

HEXATRONIC 
VIPER

High Performance Micro Cable

12-432 fibers G657A1 TIA598



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 (-49 to +158°F)
- Excellent bend performance, ≥ 70 mm (2.75")
- 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 compromising mechanical or environmental properties

The micro cables are based on a slim loose tube design with up to 18 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 8 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 12 or 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 (-49 to +158°F) 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

Product Color

Black Sheath

Color Code

TIA598

Temperature, Operation [°F]

-49 to +158

Temperature, Storage [°F]

-49 to +158

Temperature, Installation [°F]

5 to +122

Water Blocking

Longitudinal water blocking according to IEC 60794-1-2-F5B

Fiber Type

G657A1

Attenuation @Wavelength [nm]

1310/1383/1550

Typical Attenuation [dB/km]

0.32/0.32/0.18

Average Attenuation [dB/km]

0.33/0.33/0.21

Maximum Attenuation [dB/km]

0.36/0.36/0.23

Conformance

Longitudinal water blocking according to IEC 60794-1-2-F5B. Mechanical and environmental tests in accordance with IEC 60794-5-10. Fiber parameters and tests according to the IEC series 60793-2 and 60793-1.

Marking

The cables are length marked in meters, and the tubes and fibers are color coded according to TIA598 (Bellcore).

Installation Notes

Typical installation performance:

- Ducts ID 8-10 mm, cable OD \leq 6.7 mm: 2000 m (6560ft)
- Ducts ID 12 mm, cable OD \leq 8.0 mm: 2000 m (6560ft)
- Ducts ID 15-16 mm, cable OD <11 mm: 2000 m (6560ft), cable OD 11-12 mm: 1500 m (4920ft)

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.

If the cable is installed by blowing the temperature shall be -15 to +40°C (5 to 104°F). The cable shall not be stored in direct sunlight. The sun may heat up

the cable over the permitted temperature limit.

Ordering Information

Supplied lengths: 2, 4, 8 km

Technical Details

TIA-598 Fibers and Tubes	1	2	3	4	5	6	7	8	9	10	11	12
	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Rose	Aqua
	13	14	15	16	17	18	19	20	21	22	23	24
	Blue	Orange	Green	Brown	Slate	White	Red	Clear	Yellow	Violet	Rose	Aqua

Articles

Article name	Color	No. of Fibers	Layout	Bend Radius [m]	Crush [lbs/4"]	Impact [ft-lbs]	Diameter Ø [mm]	Weight [lbs/Kft]	Length [ft]
GNHL 2/T2 G657A1 TIA598 TOL4019033/2C	-	2	1x2	75	1000	-	4.2	0.014	8000/K8, 4000/K7
GNHL 4/T4 G657A1 TIA598 TOL4019033/4C	-	4	1x4	75	1000	-	4.2	0.014	8000/K8, 4000/K7
GNHL 8/T4 G657A1 TIA598 TOL4019033/8C	-	8	2x4	75	1000	-	4.2	0.014	8000/K8, 4000/K7
GNHL 12/T4 G657A1 TIA598 TOL4019033/12C	-	12	3x4	75	1000	-	4.2	0.014	8000/K8, 4000/K7
GNHL 24/T4 G657A1 TIA598 TOL4019033/24C	-	24	6x4	75	1000	-	4.2	0.014	8000/K8, 4000/K7
GNHLDV 12 G657A1 (1x12f) TIA598 TOL4019022/12C	-	12	1x12	-	-	-	5.7	0.028	8000/K10, 4000/K8
GNHLDV 12 G657A1 TIA598 1000 m H4019022/12C-1	-	12	1x12	75	2000	2	5.7	0.028	1000/K7
GNHLDV 12 G657A1 TIA598 500 m H4019022/12C-2	-	12	1x12	75	2000	2	5.7	0.028	500/K7
GNHLDV 12 G657A1 TIA598 2000 m H4019022/12C-3	-	12	1x12	75	2000	2	5.7	0.028	2000/K7
GNHLDV 12 G657A1 TIA598 4000 m H4019022/12C-4	-	12	1x12	75	2000	2	5.7	0.028	4000/K8
GNHLDV 24 G657A1 (2x12f) TIA598 TOL4019022/24C	-	24	2x12	-	-	-	5.7	0.028	8000/K10, 4000/K8
GNHLDV 24 G657A1 TIA598 1000 m H4019022/24C-1	-	24	2x12	75	2000	2	5.7	0.028	1000/K7
GNHLDV 24 G657A1 TIA598 500 m H4019022/24C-2	-	24	2x12	75	2000	2	5.7	0.028	500/K7
GNHLDV 24 G657A1 TIA598 2000 m H4019022/24C-3	-	24	2x12	75	2000	2	5.7	0.028	2000/K7
GNHLDV 24 G657A1 TIA598 4000 m H4019022/24C-4	-	24	2x12	75	2000	2	5.7	0.028	4000/K8
GNHLDV 36 G657A1 (3x12f) TIA598 TOL4019022/36C	-	36	3x12	-	-	-	5.7	0.028	8000/K10, 4000/K8
GNHLDV 36 G657A1 TIA598 1000 m H4019022/36C-1	-	36	3x12	75	2000	2	5.7	0.028	1000/K7
GNHLDV 36 G657A1 TIA598 500 m H4019022/36C-2	-	36	3x12	75	2000	2	5.7	0.028	500/K7
GNHLDV 36 G657A1 TIA598 2000 m H4019022/36C-3	-	36	3x12	75	2000	2	5.7	0.028	2000/K7
GNHLDV 36 G657A1 TIA598 4000 m H4019022/36C-4	-	36	3x12	75	2000	2	5.7	0.028	4000/K8
GNHLDV 48 G657A1 (4x12f) TIA598 TOL4019022/48C	-	48	4x12	-	-	-	5.7	0.028	8000/K10, 4000/K8
GNHLDV 48 G657A1 TIA598 1000 m H4019022/48C-1	-	48	4x12	75	2000	2	5.7	0.028	1000/K7

Article name	Color	No. of Fibers	Layout	Bend Radius [in]	Crush [lbs/ft]	Impact [ft-lbs]	Diameter Ø [mm]	Weight [lbs/4ft]	Length [ft]
GNHLDV 48 G657A1 TIA598 500 m H4019022/48C-2	-	48	4x12	75	2000	2	5.7	0.028	500/K7
GNHLDV 48 G657A1 TIA598 2000 m H4019022/48C-3	-	48	4x12	75	2000	2	5.7	0.028	2000/K7
GNHLDV 48 G657A1 TIA598 4000 m H4019022/48C-4	-	48	4x12	75	2000	2	5.7	0.028	4000/K8
GNHLDV 72 G657A1 (6x12f) TIA598 TOL4019022/72C	-	72	6x12	-	-	-	5.7	0.028	8000/K10, 4000/K8
GNHLDV 72 G657A1 TIA598 1000 m H4019022/72C-1	-	72	6x12	75	2000	2	5.7	0.028	1000/K7
GNHLDV 72 G657A1 TIA598 500 m H4019022/72C-2	-	72	6x12	75	2000	2	5.7	0.028	500/K7
GNHLDV 72 G657A1 TIA598 2000 m H4019022/72C-3	-	72	6x12	75	2000	2	5.7	0.028	2000/K7
GNHLDV 72 G657A1 TIA598 4000 m H4019022/72C-4	-	72	6x12	75	2000	2	5.7	0.028	4000/K8
GNHL 96/T12 G657A1 TIA598 TOL4019032/96C	-	96	8x12	-	-	-	6.1	0.028	8000/K10, 4000/K8
GNHL 96/T12 G657A1 TIA598 T2000 H4019032/96C-3	-	96	8x12	-	-	-	6.1	0.028	2000/K7
GNHL 96/T12 G657A1 TIA598 T4000 H4019032/96C-4	-	96	8x12	-	-	-	6.1	0.028	4000/K8
GNHL 144/T24 G657A1 TIA598 TOL4019032/144C	-	144	6x24	-	-	-	6.7	0.035	8000/K12, 4000/K10
GNHL 144/T24 G657A1 TIA598 T1000 H4019032/144C-1	-	144	6x24	-	-	-	6.7	0.035	1000/K7
GNHL 144/T24 G657A1 TIA598 T500 H4019032/144C-2	-	144	6x24	-	-	-	6.7	0.035	500/K7
GNHL 144/T24 G657A1 TIA598 T2000 H4019032/144C-3	-	144	6x24	-	-	-	6.7	0.035	2000/K7
GNHL 144/T24 G657A1 TIA598 T4000 H4019032/144C-4	-	144	6x24	-	-	-	6.7	0.035	4000/K10
GNHL 144/T12 G657A1 TIA598 TOL4019053/144C	Black	144	12x12	-	-	-	7.9	-	-
GNHLDV 192 G657A1 (8x24f) TIA598 TOL4019022/192C	-	192	8x24	-	-	-	7.9	0.047	2000/K8, 8000/K12, 6000/K12, 4000/K10
GNHLDV 192 G657A1 TIA598 2000 m H4019022/192C-3	-	192	8x24	80	5000	3	7.9	0.06	-
GNHL 288 T/12 G657A1 TIA598 TOL4019039/288C	-	288	24x12	-	-	-	10.3	0.083	-
GNHL 288/T12 G657A1 TIA-598 T2000 H4019039/288C-3	-	288	24x12	-	-	-	10.3	0.028	-
GNHL 288/T12 G657A1 TIA-598 T4000 H4019039/288C-4	-	288	24x12	-	-	-	10.3	0.028	-
GNHL 432/T12 G657A1 TIA598 TOL4019028/432C	-	432	36x12	-	-	-	11.7	-	-
GNHL 432/T12 G657A1 TIA-598 T2000 H4019028/432C-3	-	432	36x12	-	-	-	11.7	0.028	-
GNHL 432/T12 G657A1 TIA-598 T4000 H4019028/432C-4	-	432	36x12	-	-	-	11.7	0.028	-

