

## Lexan\* Resin OQ2220

Americas: COMMERCIAL

Ophthalmic/safety lens market. OQ2xxx series in all transparent tints. Dedicated equipment, stringent production control conditions.

### Property

| TYPICAL PROPERTIES <sup>(1)</sup>            |           |                   |              |
|--|-----------|-------------------|--------------|
|  | Value     | Unit              | Standard     |
| <b>MECHANICAL</b>                            |           |                   |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 62        | MPa               | ASTM D 638   |
| Tensile Stress, brk, Type I, 50 mm/min       | 68        | MPa               | ASTM D 638   |
| Tensile Strain, brk, Type I, 50 mm/min       | 125       | %                 | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 96        | MPa               | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2340      | MPa               | ASTM D 790   |
| <b>IMPACT</b>                                |           |                   |              |
| Izod Impact, notched, 23°C                   | 694       | J/m               | ASTM D 256   |
| Tensile Impact, Type "S"                     | 472       | kJ/m <sup>2</sup> | ASTM D 1822  |
| Instrumented Impact Energy @ peak, 23°C      | 62        | J                 | ASTM D 3763  |
| Izod Impact, unnotched 80*10*3 +23°C         | NB        | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, unnotched 80*10*3 -30°C         | NB        | kJ/m <sup>2</sup> | ISO 180/1U   |
| Izod Impact, notched 80*10*3 +23°C           | 70        | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*3 -30°C           | 12        | kJ/m <sup>2</sup> | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm   | 73        | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm  | 14        | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm   | NB        | kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm  | NB        | kJ/m <sup>2</sup> | ISO 179/1eU  |
| <b>THERMAL</b>                               |           |                   |              |
| HDT, 1.82 MPa, 6.4 mm, unannealed            | 129       | °C                | ASTM D 648   |
| <b>PHYSICAL</b>                              |           |                   |              |
| Specific Gravity                             | 1.2       | -                 | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm                 | 0.5 - 0.7 | %                 | SABIC Method |
| Melt Flow Rate, 300°C/1.2 kgf                | 17.5      | g/10 min          | ASTM D 1238  |
| <b>OPTICAL</b>                               |           |                   |              |
| Light Transmission                           | 89        | %                 | ASTM D 1003  |
| Haze   | 0.6       | %                 | ASTM D 1003  |
| Refractive Index                             | 1.586     | -                 | ASTM D 542   |
| Yellowness Index                             | 0         | -                 | ASTM D 1925  |

Source GMD, last updated:01/04/2000

### Processing

| Parameter                | Value     | Unit |
|--------------------------|-----------|------|
| <b>Injection Molding</b> |           |      |
| Drying Temperature       | 120       | °C   |
| Drying Time              | 3 - 4     | hrs  |
| Drying Time (Cumulative) | 48        | hrs  |
| Maximum Moisture Content | 0.02      | %    |
| Melt Temperature         | 280 - 305 | °C   |
| Nozzle Temperature       | 275 - 300 | °C   |

|                             |               |     |
|-----------------------------|---------------|-----|
| Front - Zone 3 Temperature  | 280 - 305     | °C  |
| Middle - Zone 2 Temperature | 270 - 295     | °C  |
| Rear - Zone 1 Temperature   | 260 - 280     | °C  |
| Mold Temperature            | 70 - 95       | °C  |
| Back Pressure               | 0.3 - 0.7     | MPa |
| Screw Speed                 | 40 - 70       | rpm |
| Shot to Cylinder Size       | 40 - 60       | %   |
| Vent Depth                  | 0.025 - 0.076 | mm  |

Source GMD, last updated:01/04/2000

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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