General Productinformation
ELASTOLLAN® R 1000

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Characteristic:

Glass fibre reinforced thermoplastic Polyester-Polyurethane with exceptional properties, very high impact resistance, high modulus with at the same time elasticity, low coefficient of thermal expansion comparable with steel and aluminium, low mould shrinkage and ease of painting.

Property	Unit	Value	Test method according to
Hardness	Shore D	**60**	DIN ISO 48-4 (3s)
Density	g/cm³	**1.36**	DIN EN ISO 1183-1-A
Tensile strength	MPa	**50**	DIN EN ISO 527-2/1A/50
Elongation at break	%	**40**	DIN EN ISO 527-2/1A/50
Modulus of elasticity - tensile test	MPa	**1000**	DIN EN ISO 527-2/1A/1
Glass fibre content	%	**20**	-
Impact strength (Charpy) +23°C	kJ/m²	**kB**	DIN EN ISO 179-1
Impact strength (Charpy) -30°C	kJ/m²	**130**	DIN EN ISO 179-1
Notched impact strength (Charpy) at +23°C	kJ/m²	**70**	DIN EN ISO 179-1
Notched impact strength (Charpy) at -30°C	kJ/m²	**20**	DIN EN ISO 179-1
HDT-identification at 1,8 MPa	°C	**114**	DIN EN ISO 75-2/A
HDT-identification at 0,45 MPa	°C	**145**	DIN EN ISO 75-2/B
Coefficient of linear expansion	10-6 [1/k]	**20**	ISO 11359-2
Color		**Natur**	-

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.

Drying:

Elastollan® R 1000 is hygroscopic.
Elastollan® R 1000 must be dried before processing for 3-4 hours at 100-120°C in a dehumified air dryer.
Additives have to be dried with the granules. The water content of the granules should not exeed 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.

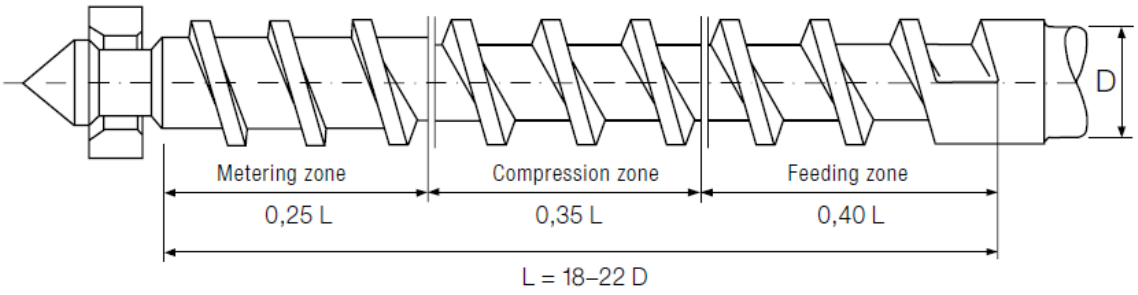
Feeding [°C]	Zone1 [°C]	Zone2 [°C]	Zone3 [°C]	Zone4 [°C]	Die [°C]	Melt-temp [°C]	Mould-temp. [°C]
40	200-220	205-225	210-230	215-235	220-240	220-240	40-70

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_{screw} [mm]	30	45	50	60
	n_{max} [min^{-1}]	135	85	70	60

Machine Design:

The injection moulding machines with single-flighted, 3-zone scews are suitable for the processing of Elastollan® R 1000. Short compression-zone scews 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 1000 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:

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