

# XAREC™ S105

Syndiotactic Polystyrene

Idemitsu Kosan Co., Ltd.

## Message:

XAREC™ S105 is a Syndiotactic Polystyrene (SPS) product. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America. Primary characteristic: flame rated.

| General Information                                       |               |                   |                 |
|-----------------------------------------------------------|---------------|-------------------|-----------------|
| UL File Number                                            | E48268        |                   |                 |
| Physical                                                  | Nominal Value | Unit              | Test Method     |
| Density                                                   | 1.02          | g/cm <sup>3</sup> | ISO 1183        |
| Molding Shrinkage                                         |               |                   | Internal Method |
| Across Flow : 80°C                                        | 1.0 to 1.2    | %                 |                 |
| Across Flow : 150°C                                       | 1.7 to 1.9    | %                 |                 |
| Flow : 80°C                                               | 0.70 to 0.90  | %                 |                 |
| Flow : 150°C                                              | 1.7 to 1.9    | %                 |                 |
| Water Absorption <sup>1</sup> (Equilibrium, 23°C, 50% RH) | 0.010         | %                 | ISO 62          |
| Mechanical                                                | Nominal Value | Unit              | Test Method     |
| Tensile Modulus                                           | 2300          | MPa               | ISO 527-2       |
| Tensile Stress (Break)                                    | 35.0          | MPa               | ISO 527-2       |
| Tensile Strain (Break)                                    | 12            | %                 | ISO 527-2       |
| Flexural Modulus                                          | 2300          | MPa               | ISO 178         |
| Flexural Stress                                           | 65.0          | MPa               | ISO 178         |
| Impact                                                    | Nominal Value | Unit              | Test Method     |
| Charpy Notched Impact Strength (23°C)                     | 18            | kJ/m <sup>2</sup> | ISO 179         |
| Charpy Unnotched Impact Strength (23°C)                   | > 100         | kJ/m <sup>2</sup> | ISO 179         |
| Notched Izod Impact Strength (23°C)                       | 20            | kJ/m <sup>2</sup> | ISO 180         |
| Unnotched Izod Impact Strength (23°C)                     | > 100         | kJ/m <sup>2</sup> | ISO 180         |
| Thermal                                                   | Nominal Value | Unit              | Test Method     |
| Heat Deflection Temperature <sup>2</sup>                  |               |                   |                 |
| 0.45 MPa, Unannealed                                      | 105           | °C                | ISO 75-2/B      |
| 1.8 MPa, Unannealed                                       | 95.0          | °C                | ISO 75-2/A      |
| CLTE                                                      |               |                   | TMA             |
| Flow : -30 to 30°C                                        | 8.6E-5        | cm/cm/°C          |                 |
| Transverse : -30 to 30°C                                  | 9.1E-5        | cm/cm/°C          |                 |
| Electrical                                                | Nominal Value | Unit              | Test Method     |
| Volume Resistivity                                        | > 1.0E+16     | ohms · cm         | IEC 60093       |
| Dielectric Strength                                       | 65            | kV/mm             | ASTM D149       |
| Dielectric Constant (1 MHz)                               | 2.60          |                   | IEC 60250       |
| Dissipation Factor (1 MHz)                                | < 1.0E-3      |                   | IEC 60250       |

|                                               |                        |      |             |
|-----------------------------------------------|------------------------|------|-------------|
| Comparative Tracking Index (CTI) <sup>3</sup> | PLC 0                  |      | IEC 60112   |
| Flammability                                  | Nominal Value          | Unit | Test Method |
| Flame Rating                                  | HB                     |      | UL 94       |
| Injection                                     | Nominal Value          | Unit |             |
| Drying Temperature                            | 80.0                   | °C   |             |
| Drying Time                                   | 3.0 to 5.0             | hr   |             |
| Processing (Melt) Temp                        | 280 to 310             | °C   |             |
| NOTE                                          |                        |      |             |
| 1.                                            | 24h                    |      |             |
| 2.                                            | Mold temperature: 80°C |      |             |
| 3.                                            | Solution A             |      |             |

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