Desmodur® BL 3175 SN

Type	Blocked, aliphatic polyisocyanate based on HDI
Form supplied	approx. 75 % in solvent naphtha® 100
Uses	In combination with Desmophen® grades to formulate lightfast, one-component polyurethane stoving coatings; as an additive in conventional stoving systems to improve flexibility and adhesion.

Specification

Property	Value	Unit of measurement	Method
Non-volatile content (0.2 g / 60 min / 80 °C)	75 ± 2	%	DIN EN ISO 3251
Viscosity at 23 °C	3,300 ± 400	mPa·s	DIN EN ISO 3219/A.3
Color value (Hazen)	≤ 60		DIN EN 1557
Free NCO content, modified	≤ 0.2	%	DIN EN ISO 11 909

Other data*

Property	Value	Unit of measurement	Method
Blocked NCO content	approx. 11.1	%	
Viscosity at 25 °C	approx. 2,800	mPa·s	DIN EN ISO 3219/A.3
Equivalent weight	approx. 378		
Flash point	approx. 45	°C	DIN 53 213/1
Density at 20 °C	approx. 1.06	g/ml	DIN EN ISO 2811

*These values provide general information and are not part of the product specification.

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Solubility / thinnability

Generally speaking, Desmodur® BL 3175 SN has good compatibility with the solvents listed. However, the solutions formed must be tested for their storage stability. Desmodur® BL 3175 SN can be thinned to a solids content of 40 % by wt. with ketones, esters, ether esters and aromatics. It can be thinned to a solids content of 60 % by wt. with mixtures of higher boiling aromatics such as solvent naphtha® 100 and 150. Aliphatic hydrocarbons cannot be used.

Compatibility

Given equivalent crosslinking (NCO/OH = 1.0), Desmodur® BL 3175 SN is generally compatible with Desmophen® 651, 670, 680, 690, RD 181, A 160, A 265, A 365, A 450 and A 565, and with Desmophen® T 1665. It can also be combined with various plasticisers, e.g. phosphoric acid, sulphonic acid, adipic acid and phthalic acid esters. The combinations should always be tested for their compatibility.

Properties / Applications

Desmodur® BL 3175 SN can be used as the hardener in colorfast and weather-stable, one-component polyurethane coatings. The stoving temperature can be significantly reduced by the addition of a catalyst, e.g. dibutyltin dilaurate (DBTL), without reducing the storage stability.The product is used in high-grade industrial finishes (electrical appliances, small components, can coatings, coil coatings, etc.) and in primer surfacers and topcoats for automative finishing. Desmodur® BL 3175 SN can also be used as an additive in conventional stoving systems to improve the flexibility and adhesion. Possible stoving cycles for Desmodur® BL 3175 SN combined with Desmophen® 651 are:

without catalyst

160 °C	60 min
or180 °C	15 min
or200 °C	7 min

with catalyst

130 °C	60 min
or150 °C	15 min
or175 °C	7 min

Depending on the co-reactant used and the stoving time, yellowing may occur at temperatures above 160 °C. Used in coil coating systems, Desmodur® BL 3175 SN crosslinks sufficiently without the addition of DBTL from a peak metal temperature of approx. 241 °C and above. With an addition of 1 % DBTL, calculated on solid resin, the same result is achieved from approx. 224 °C peak metal temperature.

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Storage

- Storage in original sealed Bayer MaterialScience container.

- Recommended storage temperature: 0 - 30 °C.

- Protect from moisture, heat and foreign material.

General information: Storage at higher temperatures will result in increase of color and viscosity. Storage at significant lower temperatures will result in solidification. This solidification is reversible by briefly heating the product without adversely affecting the quality of the product.

Storage time

Bayer MaterialScience represents that, for a period of six months following the day of shipment as stated in the respective transport documents, the product will meet the specifications or values set forth in section "specifications or characteristic data" above, what ever is applicable, provided that the product is stored in full compliance with the storage conditions set forth in and referenced under section "storage" above and is otherwise handled appropriately.
The lapse of the six months period does not necessarily mean that the product no longer meets specifications or the set values. However, prior to using said product, Bayer MaterialScience recommends to test such a product if it still meets the specifications or the set values. Bayer MaterialScience does not make any representation regarding the product after the lapse of the six months period and Bayer MaterialScience shall not be responsible or liable in any way for the product failing to meet specifications or the set values after the lapse of the six months period.

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Labeling and REACH applications

This product data sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet. Any updating of safety-relevant information – in accordance with statutory requirements – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed. Information relating to the current classification and labeling, applications and processing methods and further data relevant to safety can be found in the currently **valid Safety Data Sheet**.

This Information and our technical advice - whether verbal, in writing or by way of trials - are given in good faith but without warranty, and this also applies where proprietary rights of third parties are involved. Our advice does not release you from the obligation to verify the information currently provided - especially that contained in our safety data and technical information sheets - and to test our products as to their suitability for the intended processes and uses. The application, use and processing of our products and the products manufactured by you on the basis of our technical advice are beyond our control and, therefore, entirely your own responsibility. Our products are sold in accordance with the current version of our General Conditions of Sale and Delivery. This does not apply to Trial-Products.

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