



# Micro Cable

**GNHL 12-144 fibers G652D StdE**

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## Features

- Up to 144 fibers
- Super slim design or microducts down to 8mm
- Excellent installation performance
- Unique design with robust inner tubes
- Temperature range from -40 to +70°C
- Excellent bend performance,  $\geq 30\text{mm}$
- Easy to prepare and identify fibers
- Halogen-free

## Application

The cable is a fiber optic micro cable for duct installation into microducts with an inner diameter of down to 8mm (12-72 fibers) or 10mm (96-144 fibers). The cable is part of the Hexatronic Micro Cable System. The system is used for installing optical fibers in all types of metropolitan, rural access networks and in the backbone network. The system provides an easy, cost-efficient rollout and maintenance, which creates the opportunity for increasing broadband penetration, with the capability to grow with user needs

## Design

The Micro Cables are designed with inner protective tubes made of a unique polymer compound. The compound gives a special strength to the product, while increasing the bending properties as well as other benefits such as extreme temperature resistance.

As a result, the 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 -40 to +70°C can be used in many environments, on all continents where heat and cold are often a major concern.

Micro cables from 12- to 144 fibers consist of up to 12 loose tubes with 12 fibers per tubes

## 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	STDE
Temperature, Operation [°C]	-40 to +70
Temperature, Storage [°C]	-40 to +70
Temperature, Installation [°C]	-15 to +50
Water Blocking	Longitudinal water blocking according to IEC 60794-1-2-F5C

Fiber Type	G652D
Attenuation @Wavelength [nm]	1310/1383/1550
Average Attenuation [dB/km]	0.36/0.36/0.22
Maximum Attenuation [dB/km]	0.38/0.38/0.25
Conformance	<p>Longitudinal water blocking according to IEC 60794-1-2-F5B.</p> <p>Mechanical and environmental tests in accordance with IEC 60794-5-10.</p> <p>Fiber parameters and tests according to the IEC series 60793-2 and 60793-1.</p>
Marking	<p>Example of sheath marking, 1 time/meter:</p> <p>"HEXATRONIC yymmddhh TOL4019017/96A GNHLDV 96 G.652.D xxxx m"</p> <p>where yymmddhh = year, month, day and hour of manufacture, xxxx=running meter marking.</p>
Installation Notes	<p>Typical installation performance:</p> <ul style="list-style-type: none"><li>▪ Ducts ID 8-10 mm, cable OD ≤6.7 mm: 2000 m</li><li>▪ Ducts ID 12 mm, cable OD ≤8.0 mm: 2000 m</li><li>▪ Ducts ID 15-16 mm, cable OD &lt;11 mm: 2000 m</li></ul> <p>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.</p> <p>The cable should be installed at a temperature between -15 to +40°C. The cable shall not be stored in direct sunlight.</p> <p>The sun may heat up the cable over the permitted temperature limit.</p>
Ordering Information	Supplied lengths: 2, 4, 8 km

Technical Details

Std-E Fibers	1	2	3	4	5	6	7	8	9	10	11	12
	Red	Blue	White	Green	Yellow	Grey	Brown	Black	Orange	Violet	Pink	Turquoise
Std-E Tubes	13	14	15	16	17	18	19	20	21	22	23	24
	Red	Blue	White	Green	Yellow	Grey	Brown	Clear	Orange	Violet	Pink	Turquoise

Std-E Tubes	1	2	3-6				7	8-16				
	Red	Blue	White				Blue	White				

StdE Color Code Chart

Articles 7

Article name	EL-No.	Color	No. of Fibers	Layout	Bend Radius [mm]	Tensile Force, Installation [N]	Crush [N/100 mm]	Diameter Ø [mm]	Weight [kg/km]	Length [m]
<b>GNHLDV 12 G652D (1x12f)</b> TOL4019017/12A	1031700	Black	12	1x12	75	800	2000	5.7	28	4000/K8
<b>GNHLDV 24 G652D (2x12f)</b> TOL4019017/24A	1031701	Black	24	2x12	75	800	2000	5.7	28	24000/H16 NZ, 12000/H16 NZ, 4000/K8, 8000/K10
<b>GNHLDV 36 G652D (3x12f)</b> TOL4019017/36A		Black	36	3x12	75	800	2000	5.7	28	24000/H16 NZ, 12000/H16 NZ, 4000/K8, 8000/K10
<b>GNHLDV 48 G652D (4x12f)</b> TOL4019017/48A		Black	48	4x12	75	800	2000	5.7	28	24000/H16 NZ, 12000/H16 NZ, 4000/K8, 8000/K10
<b>GNHLDV 72 G652D (6x12f)</b> TOL4019017/72A	1031704	Black	72	6x12	75	800	2000	5.7	28	4000/K8, 24000/H16 NZ, 12000/H16 NZ, 8000/K10
<b>GNHLDV 96 G652D (8x12f)</b> TOL4019017/96A		Black	96	8x12	90	1100	2000	6.7	39	12000/K14, 4000/K10, 8000/K12
<b>GNHLDV 144 G652D (12x12f)</b> TOL4019017/144A	1031706	Black	144	12x12	100	2500	2000	8.3	60	8000/FLYWOOD, 4000/K10