVLVWV SERIES FO Cable. This is followed by 3 numbers which symbolises the core quantity and then 2 letters to denote the fibre type.

Example of a SM-LVLVWV SERIES FO Cable part number:

SM-LVLVWV012M1

The above example describes an OM1 (62.5um, Orange Sheath) SM-LVLVWV SERIES FO Cable, with 12 cores.

SM-LVLVWV SERIES	CORE QUANTITY	FIBRE TYPE
SM-LVLVWV	XXX	XX
	012 - 12 CORES 016 - 16 CORES 024 - 24 CORES 048 - 48 CORES 096 - 96 CORES	SM - SINGLEMODE, G652D, 9um (yellow sheath) M1 - OM1, 62.5um (orange sheath) M2 - OM2, 50um (orange sheath) M3 - OM3, 50um (aqua sheath) M4 - OM4, 50um (aqua sheath)