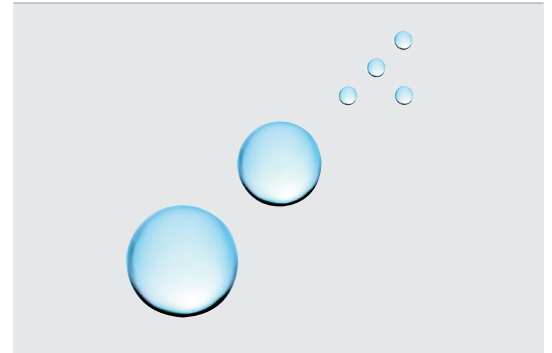


# NIR-TRANSMAX™ – AR Coating for a Broad NIR Range

## 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  $R < 0.1\%$  ( $-0.005\text{ dB}$ ) 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  $R < 0.1\%$  ( $-0.005\text{ dB}$ )
- Covers the S-, C- and L-band simultaneously
- Absorption free
- Excellent environmental resistance

### Applications

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

### Technical Data

#### General application

|                  |              |
|------------------|--------------|
| <b>Bandwidth</b> | 1250–1650 nm |
| R abs.           | $< 0.2\%$    |
| R avg.           | $< 0.1\%$    |
| AOI              | $0-15^\circ$ |

#### 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 $49^\circ\text{C}$ 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

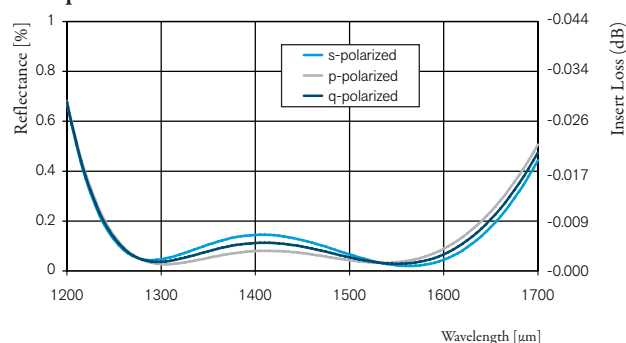
| Band | Bandwidth    | R avg. | dB loss            |
|------|--------------|--------|--------------------|
| S    | 1280–1350 nm | 0.1%   | $-0.005\text{ dB}$ |
| C    | 1528–1561 nm | 0.1%   | $-0.005\text{ dB}$ |
| L    | 1561–1620 nm | 0.1%   | $-0.005\text{ dB}$ |

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

#### 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.<br>(Telcordia GR-1221 Core) |

### Principal curves of NIR-TRANSMAX™



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Subject to technical change without notice