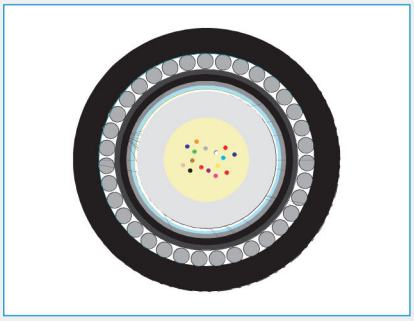
UMNWV

Steel Wire Armoured ALPA™ Uni-tube Optical Cable

Features

- **Loose Tube:** The secondary coating consists of a central loose tube made of special thermoplastic plastic. Each fibre in the central tube is uniquely identified by a different colour, for fibre counts above 12 fibres a coloured bundle yarn is used.
- **Cable core:** the cable core is covered with water blocking swellable tape.
- **Moisture Barrier:** The cable is completely covered with an aluminium foil applied longitudinally with an overlap. The aluminium foil is bonded to the inner sheath.
- **1st Inner sheath:** The 1st inner sheath consists of HDPE (high density polyethylene) (Black) compound. (Two ripcords underneath).
- **2nd Inner Sheath:** The 2nd inner sheath consists of PA.
- **Armour:** The armour consists of one layer of galvanized soft steelwires (SWA)
- **Outer sheath:** The cable sheath consists of Flame Retardant PVC compound, resistant to UV, Heat & Oil. (Black)



Application

The cable is especially designed for harsh environments. The multi-layer inner sheath system ALPA™: Aluminium/HDPE/PA (nylon) withstands aggressive constituents and fluids that might occur on (petro)chemical plants. (chemical moisture - barrier). The steel wire armour and the PVC outer sheath make the cable suitable for installation under and above ground.

- The ALPA design provides anti-termite protection.
- The steel wire armour provides rodent protection.

The outer sheath is of a Flame Retardant, Poly Vinyl Chloride (PVC) compound, resistant to Heat & Oil and UV.

Fire Rating

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

Technical Data

No.of Fibres		**1 - 24**
Loose Tube- Ø	mm	3.1
1st Inner sheath thickness	mm	1.0
2nd Inner sheath thickness	mm	0.5
Dia over 2nd inner sheath	mm	7.1
Armour SWA thickness	mm	1.0
Dia over SWA armour	mm	9.1
Sheath thickness	mm	1.6
Cable Diameter	mm	12.3
Cable Weight	kg/km	280

Please refer to our General Installation, Safety & Handling recommendations before handling.

Main Characteristics

Test	Standard	Specified value	Acceptance Criteria*
Max. Tension(long term)	IEC 60794-1-2-E1	4000N	Δα ≤ 0.05 dB(MM), no fibre strain
Max. Tension(short term)	IEC 60794-1-2-E1	4800N	Δα ≤ 0.05 dB(MM), no fibre strain
Crush	IEC 60794-1-2-E3	2500N / 100mm, short term	Δα reversible
Impact	IEC 60794-1-2-E4	20 Nm, R=200mm, 3 impacts	Δα ≤ 0.05 dB(MM), no damage
Repeated bending	IEC 60794-1-2-E6	R= 20 x cable Ø,100 cycles	Δα ≤ 0.05 dB(MM), no damage
Cable bend	IEC 60794-1-2-E11	R= 15 x cable Ø, 5 turns,3cycles	Δα ≤ 0.05 dB(MM), no damage
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water=1m	No water leakage after 24 hour, up to inner sheath
UV resistancy	ISO 4892-2		In ISO
Heat & Oil resistancy	IEC 60811	IRM902 ; 4 hrs, 70°C	
Flame retardancy **Single cable test** **Bundle cable test**	IEC 60332-1 IEC 60332-3-24 (Cat C)	Reduced flame propagation	In IEC
Resistance to nitric acid	Draka - Kema	7 mol/l, 6 weeks	No damage to optical fibers
Resistance to hydrocarbon mixture	Draka - Kema	Metyl-etyl-keton, trichloro-ethene, cyclo-hexane, heptane, toluene	No damage to optical fibers

** values for single-mode fibres, all optical measurements performed at 1550 nm*

Min. bending radius	mm	Without Tension 15 x Cable-Ø	Under Maximum Tension 25 x Cable-Ø	
Temperature range	°C	Installation -10 to +50	Transport. & Storage -30 to +70	Operation -30 to +70

Ordering Information

UMNWV SERIES FO Cable part numbers are made up using the table below.

The part number always starts with the letters UMNWV to denote that it is a UMNWV 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 UMNWV SERIES FO Cable part number:

UMNWV008M1

The above example describes an OM1 (62.5um, Orange Sheath) UMNWV SERIES FO Cable, with 8 cores.

UMNWV SERIES	CORE QUANTITY	FIBRE TYPE
UMNWV	XXX	XX
	002 - 2 CORES 004 - 4 CORES 006 - 6 CORES 008 - 8 CORES 012 - 12 CORES 024 - 24 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)