

Properties of tight buffered multimode fibre Ø900 µm

Multimode OM3 fibre to be used at 850 nm and 1300 nm

General and application

Tight buffered fibre consist of a 1% proof tested fibre, a dual acrylate primary coating to nominally 245µm and a secondary buffer to 900µm. The buffer is extruded around the primary coating in order to make a versatile, and robust buffering system.

The buffer material consists of either LS0H or PVC compound. The buffer alone may be removed over a length of more than 1000 mm to the primary coating. The primary coated fibre is thereafter, available for splicing. The primary coating may then in a second step be mechanically stripped to the 125µm glass diameter. The combined coating and buffer may be removed to the 125µm glass cladding diameter in one operation with ease and low force. Stripping is thus done in bites of 15–25 mm.

The intended use of this tightly buffed fibre is pigtailed. The buffered fibre may also be manufactured to patch-cords and be used as an element in cables (Riser and Breakout). The buffer may be coloured to any colour of IEC 60304.

Graded index multimode fibre suitable for transmission speeds of up to 10 Gb/s. It has a 50µm core diameter and a 125µm cladding diameter.

Standards and Norms

| | | |
|------------------------------|------------------------------|---------------|
| IEC 60793-2-10 Category A1_a | ISO / IEC 11801 Category OM3 | AS / NZS 3080 |
|------------------------------|------------------------------|---------------|

Attenuation of cabled fibre

| Attribute | Measurement method | Units | Limits |
|--|--------------------|-------|----------|
| Maximum attenuation value of cable @ 850 nm | IEC 60793-1-40 | dB/km | 3.5 |
| Maximum attenuation value of cable @ 1300 nm | | dB/km | 1.0 |
| Inhomogeneity of OTDR trace for any two 1000 m fibre lengths | | dB/km | Max. 0.2 |

Bandwidth

| Attribute | Measurement method | Units | Values |
|-----------------------------------|--------------------|--------|--------|
| 850 nm | IEC 60793-1-41 | MHz.km | 1500 |
| 1300 nm | | MHz.km | 500 |
| Effective laser bandwidth @850 nm | | MHz.km | 2000 |

Group index of refraction

| Attribute | Measurement method | Values |
|---|--------------------|--------|
| Effective group index at 1310 and 1383 nm | IEC 60793-1-22 | 1.482 |
| Effective group index at 1550 and 1625 nm | | 1.477 |

Other properties

| <u>Attribute</u> | <u>Measurement method</u> | <u>Units</u> | <u>Limits</u> |
|--|---------------------------|--------------|---------------|
| Core diameter | IEC 60793-1-22 | µm | 50 ± 2.5 |
| Cladding diameter | | µm | 125 ± 1.0 |
| Cladding non-circularity | | % | ≤ 1.0 |
| Core non-circularity | | % | ≤ 5 |
| Core cladding concentricity error | | µm | ≤ 1.5 |
| Primary coating diameter | IEC 60793-1-22 | µm | 245 ± 10 |
| Primary coating non-circularity | | % | ≤ 5 |
| Primary coating-cladding concentricity error | | µm | ≤ 10 |
| Secondary coating diameter | | µm | 900 ± 50 |
| Proof stress level | IEC 60793-1-30 | GPa | ≥ 0.7 (≈ 1 %) |
| Typical average strip force | IEC 60793-1-32 | N | 1.7 |
| Strip force peak (F) | | N | 1.2 ≤ F ≤ 8.9 |
| Numerical aperture | IEC 60793-1-43 | µm | 0.200 ± 0.015 |

All measurements in accordance with ITU-T G650 recommendations

© PrysmianGroup 2012, All Rights Reserved

All sizes and values without tolerances are reference values. Specifications are for product as supplied by PrysmianGroup: any modification or alteration afterwards of product may give different result.

The information contained within this document must not be copied, reprinted or reproduced in any form, either wholly or in part, without the written consent of PrysmianGroup. The information is believed to be correct at the time of issue. PrysmianGroup reserves the right to amend this specification without prior notice. This specification is not contractually valid unless specifically authorised by PrysmianGroup.