

Desmodur[®] BL 3175 SN

Characterization

Blocked, aliphatic polyisocyanate based on HDI.

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.

Form supplied

approx. 75 % in solvent naphtha[®] 100

Specification

Property	Value	Unit of measurement	Method
Non-volatile content (0.2 g / 60 min / 80 °C)	75 ± 2	%	M020-ISO 3251
Viscosity at 23 °C	3,300 ± 400	mPa·s	M014-ISO 3219/A.3
Color value (Hazen)	≤ 60		M017-EN 1557
Free NCO content, modified	≤ 0.2	%	M105-ISO 11909

Other data*

Property	Value	Unit of measurement	Method
Blocked NCO content	approx. 11.1	%	
Viscosity at 25 °C	approx. 2,800	mPa·s	M014-ISO 3219/A.3
Equivalent weight	approx. 380		
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, various polyacrylates 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 automotive 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
or 180 °C	15 min
or 200 °C	7 min

with catalyst

130 °C	60 min
or 150 °C	15 min
or 175 °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 Covestro 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

Covestro represents that, for a period of nine 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 nine months period does not necessarily mean that the product no longer meets specifications or the set values. However, prior to using said product, Covestro recommends to test such a product if it still meets the specifications or the set values. Covestro does not make any representation regarding the product after the lapse of the nine months period and Covestro 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 nine months period.

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Labeling and statutory requirements 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**.

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you utilize our products, technical assistance, information and recommendations to determine to your own satisfaction whether our products, technical assistance and information are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety, and environmental standpoint. Such testing has not necessarily been done by Covestro. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale which are available upon request. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.

This product is not designated for the manufacture of a medical device or of intermediate products for medical devices¹⁾. [This product is also not designated for other specifically regulated applications (e.g. including cosmetics, plant protection, fertilisers, plant strengtheners, food processing, food contact and others). If the intended use of the product is for the manufacture of a medical device or of intermediate products for medical devices or for other specifically regulated applications Covestro must be contacted in advance to provide its agreement to sell such product for such purpose.] Nonetheless, any determination as to whether a product is appropriate for use in a medical device or intermediate products for medical devices, for Food Contact products or cosmetic applications must be made solely by the purchaser of the product without relying upon any representations by Covestro.

1) Please see the "Guidance on Use of Covestro Products in a Medical Application" document.

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