

BAYDUR[®] Trial Product PU 60BD33

General properties and applications

Baydur TP.PU 60BD33 is a polyol formulation which is reacted with Desmodur[®] 26IK01 or Desmodur[®] TP.PU 26BD14 by the RIM method to produce moldings in the 500 to 700 kg/m³ density range.

The mold-foamed microcellular reaction products are Baydur[®] 60 and Baydur[®] 67 FR.

The ready-to-use polyol formulation contains neither fillers nor CFCs.

Stored material must be thoroughly homogenized by stirring before it is processed.

Specification

Property	Value	Units	Test method
Hydroxyl number	498 ± 25	mg KOH/g	2201-0211001-90D
Water content	0.83 ± 0.07	% by wt.	2201-0212401-90D
Viscosity at 25 °C	2,500 ± 250	mPa · s	2201-0212101-90D

Other data *

Property	Value	Units	Test method
Density at 25 °C	approx. 1.03	g/ml	DIN 51757
pH	approx. 8.8		2201-0240101-92D

*This is only general information. The values given here do not form part of the product specification.

Packaging

Drums¹⁾, tank wagons, tank containers, or IBCs on request.

¹⁾Drums must not be emptied under pressure, but either by means of a pump or siphon or by pouring. This rules out processing direct from the drum under pressure. See the relevant national safety regulations for pressurized drums.

Storage

Drums should be protected against strong sunlight and always kept sealed to protect the contents from moisture or damp air.

Storage temperature: < 50 °C.

Shelf life (from date of delivery): 3 months

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Processing advice

Foaming formulation for Baydur 60:

100 pbw	Baydur TP.PU 60BD33
145 pbw	Desmodur TP.PU 26IK01
or	
150 pbw	Desmodur TP.PU 26BD14

Laboratory processing data:

The processing data were obtained from laboratory trials with the raw materials at a temperature of approx. 23 °C. Baydur TP.PU 60BD33 was aerated for 30 sec. at 3,000 rpm and then stirred together with the Desmodur for 10 sec. The data were obtained from trials with Desmodur TP.PU 26IK01.

Cream time:	approx. 18 sec
Curing time:	approx. 33 sec
Density of free-rise foam:	approx. 145 g/l

Foaming formulation for Baydur 67 FR:

100 pbw	Baydur TP.PU 60BD33
15 pbw	Ammonium polyphosphate*
145 pbw	Desmodur 26IK01
or	
150 pbw	Desmodur TP.PU 26BD14

*e.g. Exolit[®] 422 or Exolit[®] 700; Suppliers: Hoechst AG, Werk Knapsack, Germany
or
FR CROS 484[®] 360; Suppliers: Chemische Fabrik Budenheim, Rudolf Oetker, Budenheim, Germany

Recommended processing temperature:	28 - 35 °C
Density for moldings:	500 - 700 kg/m ³
Mold temperature:	55 - 65 °C

Important Note

Control pours produced by free-rise foaming for the purpose of checking the processing characteristics of the product must be removed from the production area immediately after evaluation because of the risk of spontaneous combustion. They should be taken to a specially designated fire-protected area in the open and left there until they have cooled down completely.

Release properties

Baydur TP.PU 60BD33 / Desmodur 26IK01 or Desmodur TP.PU 26BD14 moldings of suitable geometry produced in heated metal molds require very little, if any, external release agent.

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Mechanical properties

Mechanical, thermal and other properties were measured on specimens cut from a 1,000 x 500 x 10 mm sheet.

Property	Units	Standard	Baydur 60	Baydur 67FR
Density	kg/m ³	DIN EN ISO 845	630	635
Tensile strength	N/mm ²	DIN EN ISO 527	18	16
Tensile modulus	N/mm ²	DIN EN ISO 527	660	650
Elongation at break	%	DIN EN ISO 527	8	7
Flexural strength (rupture)	N/mm ²	DIN 53423	32	30
Flexural modulus	N/mm ²	DIN 53423	740	740
Compressive strength	MPa	DIN 53421	19	19
Compressive modulus	MPa	DIN 53421	270	270
Impact strength at 22 °C	KJ/m ²	DIN EN ISO 179	16	14
Surface hardness Shore D			69	68
Heat deflection temperature Method B (0.45 MPa)	°C	DIN EN ISO 75-1/75-2	101	97

Shrinkage behavior

Mold shrinkage is 0.85 ± 0.1 % (production tolerance). This value applies to a 10 mm thick sheet with a density of 600 kg/m³ produced in accordance with the given processing formulation in an aluminum mold heated to 60 °C and with a demold time of 8 minutes.

Adding ammonium polyphosphate during the production of Baydur 67 FR reduces shrinkage by approx. 0.10 %.

Mold shrinkage will vary with different processing conditions and, in particular, when changing to moldings of different geometries.

Lengthy storage at either high or very low humidity can result in greater or lesser degrees of shrinkage.

Fire performance

In the 560 to 650 kg/m³ density range the product achieves a UL 94 V-0 fire rating at a thickness of 6 to 10 mm (Underwriters Laboratories Inc.). It is listed in File no. 83364 under Baydur 67 FR.

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Labeling

Labelling in accordance with directive 1999/45/EC (preparations) and its amendments and adaptations:

Symbol: C, hazard warning: corrosive

Contains: alkylaminocarboxamide

R 34: Causes burns

R 43: May cause sensitization by skin contact.

R 52/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28: After contact with skin, wash immediately with plenty of soap and water.

S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S 45: In case of accident or if you feel unwell, seek medical advice immediately. (Show the label where possible.)

S 60: This material and its container must be disposed of as hazardous waste.

The section of this Technical Information Sheet headed "Labeling" does not take precedence over the information given in the Safety Data Sheet. Any updating of safety-relevant information – in accordance with EU directives – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed.

Further technical information relating to safety can be found in the Safety Data Sheet no.: 868721/06.

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