

# Ultradur® B 6550 LN

## PBT (Polybutylene Terephthalate)

### Product Description

Ultradur B 6550 LN is a high viscosity PBT extrusion grade.

### Applications

Typical applications include semi-finished products, profile and hollow rods.

| PHYSICAL                                    | ISO Test Method | Property Value |
|---------------------------------------------|-----------------|----------------|
| Density, g/cm                               | 1183            | 1.30           |
| Viscosity Number, cm/g                      | 1628            | 160            |
| Mold Shrinkage, parallel, %                 | 294-4           | 1.9            |
| Mold Shrinkage, normal, %                   | 294-4           | 2.2            |
| Moisture, %                                 | 62              |                |
| (50% RH)                                    |                 | 0.25           |
| (Saturation)                                |                 | 0.4            |
| RHEOLOGICAL                                 | ISO Test Method | Property Value |
| Melt Volume Rate (250 C/2.16 Kg), cc/10min. | 1133            | 9.5            |
| MECHANICAL                                  | ISO Test Method | Property Value |
| Tensile Modulus, MPa                        | 527             |                |
| 23C                                         |                 | 2,600          |
| Tensile stress at yield, MPa                | 527             |                |
| 23C                                         |                 | 56             |
| Tensile strain at yield, %                  | 527             |                |
| 23C                                         |                 | 3.5            |
| Nominal strain at break, %                  | 527             |                |
| 23C                                         |                 | >50            |
| Flexural Strength, MPa                      | 178             |                |
| 23C                                         |                 | 76             |
| IMPACT                                      | ISO Test Method | Property Value |
| Charpy Notched, kJ/m <sup>2</sup>           | 179             |                |
| 23C                                         |                 | 6              |
| Charpy Unnotched, kJ/m <sup>2</sup>         | 179             |                |
| 23C                                         |                 | N              |
| -30C                                        |                 | 220            |
| THERMAL                                     | ISO Test Method | Property Value |
| Melting Point, C                            | 3146            | 223            |
| HDT A, C                                    | 75              | 50             |
| ELECTRICAL                                  | ISO Test Method | Property Value |
| Comparative Tracking Index                  | IEC 60112       | 475            |
| Volume Resistivity                          | IEC 60093       | 5E13           |
| Surface Resistivity                         | IEC 60093       | >1E15          |
| Dielectric Constant (100 Hz)                | IEC 60250       | 3.4            |
| Dielectric Constant (1 MHz)                 | IEC 60250       | 3.2            |



|                             |           |     |
|-----------------------------|-----------|-----|
| Dissipation Factor (100 Hz) | IEC 60250 | 19  |
| Dissipation Factor (1 MHz)  | IEC 60250 | 219 |

## Processing Guidelines

### Material Handling

Max. Water content: 0.04%

To ensure optimum part performance, this product must be dried prior to molding and maintained at a moisture level of less than 0.04%. Dehumidifying or desiccant dryers operating at 100-120 degC (212-248 degF) at 4 hours drying time is recommended. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

### Typical Profile

Melt Temperature 230-290 degC (446-554 degF)

Temperature Settings (degC):

Extruder 250/240/230 degC (482/464/446 degF)

Adaptor 225 deg C (437 def F)

Die 215 deg C (419 deg F)

### Screw Parameters

|                    |                         |
|--------------------|-------------------------|
| Metering Section   | 45%                     |
| Transition Section | 3 to 4 flights          |
| Feed Section       | balance of screw length |
| Compression Ratio  | 3:1                     |
| L/D Ratio          | 20:1                    |

### Tooling & Sizing

Die to Finished Tube dia. 2.0-2.5:1 Die Gap 3-4 times the desired wall thickness

The vacuum water calibration method is recommended when producing tube diameters 8 mm and below. Water temperature should be 20 deg C (68 deg F).

