

## Concentric Core Loose Tube Micro Cable - Slim, TOL 401 9033

GNHLDV Dielectric 2-24 Fibers G65A1- Slim



### Features

- Up to 24 fibers
- Super slim design, diameter 4.0mm
- Can be installed in microducts with ID of 5-12 mm
- Excellent installation performance
- Unique design with robust inner tubes
- Temperature range from -45 to +70°C
- Excellent bend performance,  $\geq 30$ mm
- Easy to prepare and identify fibers
- Bend resistant G657A1 fibers
- Halogen-free

### Application

GNHLDV 2-24f is a fiber optic micro cable for duct installation into microducts with an inner diameter of down to 5mm. 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. It 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 compound. The material 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 -45 to +70°C can be used in many environments, on all continents where heat and cold are often a major concern.

Micro cables from 2 to 24 fibers consist of up to 6 loose tubes with 2 or 4 fibers per tubes.

The cables are part of the Hexatronic "Viper" series of high performance micro cables. These cables are characterized by improved environmental properties and state of the art installation performance. For more information about the Viper range, contact Hexatronic sales support.

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## Typical Data

Temperature range  
 Operation ..... -45 to +70°C  
 Storage ..... -40 to +70°C  
 ..... -45 to +70°C  
 Handling ..... -15 to +50°C  
 Cable temperature,  
 blown installation ..... -15 to +40°C

Bending radius  
 Cable bend radius, permanent  
 ¼ turn/ single turn/ multiple turns  
 ..... 30/ 30/ 75 mm

Tensile force  
 During installation/ operation  
 ..... 430/160 N

Crush resistance ( $\Delta\alpha \leq 0.05$  dB after test, no damage)  
 ..... 1000 N/100 mm

Cable weight  
 2-24 fiber ..... 11.5 kg/km

### Typical installation performance\*

Installation by blowing in ducts,  
 inner diameter 8-10 mm\*\*: 2000 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 can be installed in all types of ducts with inner diameter of 5-12mm, but the typical max installation length may vary from the above value depending of duct type.

## Delivery Information

Supplied lengths ..... 2, 4, 8 km

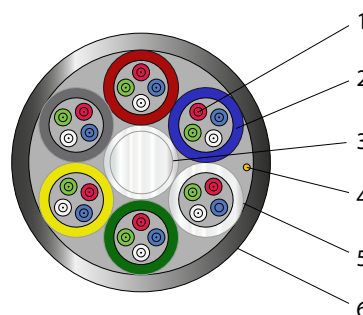
The cable is length water blocking according to IEC 60794-1-2-F5B.  
 Mechanical and environmental test in accordance with IEC 60794-5-10  
 Fiber parameters and tests according to the IEC series 60793-2 and 60793-1  
 The cable shall not be stored in direct sun light. The sun may heat up the cable over the permitted temperature limit

### Transmission Characteristics, G657A1

Attenuation	@ 1310nm	@ 1383nm	@ 1550nm
Typical	0.32dB/km	0.32dB/km	0.18dB/km
Average in cable	0.33dB/km	0.33dB/km	0.21dB/km
Max	0.36dB/km	0.36dB/km	0.23dB/km

## Design

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



## Color Coding

The cables are available in several versions with different color coding systems: S12 or TIA598 (Bellcore). Other color code systems are available on request.

Black fillers can replace white tubes.

## Ordering Information

Product Number	Number of Fibers	Tubes	Diameter (mm)	Color Code
TOL 401 9033/2AH	2	1x2	4.0 ± 0.2	S12
TOL 401 9033/4AH	4	1x4	4.0 ± 0.2	S12
TOL 401 9033/8AH	8	2x4	4.0 ± 0.2	S12
TOL 401 9033/12AH	12	3x4	4.0 ± 0.2	S12
TOL 401 9033/24AH	24	6x4	4.0 ± 0.2	S12
TOL 401 9033/2C	2	1x2	4.0 ± 0.2	TIA-598
TOL 401 9033/4C	4	1x4	4.0 ± 0.2	TIA-598
TOL 401 9033/8C	8	2x4	4.0 ± 0.2	TIA-598
TOL 401 9033/12C	12	3x4	4.0 ± 0.2	TIA-598
TOL 401 9033/24C	24	6x4	4.0 ± 0.2	TIA-598

## Color Code Systems

	1	2	3	4	5	6	7	8	9	10	11	12
S12 Fibers and Tubes	Red	Blue	White	Green	Yellow	Slate	Brown	Black	Violet	Orange	Aqua	Rose

	1	2	3	4	5	6	7	8	9	10	11	12
TIA-598 Fibers and Tubes	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Rose	Aqua