ZYTRONIC DATA SHEET

Optical Filters

Zytronic produces a wide range of optical filters which are designed to meet specific customer requirements for view-ability of display systems in different environmental conditions

OPERATION

Zytronic optical filters are used to enhance the readability of all types of electromagnetic displays by controlling light transmissions, reflection and adsorption. The filters can also provide protection of the display from abrasion and damage from impact thereby extending the life of the display.

Both monolithic and multi-layer composites in glass or polycarbonate or acrylic are available. The optical laminations are manufactured by bonding together, under carefully controlled conditions, two or more glass or plastic materials using proprietary bonding techniques.

OPTIONS

Zytronic optical filters can incorporate

- Anti-reflection coatings to maximise transmission
- Anti-glare finishes
- Tinted or neutral density substrates/interlayer to improve contrast
- Transparent conductive coatings for static dissipation or electromagnetic shielding
- Micro-fine mesh for electromagnetic shielding
- Circular polarizers to enhance contrast
- Transparent conductive coatings or wire heating filters for de-misting or de-icing
- Infrared coatings to eliminate solar gain
- Louvred filters for privacy viewing
- Screen printing
- Thermally toughened or chemically strengthened glass for enhanced impact resistance.

PERFORMANCE CHARACTERISTICS

Spectral

Optical transmissions, absorption and reflectivity are determined by the characteristics and colour of the composite and coatings applied to the composite surface. Typical transmissions curves are available on request.

Durability

Optical filters have been subjected to environmental tests including temperature and humidity cycling, thermal shock and vibration. No evidence or discolouration, de-lamination, shock abrasion or fungal growth has been observed.

For recommended operating and storage temperatures please contact the Sales department

OPTICAL FILTERS SPECIFICATION

MATERIAL SPECIFICATION

Substrates	
Glass	Standard annealed glass is supplied as per BN EN 572 Parts 1 & 2 (1995).
	Special optical glasses can also be laminated.
	For applications where high impact resistance is required, heat strengthened or chemical strengthened glass can be supplied
Acrylic	Supplied as per BN EN ISO7823 Parts 1 & 2.
	A wide range of colours are available designed to meet the various types of display
Polycarbonate	Supplied as per BS EN ISO 11963 (1996)

ANTI-REFLECTION COATINGS

Glass	Robust ZAR anti-reflection coating is specified for external applications and complies with all the rugged environmental requirements as stipulated in BS ISO 9211-4 (1996). BS 9022-2 (1994) E tables 3 & 5 and BS 2011 (1982) Section 4.2, 5.2 and 6.2 achieving resistance over 200 abrasion strokes.
	Standard anti-reflection coating supplied complies with MIL-C - 00675C, MIL-C-48497, MIL- E-12397B and STD-810C
Polycarbonate and Acrylic	Standard anti-reflection coatings are available on both polycarbonate and acrylic

TRANSPARENT COATINGS

Indium oxide coatings, produced by vacuum deposition are available with resistivities ranging from 5 Ω to 300 Ω. The coatings offer high light transmission and good electromechanical / radio-frequency shielding and electrostatic dissipative properties.

CIRCULAR POLARIZERS

A filter combining a linear polarizer with a quarter wave retarding filter results in the exclusion of reflective light from the reflective surface. The linear polarizer maximises the light output from the display whilst the quarter wave retarder prevents the reflected light from passing back through the polarizer.

LOUVRED PRIVACY FILTERS

A unique micro-louvred filter, where the transmitted light in excess of a pre-determined angle of incidence normally 30° or 24° off axis is fully occluded offering the user complete privacy and contrast whist viewing the display in highly illuminated environments.

INFRA-RED REFLECTIVE FILTERS

A filter incorporating an IR reflecting medium, reflecting more than 50% of the invisible IR, whist transmitting more than 70% of the visible light. The IR reflecting medium can be included with various contrast enhancing substrates or inter-layers.

FILTER SIZES AND TOLERANCES

A wide range of sizes are available, please contact the Sales department to discuss your specific requirements.

QUALITY

See cosmetic specification	www.zytronic.co.uk

APPROVALS

RoHS compliant

ZYTRONIC

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