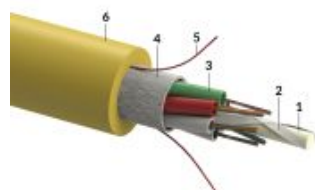


Stranded loose tube, gel-free cable, iRP-increased rodent protected, universal-use, UV.FRLSZH sheath - yellow, Cca, 4 x 12f = 48 fibers G657A1



1. FRP central strength member
2. Water-blocking yarn
3. Gel free (dry) PBT loose tube with optical fibers
4. Water-blocking e-glass yarn
5. Rip-cords (diametral positioned)
6. UV stable FRLSZH outer sheath

## DESCRIPTION

Gel-free, improved rodent-protected and longitudinal watertight stranded non-metallic loose tube cable with up to 72 fibers in a 6-strand stranding, for indoor or outdoor duct installation (universal-use).

030.7270.c.en / similar product

## TECHNICAL DATA

| DESCRIPTION                          | VALUE / VALUE RANGE  |
|--------------------------------------|--|
| Cable family code                    | UTd6x2,3GF FiRis   |
| Cable type                           | Stranded loose tube cable  |
| Cable version                        | Gel-free installation cable  |
| Cable application                    | universal use  |
| CPR classification                   | Cca-s2,d1,a1   |
| DoP number                           | D9089  |
| Fiber type                           | G.657.A1   |
| Fiber count                          | 48   |
| Fiber color coding                   | 1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink |
| Fiber count per tube                 | 12   |
| Loose tube count                     | 6  |
| Loose tube diameter                  | 2.3 mm   |
| FRP/coat. CSM nominal thickness [mm] | 2.5  |
| Armor                                | Rodent protection  |
| Outer sheath thickness               | 1.4 mm mm  |
| Outer sheath material                | UV stable FRLSZH   |
| Outer sheath color                   | yellow   |
| Sheath marking                       | Ink-Jet, black   |
| Cable outer diameter                 | 10.6 mm mm mm  |
| Cable weight                         | 120.0 kg/km / 80 lbs/1000ft  |
| DIN / VDE 0888 code                  | U-BQ(BN)H wbg nx2,3  |
| Warranty                             | R&Mfreenet   |
| Expected lifetime                    | min. 30 years  |
| CPR classification                   | Cca  |
| Minimum bending radius               | no tension - 10 x cable diameter   |

## MECHANICAL DATA

| DESCRIPTION                                       | VALUE / VALUE RANGE                                  |
|---|--|
| In-service tensile strength                       | 2200 N   |
| In-service tensile strength acceptance criteria   | $\Delta\alpha \leq 0,05$ dB                          |
| In-service tensile strength test method           | IEC 60794-1-21:E1A                                   |
| Installation tensile strength                     | 4000 N   |
| Installation tensile strength acceptance criteria | $\Delta\alpha \leq 0,05$ dB after test               |
| Installation tensile strength test method         | IEC 60794-1-21:E1A                                   |
| Crush resistance long term                        | 2000 N/100mm   |
| Long-term crush resistance acceptance criteria    | $\Delta\alpha \leq 0,05$ dB prior release, no damage |
| Long-term crush resistance test method            | IEC 60794-1-21:E3A                                   |
| Short-term crush resistance                       | 4000 N/100mm   |
| Short-term crush resistance acceptance criteria   | $\Delta\alpha \leq 0,05$ dB after release, no damage |
| Short-term crush resistance test method           | IEC 60794-1-21:E3A                                   |
| Impact resistance                                 | 10 Nm, 3 impacts, d=20 mm, R=300 mm                  |
| Impact resistance acceptance criteria             | $\Delta\alpha \leq 0,05$ dB after test, no damage    |
| Impact resistance test method                     | IEC 60794-1-21:E4                                    |
| Torsion   | L = 1 m, rotation angle $\pm 180^\circ$ , 10 cycles  |
| Torsion acceptance criteria                       | no damage  |
| Torsion test method                               | IEC 60794-1-21:E7                                    |
| Repeated bending                                  | R=20 x cable diameter, 25 cycles                     |
| Repeated bending acceptance criteria              | no damage  |
| Repeated bending test method                      | IEC 60794-1-21:E6                                    |
| Cable bend  | d=20 x cable diameter, 4 turns, 3 cycles             |
| Cable bend acceptance criteria                    | $\Delta\alpha \leq 0,05$ dB after test, no damage    |
| Cable bend test method                            | IEC 60794-1-21:E11A                                  |
| Minimum bend radius in service                    | 160 mm mm mm mm                                      |
| Minimum bend radius during installation           | 215 mm mm mm mm mm                                   |

## ENVIRONMENTAL DATA

| DESCRIPTION                                    | VALUE / VALUE RANGE                  |
|--|--------------------------------------|
| Temperature cycling                            | -40 °C +70 °C / -40 °F +158 °F       |
| Temperature cycling acceptance criteria        | $\Delta\alpha \leq 0,05$ dB          |
| Temperature cycling test method                | IEC 60794-1-22:F1                    |
| Operation temperature                          | -40 °C to +70 °C / -40 °F to +158 °F |
| Storage / Transport temperature                | -40 °C to +70 °C / -40 °F to +158 °F |
| Water penetration                              | L = 3 m, h = 1 m, 24 h               |
| Water penetration acceptance criteria          | no water leakage                     |
| Water penetration test method                  | IEC 60794-1-22 F5B                   |
| Thermal load                                   | 2.0000000000 MJ/m                    |
| Flammability vertical single cable             | Pass                                 |
| Flammability vertical single cable test method | IEC 60332-1-2                        |
| Flammability vertical cable bundle             | Pass                                 |
| Flammability vertical cable bundle test method | IEC 60332-3-22                       |
| Smoke density                                  | Pass                                 |
| Smoke density test method                      | IEC 61034-2                          |
| Halogen free, acid gases                       | Pass                                 |

