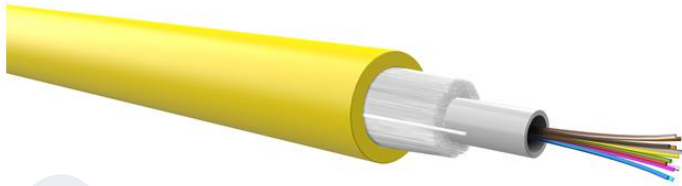
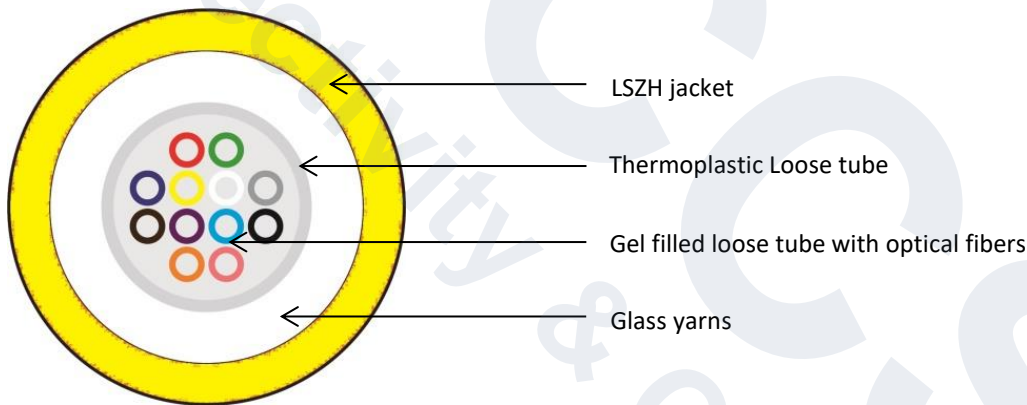


| | |
|-------------|---|
| Cable type | U-DQ(BN)H |
| Description | Central loose tube cable, 4-24 OF, dielectric armour, LSZH jacket, Cca |



U-DQ(BN)H

4 to 24 cores central Loose tube optical cable for indoor and outdoor use type U-DQ(BN)H, longitudinally resistant to water penetration, dielectric protection against the action of rodents, external sheath in LSZH (Low Smoke Zero Halogen), Euroclass Cca s1a,d1,a1. The optical fibers, with primary coating of 250µm, are contained within a single thermoplastic tube and filled with a water-blocking gel to prevent moisture penetration.



Constructive characteristics

| | |
|-----------------------|--|
| Tube | Gel-filled Loose tube |
| Filler protection | Glass yarns |
| Optical fiber type | Single-mode 9/125; multimode 50/125 OM3 and OM4 |
| Outer jacket material | LSZH (Low Smoke Zero Halogen) |
| Armour | Dielectric |
| Cable outer diameter | 7 ± 0,5 mm |
| Nominal weight | 70 Kg/Km |
| Marking | CCS by Qubix - "product code" - FO Cable U-DQ(BN)H - "1xn FO" "fiber type" - dielectric armoured - LSZH jacket - meters - lot - FID - Euroclass Cca s1a,d1,a1 - n° DOP |

Mechanical and environmental properties

| | |
|-----------------------------|---------------------------|
| Use | Indoor/Outdoor |
| Bend. radius (installation) | 20 x outer diameter |
| Bend. radius (long term) | 15 x outer diameter |
| Max. pull strength | from 1000 N (100 kg max.) |
| Crush resistance | 2000 N/dm |
| Installation temperature | from -15°C to +50°C |
| Operating temperature | from -20°C to +60°C |

| | |
|-------------|---|
| Cable type | U-DQ(BN)H |
| Description | Central loose tube cable, 4-24 OF, dielectric armour, LSZH jacket, Cca |

Reference standards

| | |
|---------------------------|---|
| Cables and optical fibers | EN 60793 EN 60794-1 |
| Structured cabling | EN 50173-1 ISO/IEC 11801 ANSI/TIA 568.3-D |

Fire behavior

| | |
|-------------------|-------------------------------------|
| CRP regulation | EN 50575 Euroclass Cca s1a,d1,a1 |
| Fire reaction | EN 60332-1-2; EN 50399 |
| Smoke density | EN 61034-1/2 |
| Acid gas emission | EN 60754-1/2 |

Optical cables suitable for single or bundle installations in areas with major risk in case of fire (where the use of cables in Euroclass Cca s1b,d1,a1 or higher is required).

Outer jacket color

| | |
|------------|--------------|
| 9/125 OS2 | Yellow |
| 50/125 OM3 | Aqua |
| 50/125 OM4 | Erika Violet |

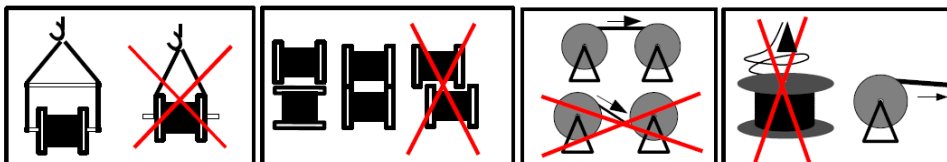
Packaging

| | |
|------|----------------------|
| Drum | 2000 or 4000 mt ± 5% |
|------|----------------------|

Reference codes

| Cores number | 9/125 OS2 | 50/125 OM3 | 50/125 OM4 |
|--------------|-----------|------------|------------|
| 1x4 cores | 2008411 | 2008416OM3 | 2008416OM4 |
| 1x8 cores | 2008412 | 2008417OM3 | 2008417OM4 |
| 1x12 cores | 2008413 | 2008418OM3 | 2008418OM4 |
| 1x24 cores | 2008414 | 2008419OM3 | 2008419OM4 |

Recommendations of use



| | |
|-------------|--|
| Cable type | U-DQ(BN)H |
| Description | Central loose tube cable, 4-24 OF, dielectric armour, LSZH jacket, Cca |

MULTIMODE OPTICAL FIBER SPECIFICATIONS

| Optical fiber type | 50/125 OM2 | 50/125 OM3 | 50/125 OM4 | 62,5/125 OM1 |
|--------------------------------------|-----------------|-----------------|-----------------|-----------------|
| Core diameter | 50 ± 2,5 µm | 50 ± 2,5 µm | 50 ± 2,5 µm | 62,550 ± 2,5 µm |
| Cladding diameter | 125 ± 1 µm | 125 ± 1 µm | 125 ± 1 µm | 125 ± 1 µm |
| Primary coating diameter | 242 ± 5 µm | 242 ± 5 µm | 242 ± 5 µm | 242 ± 5 µm |
| Cladding Non-Circularity | ≤ 0,7% | ≤ 0,7% | ≤ 0,7% | ≤ 0,7% |
| Core Non-Circularity | ≤ 5% | ≤ 5% | ≤ 5% | ≤ 5% |
| Concentricity error core/cladding | ≤ 1 µm | ≤ 1 µm | ≤ 1 µm | ≤ 1 µm |
| Concentricity error cladding/coating | ≤ 10 µm | ≤ 10 µm | ≤ 10 µm | ≤ 10 µm |
| Atten. typical/max λ=850 nm | 2,0 – 3,5 dB/Km | 2,0 – 3,5 dB/Km | 2,0 – 3,5 dB/Km | 2,6 – 3,5 dB/Km |
| Atten. typical/max λ=1300 nm | 0,5 – 1,5 dB/Km | 0,5 – 1,5 dB/Km | 0,5 – 1,5 dB/Km | 0,5 – 1,5 dB/Km |
| Bandwidth λ=850 nm | 500 MHz·Km | 1500 MHz·Km | 3500 MHz·Km | 220 MHz·Km |
| Bandwidth λ=1300 nm | 500 MHz·Km | 500 MHz·Km | 500 MHz·Km | 500 MHz·Km |
| Group Index @ 850 nm | 1,482 | 1,482 | 1,482 | 1,496 |
| Group Index @ 1300 nm | 1,477 | 1,477 | 1,477 | 1,491 |
| Numerical aperture | 0,200 ± 0,015 | 0,200 ± 0,015 | 0,200 ± 0,015 | 0,275 ± 0,015 |

SINGLE-MODE OPTICAL FIBER SPECIFICATIONS

| Optical fiber type | 9/125 OS2 (ITU G.652D) |
|---|--|
| Core diameter | 9,0 ± 0,4 µm @1310 nm 10,1 ± 0,5 µm @ 1550 nm |
| Cladding diameter | 125 ± 0,7 µm |
| Primary coating diameter | 242 ± 7 µm |
| Cladding Non-Circularity | ≤ 0,7% |
| Concentricity error core/cladding | ≤ 0,5 µm |
| Concentricity error cladding/coating | ≤ 12 µm |
| Attenuation typical/max λ=1310 nm | 0,31 – 0,35 dB/Km |
| Attenuation typical/max λ=1550 nm | 0,20 – 0,24 dB/Km |
| Attenuation typical/max λ=1625 nm | 0,21 – 0,26 dB/Km |
| Group Index @ 1310 nm | 1,4676 |
| Group Index @ 1550 nm | 1,4682 |
| Chromatic @ 1550 nm | ≤ 18 ps/(nm·Km) |
| Chromatic @ 1625 nm | ≤ 22 ps/(nm·Km) |
| Cable cut-off wavelength | λ _{cc} ≤ 1260 nm |
| Zero-dispersion wavelength λ _o | 1304-1324 nm |
| Slope at λ _o | S _o ≤ 0,092 ps/(nm ² ·Km) |
| PMD | ≤ 0,1 ps/√Km |

Optical fibers are fully compliant with IEC/EN 60793-1, IEC/EN 60793-2, EN 50173 and ISO/IEC 11801