

Product data sheet, May 2023

l Line Innovative

# Exolon® Vista QX Solid polycarbonate sheet



• enhanced optical quality

- extreme impact strength
- resistance to a wide range of temperatures

Solid **Exolon® Vista QX** sheets are clear, polished polycarbonate sheets with enhanced optical properties. They offer extreme impact strength that exceeds the physical properties of other products of their class. **Exolon® Vista QX** sheets resist temperatures of -100 to +120 °C, exhibit high optical clarity and have good fire properties. The sheets offer protection against involuntary breakage and willful destruction.

**Exolon® Vista QX** sheets can be thermoformed, cold-curved and machined with ease.

### **Applications:**

Typical applications for **Exolon® Vista QX** include glazing in automotive, such as windows and panoramic roofs, where low weight or high impact resistance is required – like in electrical cars, heavy duty vehicles or police cars. Other possible applications include visors, machine guards, coated sheets and lamination with glass.

|   | Test Conditions              | Typical values <sup>(1)</sup> | Unit                | Standard        |
|---|------------------------------|-------------------------------|---------------------|-----------------|
| Physical                                |                              |                               |                     |                 |
| Density                                 |                              | 1200                          | kg/m <sup>3</sup>   | ISO 1183-1      |
| Water absorption saturation             | water at 23 °C               | 0.30                          | %                   | ISO 62          |
| Water absorption equilibrium            | 23 °C, 50% relative humidity | 0.12                          | %                   | ISO 62          |
| Refractive index                        | Procedure A                  | 1.587                         | -                   | ISO 489         |
| Mechanical                              |                              |                               |                     |                 |
| Tensile modulus                         | 1 mm/min                     | 2350                          | MPa                 | ISO 527-1,-2    |
| Yield stress                            | 50 mm/min                    | > 60                          | MPa                 | ISO 527-1,-2    |
| Yield strain                            | 50 mm/min                    | 6                             | %                   | ISO 527-1,-2    |
| Strain at break                         | 50 mm/min                    | 120                           | %                   | ISO 527-1,-2    |
| Flexural modulus                        | 2 mm/min                     | 2350                          | MPa                 | ISO 178         |
| Flexural strength                       | 2 mm/min                     | 90                            | MPa                 | ISO 178         |
| Charpy impact strength                  | 23 °C, unnotched             | non-break                     | kJ/m <sup>2</sup>   | ISO 179-1eU     |
| Charpy impact strength                  | 23 °C, 3 mm, notched         | 80P                           | kJ/m <sup>2</sup>   | ISO 179-1eA     |
| Izod impact strength                    | 23 °C, 3.2 mm, notched       | 70P                           | kJ/m <sup>2</sup>   | ISO 180-A       |
| Thermal                                 |                              |                               |                     |                 |
| Vicat softening temperature             | 50 N, 50°C/h                 | 148                           | °C                  | ISO 306         |
| Thermal conductivity                    | 23°C                         | 0.20                          | W/(mK)              | ISO 8302        |
| Coefficient of linear thermal expansion | 23 to 55°C                   | 0.65                          | 10 <sup>-4</sup> /K | ISO 11359-1, -2 |
| Temperature of deflection under load    | 1.80 Mpa                     | 128                           | °C                  | ISO 75-1, -2    |
| Temperature of deflection under load    | 0.45 Mpa                     | 140                           | °C                  | ISO 75-1, -2    |
| Electrical                              |                              |                               |                     |                 |
| Electrical strength                     | 1 mm                         | 34                            | kV/mm               | IEC 60243-1     |
| Volume resistivity                      |                              | 1F14                          | Ohm.m               | IEC 60093       |
| Surface resistivity                     |                              | 1E16                          | Ohm                 | IEC 60093       |
| Relative permitivity                    | 100 Hz                       | 3.1                           | _                   | IEC 60250       |
| Relative permitivity                    | 1 MHz                        | 3.0                           | _                   | IEC 60250       |
| Dissipation factor                      | 100 Hz                       | 5.10-4                        | _                   | IEC 60250       |
| Dissipation factor                      | 1 MHz                        | 95 10-4                       | _                   | IEC 60250       |

<sup>(1)</sup> These values are measured on injection molded samples, and are not intended for specification purposes.



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#### Light Transmission: Test Method according to DIN 5036.

The stated thicknesses are not all available as standard. Please ask us for more information. The stated values are typical values only.

| Light transmission %       | 3  | 4  | 5  | 6  | 8  | 10 | 12 |
|----------------------------|----|----|----|----|----|----|----|
| Exolon® Vista QX clear 099 | 88 | 87 | 87 | 86 | 85 | 83 | 82 |

#### Available sizes:

Exolon<sup>®</sup> Vista QX7 and QX90 are available in thicknesses of 3 - 12 mm and Exolon<sup>®</sup> Vista QX10 and QX200 in thicknesses of 3 - 8 mm. Other sizes and sheet thicknesses on request.

#### Sizes (standard):

3,050 x 2,050 mm

Permanent Service Temperature: The permanent service temperature without load is approx. 120 °C.

### Available types:

| Performance on                          | Vista QX7 | Vista QX10 | Vista QX90 | Vista QX200 |
|---|-----------|------------|------------|-------------|
| Inclusions/black spots                  | ++        | ++         | ++         | ++          |
| Surface quality/<br>transparent defects | +         | ++         | +          | ++          |
| Diopter                                 | -         | -          | ++         | ++          |

Exolon<sup>®</sup> Vista QX7 and QX90 are suitable for applications which will be hard coated afterwards. Exolon<sup>®</sup> Vista QX10 and QX 200 have a further enhanced surface quality, for high level applications.

Please contact us for more detailed specifications.



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