

## TECHNICAL DATASHEET

# VITROFLEX SEGUMAR

VITROFLEX SEGUMAR is a Polimer Tecnic acrylic sheet, certified by ASME PVHO-1 (Safety Standard for Pressure Vessels for Human Occupancy). This certification supports the use of acrylic in areas with human occupation under a pressure bigger than 2 Psi, such as boat bottoms, submersibles, immersion hoods, hyperbaric chambers...

Each manufacturing batch is analyzed in independent laboratories and certified according to the standard at production time.

All parts are supplied duly identified with laser engraving for traceability.

VITROFLEX SEGUMAR is a high transparency and quality material, with lightness ten times greater than the glass, that allows be curving and molding. Polimer Tecnic supplies pieces with shapes and sizes tailored which meet the strictest quality standards.

VITROFLEX SEGUMAR is the main product to produce underwater vision backgrounds, windows, portholes and other areas of vision in ships and submarines.

## ADVANTAGES VITROFLEX SEGUMAR

- Certified by the international standard ASME PVHO-1
- Excellent optical quality.
- Good weather and marine environments resistance.
- Impact resistance.
- Optimal resistance to aging.
- Good thermal resistance.
- Light weight compared to glass.
- Does not release toxic gases when burning.
- Free of halogens.

## TYPES AND FORMATS

Manufactured to the exact size required for installation, each of the pieces is certified by specialized laboratories, which will legitimize having complied with the ASME-PVHO regulations by laser engraving of each piece.

## APPLICATION AREAS

- Boat windows with underwater vision.
- Peepholes and submersible windows.
- Underwater windows.
- Immersion bells.
- Hyperbaric chamber windows.
- Peepholes in general under pressure.

## TECHNICAL SPECIFICATIONS - VITROFLEX SEGUMAR

| Properties   | Value                 | Unit              | Standar    |
|--|-----------------------|-------------------|------------|
| <b>Physical properties</b>                                 |                       |                   |            |
| Density  | 1,2                   | g/cm <sup>3</sup> | ISO 1183   |
| Humidity absorption  | 0,19                  | %                 | ISO 62     |
| <b>Mechanical properties</b>                               |                       |                   |            |
| Tensile strength   | 72                    | MPa               | ISO 527    |
| Traction elasticity module                                 | 3000                  | MPa               | ISO 527    |
| Elongation at break  | 4                     | %                 | ISO 527    |
| Charpy, impact strength                                    | 16                    | kJ/m <sup>2</sup> | ISO 179/2D |
| Rockwell hardness  | 100                   | R-scale           | ISO 2039-2 |
| Flexural Strength  | 116                   | MPa               | ISO 178    |
| <b>Electrical properties</b>                               |                       |                   |            |
| Specific resistance  | >10 <sup>15</sup>     | Ohm               | DN53458    |
| Volume resistance  | >10 <sup>15</sup>     | Ohm.cm            | DN53458    |
| Dielectric constant  |                       |                   |            |
| a) 50HZ  | 3,6                   |                   | DN53483    |
| b) 1 MHz   | 2,8                   |                   |            |
| <b>Thermal properties</b>                                  |                       |                   |            |
| Linear thermal expansion coefficient (23-70 ° C)           | 70,6.10 <sup>-6</sup> | K <sup>-1</sup>   | EN2155-12  |
| VICAT softening temperature                                | 105                   | °C                | ISO 306    |
| Bending temperature under load (Method A, 1.8MPa)          | 105                   | °C                | ISO 75     |
| Dimension variation at high temperatures (contraction)     | 2,3                   | %                 |            |
| Inflammability   | HB                    | -                 | UL94       |
| <b>Optical properties</b>                                  |                       |                   |            |
| Total light transmission                                   | 92                    | %                 | ISO 2857   |
| Ageing in artificial light – XENOTEST                      | 5                     | Escala de grises  | ISO 4892   |
| HAZE turbidity value                                       | 0,4                   | %                 | EN 2155-9  |
| Refractive index n <sub>D</sub> <sup>23</sup> ( A Method ) | 1,492                 | -                 | ISO / R489 |

VITROFLEX SEGUMAR complies with the international standard ASME PVHO-1 (Safety Standard for Pressure Vessels for Human Occupancy) that allows its use in areas with human occupation under pressure, such as windows and peepholes of ships, submarines, immersion bells, hyperbaric chambers.

The properties described here are typical values of the material. Polimer Tecnic is not responsible for the materials of a specific consignment to exactly match the given values, being able to carry out tests of that heading. The above information is based on our experience and is given in good faith. Due to some installation and processing factors that are beyond our knowledge and control, no guarantee is given regarding such information.