

# LAMIGAMID® 510

Polyethylene Terephthalate

Schwartz Technical Plastic

## Message:

Applications:

Friction Bearings

Wear Liners

| General Information                               |               |                   |             |
|---------------------------------------------------|---------------|-------------------|-------------|
| Uses                                              | Lining        |                   |             |
|                                                   | Bearing       |                   |             |
| Forms                                             | Particle      |                   |             |
| Physical                                          | Nominal Value | Unit              | Test Method |
| Density                                           | 1.37          | g/cm <sup>3</sup> | ISO 1183    |
| Water Absorption                                  |               |                   | ISO 62      |
| 23°C, 24 hr                                       | 0.40          | %                 | ISO 62      |
| Saturated, 23°C                                   | 0.60          | %                 | ISO 62      |
| Hardness                                          | Nominal Value | Unit              | Test Method |
| Ball Indentation Hardness                         | 120           | MPa               | ISO 2039-1  |
| Mechanical                                        | Nominal Value | Unit              | Test Method |
| Tensile Stress                                    |               |                   | ISO 527-2   |
| Yield                                             | 74.0          | MPa               | ISO 527-2   |
| Fracture                                          | 125           | MPa               | ISO 527-2   |
| Tensile Strain (Break)                            | > 50          | %                 | ISO 527-2   |
| Flexural Modulus                                  | 3500          | MPa               | ISO 178     |
| Compressive Stress                                |               |                   | ISO 604     |
| 20% strain                                        | 95.0          | MPa               | ISO 604     |
| 10% strain                                        | 88.0          | MPa               | ISO 604     |
| 5% strain                                         | 56.0          | MPa               | ISO 604     |
| Coefficient of Friction                           |               |                   | ASTM D1894  |
| With steel-dynamic                                | 0.020 - 0.080 |                   | ASTM D1894  |
| With steel-static                                 | 0.24 - 0.28   |                   | ASTM D1894  |
| Impact                                            | Nominal Value | Unit              | Test Method |
| Notched Izod Impact                               | > 4.0         | kJ/m <sup>2</sup> | ISO 180     |
| Unnotched Izod Impact Strength                    | No Break      |                   | ISO 180     |
| Thermal                                           | Nominal Value | Unit              | Test Method |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 74.0          | °C                | ISO 75-2/A  |
| Melting Temperature (DSC)                         | 255           | °C                | ISO 3146    |
| CLTE - Flow (20 to 100°C)                         | 8.0E-5        | cm/cm/°C          | ISO 11359-2 |

|                      |               |         |             |
|----------------------|---------------|---------|-------------|
| Specific Heat        | 1050          | J/kg/°C | ASTM C351   |
| Thermal Conductivity | 0.21          | W/m/K   | ISO 8302    |
| Electrical           | Nominal Value | Unit    | Test Method |
| Surface Resistivity  | 5.0E+12       | ohms    | IEC 60093   |
| Dielectric Strength  | 90            | kV/mm   | IEC 60243-1 |
| Dielectric Constant  | 3.60          |         | IEC 60250   |
| Dissipation Factor   | 0.019         |         | IEC 60250   |

#### Additional Information

Creep Rate Stress, DIN 53444, 1% Elongation: 27 N/mm<sup>2</sup> Creep Rate Stress, DIN 53444, 2% Elongation: >45 N/mm<sup>2</sup> Friction Wear: 0.15 µm/Km Coef of Friction, ASTM D1894, vs. Steel-Dynamic: 0.02 to 0.08 Coef of Friction, ASTM D1894, vs. Steel-Static: 0.24 to 0.28 Penetration Resistance, DIN 53482: 4E16 ohm-cm Creepage/leakage Resistance: Ka2 Thermal Expansion: 0.1 %/10°C Safe Temperature Range, short periods: 180°C Safe Temperature Range, permanent: -40° to 100°C

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