CBTDUR

Aliphatic one-component polyurethane resin

DESCRIPTION

Cbtdur is a performance polyurethane resin, aliphatic isocyanate-based, that cures upon reaction with atmospheric moisture, giving hard and flexible coatings with good abrasion, scratch, and weather resistance. Cbtdur is an excellent surface protection for use over aromatic polyurethane waterproofing membranes as UV protection. This product does not yellow on exposure to sunlight.

Cbtdur can be delivered colourless or pigmented with standard colour. Colourless product can be pigmented on site by addition of suitable colour paste.

APPLICATION

- Protective UV topcoat for cold or hot-applied waterproofing membranes (pigmented version).
- Protection of outdoor wood surfaces
- Protecting topcoat of metal anticorrosion systems
- General outdoor use
- Clear resin can be used to create a clear waterproofing membrane, normally reinforced with a special fiberglass (Rbtston Fiber 30, 30 grams/m^2)

ADVANTAGES

- Clear, glossy, topcoat.
- One-component product. Easy to apply.
- Colour and UV stability.
- Abrasion and weathering resistance
- Fast curing
- Good hiding power.

CERTIFICATIONS

- **Applus independent laboratory:** Mechanical properties, artificial weathering, watertightness and water permeability. Certificate. Nº 08/32307407, Abrasion: 08/32309984, 10/101.589-1432, Slip: 10/1709-1862.
- **CE Marking**: EN 13813 SR-B2, 0-ARO0,5-IR14,7. DoP 20-210
- **ETA 16/0148**: as protective topcoat of waterproofing membranes
- SRI index (Tecnalia Lab): **Sunlight reflectivity certification** (white colour)
- Giordano Bruno Laboratory: **Antiskid certification** (DIN 51130)

TECHNICAL DATA

INFORMATIONON THE PRODUCT BEFORE APPLICATION	
Chemical description	Solvent borne single-component aliphatic polyurethane
Physical state	Liquid
Packaging	Metal container: 4 / 20 kg (colourless) 6kg / 25kg (pigmented)
Non- volatile content (%)	>50% (colourless) >70% (pigmented)
Lead content	(< 1 mg/kg) (pigmented)
Flash point	36º C (ASTM D 93)
Available colours	Colourless. Pigmented in white and gray. Other colours under request
Density	Colourless: 0.95 g/cm^3 (20ºC) Pigmented: 1.35 g/cm^3 (20ºC)

Viscosity Brookfield, approx.

Temperature (ºC)	Viscosity (mPa.s) Colourless	Pigmented
5	890	1000
10	660	800
20	410	600
30	230	300

VOC (g/L and %) Voc class	VOC content: 468,76 g/l (colourless), 380 g/l (pigmented) % VOC: 50 Product subclass: i II Solvent based single-component performance products Limit from 01/01/2010: 500 g/l
Pot life	Colourless: 6 hours (1 kg, 20ºC, 50% hr) Pigmented: 2 hours (forms skin on surface)
Storage	Keep at a temperature below 35ºC, away from ignition sources and moisture. Product may be used up to 12 months (colourless) or 6 months (pigmented) after manufacture in its sealed original container.

INFORMATION ON THE FINAL PRODUCT	
Final appearance	Solid elastomeric membrane
Colour	Colourless. White and grey pigmented. Other colours under request
Hardness (Shore)	53D (colourless) 60D (pigmented)
Mechanical properties	Colourless Maximum elongation: 173% Tensile strength: 27.4 MPa Pigmented Maximum elongation: 70% Tensile strength: 15 MPa
Water vapour permeability	2.7 g/m^2 Day, (UNE EN ISO 7783)
Abrasion resistance	11 mg (taber, CS-10,1 kg)
UV Resistance	UV resistant. Alphatic polyurethanes are colour-stable, non-yellowing
Slip resistance	With quartz sand spreaded onto (0,4-0,9 mm) at 1 kg/m^3: class 3 as per UNE EN 12633-2003
Thermal resistance/use temperature	Stable between -40ºC to 80ºC
SRI Index (ASTM E1980-01)	104,5-105,4 (white pigmented)

Chemical resistance

Permanent contact. (0=worst, 5=best)

Chemical	Conditions	Result
Water	15d, 80ºC	5
Salt water	5d, 80ºC	5
Hydrochloric acid 200g/l	7d, 80ºC	0
Hydrochloric acid 20g/l	7d, 80ºC	3 (coloration)
Sodium hydroxide (40 g/l)	28d, 80ºC	5
Sodium hydroxide (4 g/l)	28d, 80ºC	3
Ammonia	28d, 80ºC	4
Bleach	7d, 80ºC	0
Bleach (10%)	7d, 80ºC	0
Xylene	7d, 80ºC	5
Isopropyl alcohol	7d, 80ºC	3 (coloration)
Oil engine	28d, 80ºC	5
Diesel	16d, 80ºC	3 (decoloration)

Superficial contact. Non pigmented Cbtdur. (0=worst, 5=best)

Chemical	Conditions	Result
Hydrochloric acid (20%)	7 days	2
Acetic acid (6%)	24h	5
Skydrol	7 days	4
Diesel	1 day	5

CBTDUR

Aliphatic one-component polyurethane resin

SUPPORT REQUIREMENTS

In order to achieve a good penetration and bonding, support must be:
1. Flat and leveled (the product is self-leveling)
2. Compact and cohesive (pull off test must show a minimum resistance of 1,4 N/mm^2).
3. Even and regular surface
4. Free from cracks and fissures. If any, they must be previously repaired.
5. Clean and dry, free of dust, loose particles, oils, organic residues or laitance.

RECOMMENDED ENVIRONMENTAL CONDITIONS

Support temperature should be between 10ºC and 30ºC. At higher temperatures, specific precautionary measures must be taken. Please follow manufacturer advice. Support moisture should be less than 4%. Relative humidity of air should be less than 85%
High moisture conditions can lead to bubble formation under the membrane surface.

PREPARATION

It is necessary to prepare all critical spots. Consult application documents provided by Build-Tech Pro.
For all application on waterproofing membranes (Ibtmax, Ibtmax 2k, Ibtmax Polyurea H, Polyurea) re-apply Cbtdur following the relevant reapplication guidelines.

MIXING

If necessary, dilute with up to 10% Solvent Rbtston for viscosity adjustment. Note: on non-porous substrates, do not dilute the first coat. **Stir gently before use**. Use low speed stirring equipment to minimize air bubbles.

APPLICATION

Apply by roller, brush or airless spraying equipment. Spray application of clear product is not recommended due to the risk of micro bubbling. Although not strictly necessary, it is highly recommended use all the contents. If not, ensure total sealing of the remainder.
Note: some roller materials are damaged by the solvent. If in doubt, it is recommended to test before use.

For airless spraying equipment, viscosity is likely to need adjustment. Excess pressure, along with high temperature and humidity, may give rise to micro bubbles that makes the surface to look hazy.

For pigmented applications, mix the pigment paste with Cbtdur by means of a low-speed stirrer and wait some minutes to allow bubbles to disappear. Apply the pigmented colour normally. It is recommended to use all the pigmented mixture.
Apply, as a rule, to 200-500 g/m^2

CURING TIME

Curing time is dependent on the environmental conditions. Curing rate increases with temperature and humidity rises. The following table gives a rough estimation of the curing time under diverse conditions for a 200 g/m^2 coat.

Conditions	Touch dry (h)
30ºC, 50% hr	2
25ºC, 50% hr	3

REAPPLICATION

A second coat of Cbtdur can be applied when the first one is no longer sticky. Do not wait more than 24 hours for the next coat application to ensure good intercoat adhesion.

RETURN TO SERVICE

At usual conditions (25ºC, 50% rh) the membrane can be walked on (light traffic) in 24-48 hours. Depending on final use, it is recommended to wait 7-10 days for usual traffic. Final hardness development may take up to 15 days.

TOOL CLEANING

Liquid Cbtdur can be cleaned with Rbtston Solvent, acetone, and alcohols. Once hardened, it cannot be dissolved.

FAQS

Problem	Question	Cause	Solution
Does not cure	Suitable solvent?	Some thinning solvents are not suitable	Apply a second coat using only Rbtston Solvent as a diluant
Bubbles	Porous support?	No primer?	Seal with an epoxy-typ primer before Cbtdur
	Airless	High pressure	Lower pressure or apply thinner coats. Ambiental conditions may be adverse for this application method.
Not enough opacity	Horizontal?	Not enough pigment	Mix well
	Curing rate can be slower?		Use of slow solvent Rbtston can be useful

CLEANING AND MAINTENANCE

It may be necessary to reapply Colodur layers if they are worn out due to traffic, weather, corrosion, etc.

For stain removal, a surface treatment with Rbtston solvent or isopropyl alcohol may be attempted. Strong acids are totally inadequate. Some solvents may damage the membrane. If this happens, the affected area has to be cut and repaired with a new Cbtdur application.

A final treatment and periodic maintenance with protective wax is suggested. Contact Build-tech Pro or Flooring Application manual for details.

SAFETY

Cbtdur contains isocyanates and flammable solvents. Always follow the instructions provided in the material safety data sheet and take the precaution described there. As a general rule, suitable ventilation must be ensured, and all ignition sources must be avoided. This product is intended to be used only for the uses and in the way here described. This product is to be used only by industrial or professional users. It is not suitable for DIY-type uses.

ENVIRONMENTAL PRECAUTIONS

Empty containers must be handled taking the same precautions as if they were full. Containers must be considered as hazardous waste, to be transferred to an authorized waste manager. If there is some residual product in the containers, do not mix it with other substances without checking for possible dangerous reactions.

OTHER INFORMATION

The information contained in this DATA SHEET, as well as our advice, both written as verbal or provided through testing, are based on our experience, and they do not constitute any product guarantee for the installer, who must consider them as simple information.

We recommend to study deeply all information provided before proceeding to the use or application of any of our products, and strongly advise to conduct tests “on-site” in order to determine their convenience for a specific project.
Our recommendations do not exempt of the obligation of installers to deeply study the right application method for these systems before use, as well as to conduct as many preliminary tests as possible should any doubt arise. The application, use and processing of our products are beyond our control, and therefore under the exclusive responsibility of the installer. In consequence, the installer will be the only responsible of any damage derived from the partial or total in-observation of our indications, and in general, of the inappropriate use or application of these materials.
This Data Sheet supersedes previous versions.