

# General Productinformation

## ELASTOLLAN® R 2600 FHF

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### Characteristic:

Glass fiber reinforced, halogen-free flame retardant, thermoplastic polyether polyurethane with excellent hydrolysis resistance, low temperature flexibility and resistance to microorganisms. The material shows high rigidity with good elongation and high impact strength at low temperatures.

Property	Unit	Value	Test method according to
Hardness	Shore D	<b>67</b>	DIN ISO 48-4 (3s)
Density	g/cm <sup>3</sup>	<b>1.39</b>	DIN EN ISO 1183-1-A
Tensile strength	MPa	<b>35</b>	DIN 53504-S2
Elongation at break	%	<b>6</b>	DIN 53504-S2
Tensile strength	MPa	<b>55</b>	DIN EN ISO 527-2/1A/50
Elongation at break	%	<b>8</b>	DIN EN ISO 527-2/1A/50
Modulus of elasticity - tensile test	MPa	<b>2700</b>	DIN EN ISO 527-2/1A/1
Notched impact strength (Charpy) at +23°C	kJ/m <sup>2</sup>	<b>18</b>	DIN EN ISO 179-1
Notched impact strength (Charpy) at -30°C	kJ/m <sup>2</sup>	<b>11</b>	DIN EN ISO 179-1
Impact strength (Charpy) +23°C	kJ/m <sup>2</sup>	<b>63</b>	DIN EN ISO 179-1
Impact strength (Charpy) -30°C	kJ/m <sup>2</sup>	<b>65</b>	DIN EN ISO 179-1
Glass fibre content	%	<b>15</b>	-
HDT-identification at 0,45 MPa	°C	<b>139</b>	DIN EN ISO 75-2/B
Vicat-softening temperature at 10N and 120°C/h (VST A120)	°C	<b>162</b>	DIN EN ISO 306
Determination of amount of water absorbed after immersion at 23°C	%	<b>0.9</b>	DIN EN ISO 62 Method 1
Determination of amount of water absorbed after exposure to 50% relative humidity	%	<b>0.4</b>	DIN EN ISO 62 Method 4
CTI test liquid, 3mm test plate	-	<b>600 -0.1</b>	IEC 60112
Coefficient of linear thermal expansion CLTE by 23°C	K-1	<b>31.29 E-6</b>	ISO 11359-2
Shrinkage parallel to flow direction	%	<b>0.09</b>	DIN 294-4
Shrinkage cross to flow direction	%	<b>0.27</b>	DIN 294-4
Volume resistivity 500V after moisture uptake	Ohm*cm	<b>2.5 E+11</b>	DIN EN 62631-3-1
Volume resistivity 500V dry	Ohm*cm	<b>4.0 E+11</b>	DIN EN 62631-3-1
burning behaviour UL 94: iq.prospector@ul.com	V-0/V-2	<b>3.0</b>	IEC 60695-11-10
burning behaviour UL 94: iq.prospector@ul.com	V-0/V-2	<b>0.75</b>	IEC 60695-11-10
Color		<b>Natural White</b>	-

The plaques are manufactured by injection moulding from pre-dried granules (water content less 0,02%). Test plaques are aged 20 hrs at 100°C. Specimens are cut from 2 or 6 mm test plaques. The test conditions: 23°C ± 2°C and 50% ± 6% rel. humidity.

These are general guidance data. No statement regarding specific properties. All supplies are subject to detailed specifications to be agreed-up in each individual case and containing, among others, the tolerances to be specified therein.

#### Delivery form and packing:

Pellets; the packaging dependent upon grade and agreement.

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**Drying:**

Elastollan® R 2600 FHF is hygroscopic.

Elastollan® R 2600 FHF must be dried before processing for 2-3 hours at 90-100°C in a dehumidified air dryer.

Additives have to be dried with the granules. The water content of the granules should not exceed 0,02%.

**Injection moulding:**

When injecting the melt should be bubble and foam free, if not we recommend to adjust the drying temperature accordingly.

**Following temperatures are guide values, showing the tendency of temperature profile. These may vary depending on kind of machine and mould design.**

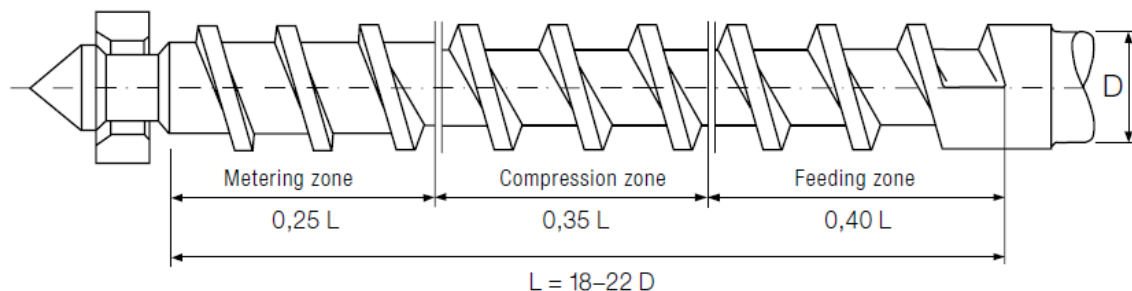
Feeding [°C]	Zone1 [°C]	Zone2 [°C]	Zone3 [°C]	Zone4 [°C]	Die [°C]	Melt-temp [°C]	Mould-temp. [°C]
40	200-210	205-215	210-220	210-225	210-230	205-225	20-55

**General Recommendations:**

Circumferential speed (screw speed)		< 0,2 m/s   12 m/min			
Specific back pressure		50-150 bar			
Injection speed		rel. low			
Retention time of melt (including hot-runner)		< 10 min			
Screw speed	d <sub>screw</sub> [mm]	30	45	50	60
	n <sub>max</sub> [min <sup>-1</sup> ]	85	70	60	50

**Machine Design:**

The injection moulding machines with single-flighted, 3-zone screws are suitable for the processing of Elastollan® R 2600 FHF. Short compression-zone screws are not suitable. The compression ratio should be around 1:2 and should not exceed 1:3. A check ring (shut-off ring) should be incorporated.

**Storage and Processing:**

In cool and dry storage conditions and in the original, undamaged and sealed containers, the products are processable for at least 18 months from delivery date. Thereafter, we do not give any warranty or guarantee regarding the processability of the products. Warranties regarding buyer's rights in case of defects remain unaffected hereby.

**Storage:**

Elastollan® R 2600 FHF is hygroscopic, therefore storage in dry conditions and original container is recommended.

**Hazard indication:**

No particular hazards known. Please have a look at the Material Safety Data Sheet before handling.

**Waste Disposal:**

More detailed information is provided in our country-specific pamphlet and the Material Safety Data Sheet.

**3 D Printing Applications and hazards:**

3 D printing is becoming a popular method for rapid prototyping. Please note that 3-D-printers apply various process mechanisms and it is possible that hazardous vapors and gases might be emitted during the printing process depending on the respective processing conditions. Furthermore, it might be possible that in the process of 3-D-printing, hazardous materials in respect of dermal contacts are used or created. Based on this, we strongly advise against using our product in private 3-D-printing processes. However, as the processes are manifold and not under our control, we regret that BASF Polyurethanes GmbH cannot recommend or give a more detailed indication as to concrete measures to assure a safe handling of our products in 3-D-printing processes. This lies entirely in the responsibility of the respective customers when using or selling our product for 3-D-printing applications.

**Important Information:**

The data contained in this document as well as advice or other support services are based on our current knowledge and experience and are provided according to our best knowledge. In view of many factors that may affect processing and application of our products, this data does not relieve processors from carrying out their own investigations and tests, particularly with regards to the suitability of the goods supplied for the processes and purposes they intend to use them for; neither does this data imply any guarantee of certain properties, or the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, measured values etc. given herein may change without prior notice and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

Please notice that this product is not intended for food contact applications.

To determine the suitability of this BASF Polyurethanes GmbH product for certain applications a thorough evaluation by the processor(s), manufacturer(s) and/or distributor(s) is required. National and international laws and regulations have to be considered producing medical devices or consumer articles including but not limited to articles with skin contact or toys.

Where specific regional regulations do not exist, the current legal EU and US requirements as well as globally accepted standards for consumer articles and medical devices should be used as reference.

Please contact BASF Polyurethanes GmbH Sales Office and our Ecology and Product Safety department in case of further questions.

**For additional information please contact our Sales Office:****BASF Polyurethanes GmbH**

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