

## Concentric Core Loose Tube 12-48 Fibers – TOL 401 7005

### Duct Cable for Submarine Electroding



#### Features

- Easy to strip and identify fibers
- Dry construction
- Concentric core design
- Insulated conductors for electroding
- ITU-T-G652.D fibers

#### Application

GRHLV is the land cable in our submarine system with electroding.

The land cable links the beach manhole and the central office.

The cable consists of up to 4 loose tubes with 12 fibers per tubes. 2 copper conductors with a resistance of 12  $\Omega$ . The conductors shall be connected in parallel to get down to a resistance of 6  $\Omega$ .

GRHLV is designed for installation in ducts.



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### Typical Data

#### Temperature range

Operation..... -30 to +70°C  
 Storage ..... -40 to +70°C  
 Installation ..... -15 to +50°C

#### Bending radius

Temporarily unloaded  
 .....  $\geq 10 \times$  cable diameter  
 Permanently (one turn) and during operation  
 .....  $\geq 15 \times$  cable diameter

#### Tensile force

During installation .....  $\leq 2.7$  kN  
 During operation .....  $\leq 1.5$  kN

#### Crush resistance

.....  $\leq 1.5$  kN/10cm

#### Torsion $\Delta\alpha \leq 0.05$ dB, no damage

..... +/- 360°

#### Insulated conductors

..... 2x1.5mm<sup>2</sup>

#### Electrical resistance

..... 12  $\Omega$ /km for single conductor

#### Dielectric Strength cond.- cond.

..... 15kV DC, 120 s

#### Water penetration

In accordance with..... IEC 60794-1-2-F5

### Delivery Information

Supplied lengths ..... 2-8 km

Mechanical and environmental test in accordance with IEC 60794-1  
 Fiber parameters and tests according to the IEC series 60793-2 and 60793-1

### Design

Primary coated fiber..... Silica, acrylate  
 Filling compound ..... Thixotropic gel  
 Loose tube ..... PBT  
 Insulated conductors ..... Copper  
 Central strength member ..... Glass fiber reinforced plastic  
 Ripcord..... Yarn  
 Water blocking ..... Swellable tape  
 Sheath ..... Polyethylene (HDPE, black)

### Color Coding

Secondary coating tubes: Red (1), Blue (2), White (3), White (4)  
 Fibers in each tube: Red (1), Blue (2), White (3), Green (4),  
 Yellow (5), Grey (6), Brown (7), Black (8), Orange (9), Violet  
 (10), Pink (11), Turquoise (12)



### Sheath Marking

Standard marking 1 time/meter. "Hexatronic A35 yyww TOL 401 7005/xxA GRHLV xx G.652.D + 2x1.5mm<sup>2</sup> zzzzz"

where:

yyww = Year and week of manufacture  
 xx = Number of fibers  
 zzzzz = Running meter marking

### Ordering Information

PRODUCT NUMBER	NUMBER OF FIBERS	DIAMETER (MM)	WEIGHT (KG/KM)
TOL 401 7005/12A	12	13	187
TOL 401 7005/24A	24	13	187
TOL 401 7005/48A	48	13	187

This ordering information covers standard types of the GRHLV cable.

Other combinations such as:

- fiber types
- fiber colors
- total number of fibers
- number of fibers in each tube

and specific technical information is available on request.