

# XAREC™ C142

Syndiotactic Polystyrene

Idemitsu Kosan Co., Ltd.

## Message:

XAREC™ C142 is a Syndiotactic Polystyrene (SPS) product filled with 40% glass fiber. It can be processed by injection molding and is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America. Primary characteristic: flame rated.

| General Information                                       |                                  |                   |                 |
|-----------------------------------------------------------|----------------------------------|-------------------|-----------------|
| UL YellowCard                                             | E48268-240720                    |                   |                 |
| Filler / Reinforcement                                    | Glass Fiber,40% Filler by Weight |                   |                 |
| UL File Number                                            | E48268                           |                   |                 |
| Processing Method                                         | Injection Molding                |                   |                 |
| Physical                                                  | Nominal Value                    | Unit              | Test Method     |
| Density                                                   | 1.36                             | g/cm <sup>3</sup> | ISO 1183        |
| Molding Shrinkage                                         |                                  |                   | Internal Method |
| Across Flow                                               | 0.50 to 0.80                     | %                 |                 |
| Flow                                                      | 0.10 to 0.40                     | %                 |                 |
| Water Absorption <sup>1</sup> (Equilibrium, 23°C, 50% RH) | 0.020                            | %                 | ISO 62          |
| Mechanical                                                | Nominal Value                    | Unit              | Test Method     |
| Tensile Modulus                                           | 12600                            | MPa               | ISO 527-2       |
| Tensile Stress (Break)                                    | 130                              | MPa               | ISO 527-2       |
| Tensile Strain (Break)                                    | 1.5                              | %                 | ISO 527-2       |
| Flexural Modulus                                          | 12400                            | MPa               | ISO 178         |
| Flexural Stress                                           | 195                              | MPa               | ISO 178         |
| Impact                                                    | Nominal Value                    | Unit              | Test Method     |
| Charpy Notched Impact Strength (23°C)                     | 9.0                              | kJ/m <sup>2</sup> | ISO 179         |
| Charpy Unnotched Impact Strength (23°C)                   | 27                               | kJ/m <sup>2</sup> | ISO 179         |
| Notched Izod Impact Strength (23°C)                       | 10                               | kJ/m <sup>2</sup> | ISO 180         |
| Unnotched Izod Impact Strength (23°C)                     | 33                               | kJ/m <sup>2</sup> | ISO 180         |
| Thermal                                                   | Nominal Value                    | Unit              | Test Method     |
| Heat Deflection Temperature                               |                                  |                   |                 |
| 0.45 MPa, Unannealed <sup>2</sup>                         | 270                              | °C                | ISO 75-2/B      |
| 1.8 MPa, Unannealed <sup>3</sup>                          | 250                              | °C                | ISO 75-2/A      |
| 1.8 MPa, Unannealed <sup>4</sup>                          | 245                              | °C                | ISO 75-2/A      |
| CLTE                                                      |                                  |                   | TMA             |
| Flow : -30 to 30°C                                        | 1.5E-5                           | cm/cm/°C          |                 |
| Transverse : -30 to 30°C                                  | 4.0E-5                           | cm/cm/°C          |                 |
| RTI Elec                                                  | 50.0                             | °C                | UL 746          |
| RTI Imp                                                   | 50.0                             | °C                | UL 746          |
| RTI Str                                                   | 50.0                             | °C                | UL 746          |

| Electrical                                    | Nominal Value           | Unit    | Test Method |
|-----------------------------------------------|-------------------------|---------|-------------|
| Volume Resistivity                            | > 1.0E+16               | ohms·cm | IEC 60093   |
| Dielectric Strength                           | 45                      | kV/mm   | ASTM D149   |
| Dielectric Constant (1 MHz)                   | 3.00                    |         | IEC 60250   |
| Dissipation Factor (1 MHz)                    | < 1.0E-3                |         | IEC 60250   |
| Arc Resistance                                | PLC 6                   |         | ASTM D495   |
| Comparative Tracking Index (CTI) <sup>5</sup> | PLC 1                   |         | IEC 60112   |
| Flammability                                  | Nominal Value           | Unit    | Test Method |
| Flame Rating (> 0.800 mm)                     | HB                      |         | UL 94       |
| Injection                                     | Nominal Value           | Unit    |             |
| Drying Temperature                            | 120                     | °C      |             |
| Drying Time                                   | 3.0 to 5.0              | hr      |             |
| Processing (Melt) Temp                        | 280 to 310              | °C      |             |
| Mold Temperature                              | 50.0 to 80.0            | °C      |             |
| NOTE                                          |                         |         |             |
| 1.                                            | 24h                     |         |             |
| 2.                                            | Mold temperature: 150°C |         |             |
| 3.                                            | Mold temperature: 150°C |         |             |
| 4.                                            | Mold temperature: 80°C  |         |             |
| 5.                                            | Solution A              |         |             |

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