VIPER™

High Performance Micro Cable

FTMU 4-432 fibers SML G657A1 FIN2012

Features

- Up to 432 fibers - Super slim design
- Excellent installation performance
- Unique design with robust inner tubes that do not kink
- Temperature range from -45 to +70°C
- Excellent bend performance, ≥70 mm
- Easy to prepare and identify fibers
- Ultra low attenuation in cable

Application

The Hexatronic Viper series of micro cables are characterized by state of the art installation performance when installed by blowing into microducts. Particularly, installations in access networks with difficult routes, which are facilitated by the enhanced performance of the Viper cables.
All parameters such as cable diameter, sheath friction, cable stiffness etc are optimized for best installation performance without compromizing mechanical or environmental properties.
The micro cables are based on a slim loose tube design with up to 36 tubes per cable. The design facilitates fiber preparation and mid-span access. The cables are suitable for long-distance, air blown installation in microducts, with an inner diameter of as little as 6 to 12 mm. The cables have excellent bend performance and an extremely wide operational temperature range.

Design

The Micro Cables are designed with one, two or three layers of inner protective tubes made of a unique Polyamide compound. The Polyamide gives a special strength to the product, while increasing the bending properties as well as other benefits such as extreme temperature resistance. Each tube contains upto 24 fibers. As a result, The Viper Micro Cables are more durable during the installation process as they are able to withstand rough handling. The unique cable design with an extended operational temperature range of -45 to +70°C can be used in many environments, on all continents where heat and cold are often a major concern.

Product Information

1. Primary coated fiber: Silica, acrylate
2. Loose tube: PA
3. Central strength member: Glass fiber reinforced plastic, PE
4. Slit up yarn: Aramide yarn
5. Wrapping: Water blocking yarns
6. Sheath: Polyethylene, halogen-free

Black fillers can replace empty white tubes.

Technical Information

Tuotteen väri	Black Sheath
Värijärjestys	FIN2012
Lämpötila, käyttö [°C]	-45 to +70
Lämpötila, varastointi [°C]	-45 to +70
Lämpötila, asennus [°C]	-15 to +50

Vedenesto	Longitudinal water blocking according to IEC 60794-1-2-F5C
Kuidun tyyppi	G657A1
Vaimennus @Aallonpituudella [nm]	1310/1383/1550
Tyypillien vaimennus [dB/km]	0.32/0.32/0.18
Keskimääräinen vaimennus [dB/km]	0.33/0.33/0.21
Max. vaimennus [dB/km]	0.36/0.36/0.23
Vaatimustenmukaisuus	Fiber parameters and tests according to the IEC series 60793-2 and 60793-1. Mechanical and environmental tests in accordance with Family Specification IEC 60794-5-10. Test standards, conditions and requirements: ▪ Operational temperature: IEC 60794-1-22 Method F1; max attenuation 0.05dB/km* ▪ Storage temperature: IEC 60794-1-22 Method F1; max attenuation 0.15dB/km* reversible ▪ Ageing: IEC 60794-1-22, Method F9; 168h@85°C,+2 cycles, no attenuation after test ▪ Water blocking: IEC 60794-1-2, Method F5C, 3m sample, 1m head of water, no leakage after 24 hours ▪ Bend radius: IEC 60794-1-21, Method E11B; 4 turns, 3 cycles, max attenuation 0.05dB* ▪ Installation tensile load: IEC 60794-1-21, Method E1; max fiber tension 0.6%, reversible attenuation ▪ Crush: IEC 60794-1-21, Method E3; 1 minute load, 100mm plate, no attenuation after test ▪ Impact: IEC 60794-1-21, Method E4; 3 different places, max attenuation 0.1dB* after test * All attenuation measurements performed @ 1550nm

Asennustiedot

Typical installation performance:

- Ducts ID 8-10 mm, cable OD ≤6.7 mm: 2000 m
- Ducts ID 12 mm, cable OD ≤8.0 mm: 2000 m
- Ducts ID 15-16 mm, cable OD <11 mm: 2000 m, cable OD 11-12 mm: 1500 m

Installation performance verified on Hexatronic test track, according to IEC 60794. Installation performance is affected by the installed path, environmental conditions, installation equipment etc and actual performance may therefore deviate from the above specified values.

The cable should be installed at a temperature between -15 to +40°C. The cable shall not be stored in direct sunlight. The sun may heat up the cable over the permitted temperature limit.

Tilaustiedot

Supplied lengths: 2, 4, 8 km

Technical Details

FIN-2012 Kuidut ja putkipäällysteet Fibers and Tubes	1	2	3	4	5	6	7	8	9	10	11	12
	Sininen Blue	Valkoinen White	Keltainen Yellow	Vihreä Green	Harmaa Grey	Oranssi Orange	Ruskea Brown	Turkoosi Turquoise	Musta Black	Violetti	Vaalean-punainen Pink	Punainen Red
	13	14	15	16	17	18	19	20	21	22	23	24
	Sininen | Blue |	Valkoinen | White |	Keltainen | Yellow |	Vihreä | Green |	Harmaa | Grey |	Oranssi | Orange |	Ruskea | Brown |	Turkoosi | Turquoise |	Läpinäkyvä | Clear |	Violetti | Violet |	Vaalean-punainen | Pink |	Punainen | Red |

Articles 10

Article name	Sähkönumero	Väri	Kuitujen lkm	Asettelu	Taivutussäde [mm]	Vetolujuus, asennettaessa [N]	Puristuslujuus [N/100 mm]	Halkaisija Ø [mm]	Paino [kg/km]	Pituus [m]
FZOMU-SD 1x4 Viper slim G657A1 TOL4019033/4AL		Black	4	1x4	75	430	1000	4.2	11.5	8000/K8, 4000/K7
FZOMU-SD 2x4 Viper slim G657A1 TOL4019033/8AL		Black	8	2x4	75	430	1000	4.2	11.5	8000/K8, 4000/K7
FZOMU-SD 3x4 Viper slim G657A1 TOL4019033/12AL		Black	12	3x4	75	430	1000	4.2	11.5	8000/K8, 4000/K7
FZOMU-SD 6x4 Viper slim G657A1 TOL4019033/24AL		Black	24	6x4	75	430	1000	4.2	11.5	8000/K8, 4000/K7
FTMU 1x12 SML Micro G657A1 TOL4019031/12AL	0210505	Black	12	1x12	75	1200	2000	5.7	28	8000/K10, 6000/K10, 4000/K8
FTMU 2x12 SML Micro G657A1 TOL4019031/24AL	0210506	Black	24	2x12	75	1200	2000	5.7	28	8000/K10, 6000/K10, 4000/K8
FTMU 4x12 SML Micro G657A1 TOL4019031/48AL	0210507	Black	48	4x12	75	1200	2000	5.7	28	6000/K10, 8000/K10, 4000/K8
FTMU 8x12 SML Micro G657A1 TOL4019031/96AL	0210508	Black	96	8x12	80	1200	1000	6.1	28	8000/K12, 6000/K10, 4000/K10
FTMU 6x24 SML Micro G657A1 TOL4019031/144AL	0210513	Black	144	6x24	70	1600	2000	6.7	35	8000/K12, 6000/K12, 4000/K10
FTMU 8x24 SML Micro G657A1 TOL4019031/192AL	0210509	Black	192	8x24	80	2500	5000	7.9	60	8000/K12, 6000/K12, 4000/K10

