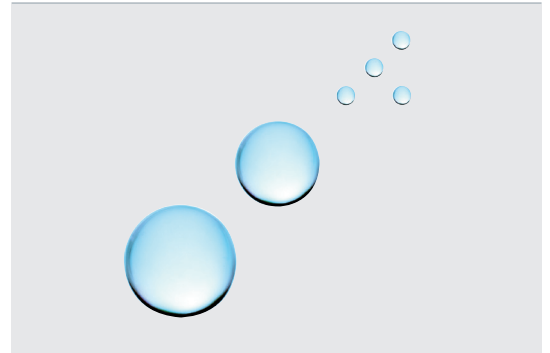




NIR-TRANSMAX™ – AR Coating for a Broad NIR Range

Ultimate Efficiency for NIR Sensors and Optical Network Devices

NIR-TRANSMAX™, (Near Infra Red) a Materion Balzers Optics product, is a broadband multi-layer AR (antireflection) coating. It is designed to exhibit lowest reflection in the range from 1250–1650 nm (S-, C- and L-band range) simultaneously. It reduces the insert loss to $R < 0.1\%$ (-0.005 dB) and guarantees an ultimate efficiency for NIR applications such as sensors and Optical Network Devices.



Benefits

- Concept for mass production and logistics
- Non polarizing
- Ultimately low insert loss $R < 0.1\%$ (-0.005 dB)
- Covers the S-, C- and L-band simultaneously
- Absorption free
- Excellent environmental resistance

Applications

- Cover glass of optical devices
- High quality instrument
- Lenses from ($\phi 1$ to $\phi 10$ mm)

Technical Data

General application

Bandwidth 1250–1650 nm

R abs. $< 0.2\%$

R avg. $< 0.1\%$

AOI 0–15°

Environmental test according to MIL-C-675A

para. 4.6.8 salt solution, 24 h in 4.5% NaCl

para. 4.6.9 humidity, 24 h 49°C at $> 95\%$ r. H.

para. 4.6.10 salt foc, 24 h in 4.5% NaCl

para. 4.6.11 hardness, rubber 20 strokes

Telecom application

| Band | Bandwidth | R avg. | dB loss |
|------|--------------|--------|-----------|
| S | 1280–1350 nm | 0.1% | -0.005 dB |
| C | 1528–1561 nm | 0.1% | -0.005 dB |
| L | 1561–1620 nm | 0.1% | -0.005 dB |

Maximal deviation of s- and p-pol. at 1400nm $\pm 0.1\%$

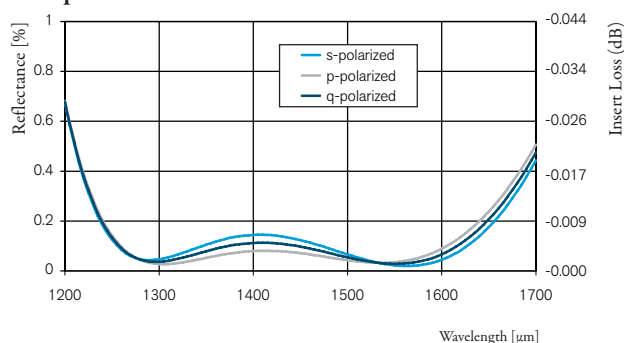
Environmental test

Temperature: 42 cycles $-40^\circ\text{C} / +85^\circ\text{C}$ 4h each

Humidity: 1000 h at $85^\circ\text{C} / 85\%$ r.H

(Telcordia GR-1221 Core)

Principal curves of NIR-TRANSMAX™



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