

# VESTODUR® GF30

Polybutylene Terephthalate

Evonik Industries AG

## Message:

Evonik manufactures a range of polybutylene terephthalate compounds that are supplied under the registered trademark VESTODUR®. Material properties characterizing VESTODUR® compounds are:

- high thermostability
- high stiffness
- low water absorption resulting in high dimensional stability
- high hardness
- good strength
- good sliding friction behavior, low abrasion
- good creep behavior
- good electrical properties
- good chemical resistance
- good weathering resistance
- good processability
- no tendency to form stress cracks

| General Information    |                                  |
|------------------------|----------------------------------|
| UL YellowCard          | E66645-248201                    |
| Filler / Reinforcement | Glass Fiber,30% Filler by Weight |
| Features               | Good Abrasion Resistance         |
|                        | Good Chemical Resistance         |
|                        | Good Creep Resistance            |
|                        | Good Dimensional Stability       |
|                        | Good Electrical Properties       |
|                        | Good Processability              |
|                        | Good Strength                    |
|                        | Good Thermal Stability           |
|                        | Good Weather Resistance          |
|                        | High Hardness                    |
|                        | High Stiffness                   |
|                        | Low Moisture Absorption          |
|                        | Low to No Water Absorption       |
| Uses                   | Automotive Applications          |
|                        | Fuel Lines                       |
|                        | Thin-walled Parts                |
|                        | Wire & Cable Applications        |
| Forms                  | Pellets                          |
| Processing Method      | Extrusion                        |
|                        | Injection Molding                |

| Physical                                         | Nominal Value | Unit                   | Test Method  |
|--------------------------------------------------|---------------|------------------------|--------------|
| Density (23°C)                                   | 1.53          | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)      | 13.0          | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage                                |               |                        | ISO 294-4    |
| Across Flow                                      | 1.5           | %                      |              |
| Flow                                             | 0.20          | %                      |              |
| Water Absorption (Saturation, 23°C)              | 0.45          | %                      | ISO 62       |
| Hardness                                         | Nominal Value | Unit                   | Test Method  |
| Shore Hardness (Shore D)                         | 83            |                        | ISO 868      |
| Ball Indentation Hardness <sup>1</sup>           | 200           | MPa                    | ISO 2039-1   |
| Mechanical                                       | Nominal Value | Unit                   | Test Method  |
| Tensile Modulus                                  | 9500          | MPa                    | ISO 527-2    |
| Tensile Stress                                   | 160           | MPa                    | ISO 527-2/50 |
| Tensile Strain (Break)                           | 3.0           | %                      | ISO 527-2/50 |
| Impact                                           | Nominal Value | Unit                   | Test Method  |
| Charpy Notched Impact Strength                   |               |                        | ISO 179/1eA  |
| -30°C, Complete Break                            | 12            | kJ/m <sup>2</sup>      |              |
| 23°C, Complete Break                             | 12            | kJ/m <sup>2</sup>      |              |
| Charpy Unnotched Impact Strength                 |               |                        | ISO 179/1eU  |
| -30°C, Complete Break                            | 80            | kJ/m <sup>2</sup>      |              |
| 23°C, Complete Break                             | 75            | kJ/m <sup>2</sup>      |              |
| Thermal                                          | Nominal Value | Unit                   | Test Method  |
| Heat Deflection Temperature                      |               |                        |              |
| 0.45 MPa, Unannealed                             | 223           | °C                     | ISO 75-2/B   |
| 1.8 MPa, Unannealed                              | 220           | °C                     | ISO 75-2/A   |
| Vicat Softening Temperature                      |               |                        |              |
| --                                               | 220           | °C                     | ISO 306/A    |
| --                                               | 213           | °C                     | ISO 306/B    |
| Melting Temperature                              | 221 to 226    | °C                     | ISO 11357-3  |
| CLTE                                             |               |                        | ISO 11359-2  |
| Flow : 23 to 55°C                                | 5.0E-5        | cm/cm/°C               |              |
| Transverse : 23 to 55°C                          | 6.0E-5        | cm/cm/°C               |              |
| Electrical                                       | Nominal Value | Unit                   | Test Method  |
| Surface Resistivity                              | 1.0E+13       | ohms                   | IEC 60093    |
| Volume Resistivity (23°C)                        | 1.0E+15       | ohms · cm              | IEC 60093    |
| Electric Strength <sup>2</sup> (1.00 mm, in Oil) | 27            | kV/mm                  | IEC 60243-1  |
| Relative Permittivity                            |               |                        | IEC 60250    |
| 23°C, 100 Hz                                     | 4.00          |                        |              |
| 23°C, 1 MHz                                      | 4.40          |                        |              |
| Dissipation Factor                               |               |                        | IEC 60250    |

| 23°C, 100 Hz                             | 3.0E-3          |      |                      |
|------------------------------------------|-----------------|------|----------------------|
| 23°C, 1 MHz                              | 0.017           |      |                      |
| Comparative Tracking Index               |                 |      | IEC 60112            |
| -- <sup>3</sup>                          | 425             | V    |                      |
| Solution A                               | 450             | V    |                      |
| Flammability                             | Nominal Value   | Unit | Test Method          |
| Flammability Classification              |                 |      | IEC 60695-11-10, -20 |
| 0.800 mm                                 | HB              |      |                      |
| 1.60 mm                                  | HB              |      |                      |
| Glow Wire Flammability Index (2.00 mm)   | 750             | °C   | IEC 60695-2-12       |
| Glow Wire Ignition Temperature (2.00 mm) | 800             | °C   | IEC 60695-2-13       |
| Oxygen Index                             | 20              | %    | ISO 4589-2           |
| Additional Information                   | Nominal Value   |      | Test Method          |
| Electrolytical Corrosion                 | A1 step         |      | IEC 60426            |
| NOTE                                     |                 |      |                      |
| 1.                                       | H 30            |      |                      |
| 2.                                       | K 20/P 50       |      |                      |
| 3.                                       | 100 Drops value |      |                      |

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

#### Recommended distributors for this material

### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

