Bayer MaterialScience

Product Information

DESMOCOLL® 500/2

Elastomeric Polyurethane

Description

Desmocoll 500/2 is a predominantly linear hydroxyl polyurethane.

Application

Desmocoll 500/2 is a flexible polyurethane with an extremely high crystallization rate. It has outstanding adhesion to PVC substrates and is also particularly useful for bonding to rubber. It has higher thermo-plasticity than Desmocoll 510 and is therefore suitable for two-component adhesives containing Desmodur. The bonds have excellent resistance to the most commonly used PVC plasticizers. Desmocoll 500/2 is suitable for the formulation of adhesives for use on various materials; e.g., leather, rubber, textiles, wood, many plastics (including PU elastomers), plastic films and aluminum foils. As with any product, use of Desmocll 500/2 in a given application must be tested (including but not limited to field testing) in advance by the user to determine suitability.

Product Specifications

Property	Value
Solution viscosity @ 73°F/23°C (cps/mPa•s) 15% by weight in 2-butanone (MEK) (Haake RV 12/20 MV-DIN, step 128 or Brookfield LVF, spindle no. 3, 60 rpm) (ISO 3219)	600 ± 200

Typical Properties*

Property	Value
Form supplied	granules
Hydroxyl content (DIN 53 240)	<0.1%
Density (DIN 53 479)	approx. 1.2 g/cm³
Crystallization (DIN 53 505)	approx. 5 min
Minimum activation temperature (Bayer method PV 066)	approx. 50°C
Hot tack life (Bayer method PV 067)	approx. 4 min.
Heat resistance (ASTM D 816)	approx. 50°C

Processing

1. Solvents

Suitable solvents for Desmocoll 500/2 polyurethane are acetone, methyl ethyl ketone and ethyl acetate. It is also soluble in mixtures of acetone/toluene (2:1) and methyl ethyl ketone/ethyl acetate (1:1). Non-flammable solvents, e.g. methylene chloride, can also be used. The solutions will have a clear appearance. Solutions of Desmocoll polyurethanes may yellow over time, depending on storage time, storage conditions and formulation. The polymer is insoluble in aliphatic hydrocarbons and alcohols. The water or alcohol content of the solvents chosen should be less than 0.1%.

2. Dissolving

Desmocoll polyurethanes can be dissolved without preliminary mastication in an ordinary closed vessel with a low speed stirrer or more rapidly in a high-speed dissolver.

3. Crosslinking

The bond strength and heat and solvent resistance of Desmocoll 500/2 polyurethane adhesives can be enhanced by the addition of 8% by weight of Desmodur RE or Desmodur RFE, (based on a 20% Desmocoll solution). Desmodur RE and RFE polyisocyanates have the best crosslinking efficiency and also help to improve the adhesion to most substrates. Desmodur RE imparts a dark color. Crosslinking proceeds at room temperature and the pot life is approximately one day after addition of polyisocyanate crosslinking agents.

** These items are provided as general information only. They are approximate values and are not part of the product specifications.*

Storage

The shelf life of Desmocoll 500/2 polyurethane is six months after receipt of material by customer, when stored in closed containers under cool (59°F/15°C - 77°F/25°C) and dry conditions. It must be protected from exposure to humidity and direct sunlight to prevent premature degradation.

Packaging

Desmocoll 500/2 is supplied in 25 kg (55 lb) paper sacks with 30 sacks per pallet to give a total weight of 750 kg (1650 lb).

Health and Safety Information

Appropriate literature has been assembled which provides information pertaining to the health and safety concerns that must be observed when handling Desmocoll 500/2 polyurethane. For materials mentioned that are not Bayer products, appropriate industrial hygiene and other safety precautions recommended by their manufacturer should be followed. Before working with any product mentioned in this publication, you must read and become familiar with available information concerning its hazards, proper use, and handling. This cannot be overemphasized. Information is available in several forms such as material safety data sheets and product labels. For further information contact your Bayer MaterialSceince representative or the Product Safety and Regulatory Affairs Department in Pittsburgh, PA at (412)-777-2835.

Note: The information contained in this bulletin is current as of February 2008. Please contact Bayer MaterialScience to determine whether this publication has been revised.

Bayer MaterialScience LLC

100 Bayer Road • Pittsburgh, PA 15205-9741 • Phone: 1-800-662-2927 • www.BayerMaterialScienceNAFTA.com

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Sales Offices

17320 Redhill Avenue, Suite 175, Irvine, CA 92614-5660 • 1-949-833-2351 • Fax: 1-949-752-1306
1000 Route 9 North, Suite 103, Woodbridge, NJ 07095-1200 • 1-732-726-8988 • Fax: 1-732-726-1672
2401 Walton Boulevard, Auburn Hills, MI 48326-1957 • Phone: 1-248-475-7700 • Fax: 1-248-475-7701

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