

COLTECH C 2300

TECHNICAL DATA SHEET
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Rigid Polyurethane Casting Resin, Low Viscosity

Product description

COLTECH C 2300 is a two component, low viscosity, solvent free, rigid, polyurethane resin, with a very easy 1-to-1 by volume mixing ratio.

COLTECH C 2300 provides excellent durability, chemical & temperature resistance properties with minimum shrinkage.

Cures by reaction (cross linking) of the two components even at very low temperatures.

Uses

The COLTECH C 2300 is a specialized low viscosity rigid Polyurethane casting resin for:

- production of small and large casted objects.
- production of rigid molds.

Advantages

- Solvent free
- Shore D 70
- Easy 1-to-1 by volume mixing ratio
- High temperature resistance
- Variable pot life depending on requirement
- Cold curing
- Minimum shrinkage
- High impact strength
- Chemical resistant
- Over 10 years of positive feedback worldwide.

Consumption

1,4 kg / liter

Colors

The COLTECH C 2300 is supplied in yellowish transparent. Other colors may be supplied on demand.

Technical Data *

PROPERTY	RESULTS	TEST METHOD
Composition	Polyurethane Resin + Hardener. Solvent free.	
Mixing Ratio	A : B = 100 : 100 by volume A : B = 100 : 110 by weight	
Hardness (Shore D Scale)	70	ASTM D 2240
Shrinkage	<0.5%	
Solids Content	100 %	CALCULATED
Temperature strength	70°C (Fully cured)	IN HOUSE LAB
Low Temperature Brittleness	-40°C (Fully cured)	IN HOUSE LAB
Pot-Life *	1-15 minutes	Conditions: 20°C, 50%RH
Tack Free Time *	1-2 hours	
Demolding Time *	2-4 hours	
Final Curing time	7 days	

* Pot Life and Tack free times can be adjusted according production requirements with the addition of Catalyst (accelerator).

Chemical Properties

Water	+	Hydrochloric acid 5%	+
Potassium hydroxide 5%	+	Styrene	±
Sodium hydroxide 5%	+	Sulfuric acid 5%	+
Salt water 20%	+	Xylene	+
Domestic Detergents	+	DMSO	-
Diesel oil	+	N-Methyl pyrrolidone	-

{+ stable, - unstable, ± stable for a short period.}

Application

Mold Preparation

Before casting, check that parts or molds are free of any trace of moisture (Maximum surface moisture content should not exceed 4%). Before the application of the COLTECH C 2300, the prepared object has to be coated with a suitable liquid-applied mold release agent as the COLTECH E 499 to avoid bonding with the mold.

Stir COLTECH C 2300 Component A well before using. Stir COLTECH C 2300 Component B well before using.

COLTECH C 2300 Component A and Component B should be mixed by low speed mechanical stirrer, according to the indicated mixing ratio in this technical data sheet, for about 1-3 min if applied manually. When mixing, care must be taken to avoid the introduction of excessive amounts of air. After mixing of the Components A+B, transfer the mixture in a second clean container and mix again for 15-20 sec. Following to that we recommend to use a Vacuum Chamber (@-1bar for 60-120 sec) to remove any air bubbles from the mixture prior to use.

ATTENTION: The mixing of the components has to be performed very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous and streak free. Please ensure consumption within the Pot Life. Use at a temperature higher than 15°C. Containers of Part A (Resin) and Part B (Hardener) should be kept hermetically sealed at all times when not in use to prevent the ingress of moisture. Never use if the viscosity of the adhesive/resin is starting to rise as this is a sign that the end of the Pot Life is reached and the resin should not be used any more.

WARNING: Incomplete mixing or use of the wrong mix ratio will result in erratic or partial curing. Containers of Part A (Resin) and Part B (Hardener) should be kept sealed at all times when not in use to prevent the ingress of moisture. If moisture ingress, the resin mixture will create foam while curing. Containers of Part A (Resin) and Part B (Hardener) should be kept stored at a Temperature between 10-30°C.

Apply COLTECH C 2300 resin with a brush on the bottom/sides of the empty mold, to avoid entrapped air pockets. After 10-60 min fill the mold up with COLTECH C 2300 resin. Pour the mixed COLTECH C 2300 resin slowly into the mold from one and if possible the lowest side, so that the resin pushes air bubbles when flowing.

RECOMMENDATION: Use Post curing in a heating apparatus (@50-60°C for 2-24h) to accelerate curing and lower final curing time.

Acceleration

If the Pot life of the resin is to be adjusted to production needs, add the recommended quantity of the COLTECH C 299 catalyst / accelerator (from 0,1 to 1%) into the COLTECH C 2300 Component A and mix well, for about 3 min, by low speed mechanical stirrer. Allow mixture to rest for 5-10 minutes. Following to that add the COLTECH C 2300 Component B as described above, and use.

Packaging

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Safety measures

Contains Isocyanates. Please study the Material Safety Data Sheet. **PROFESSIONAL USE ONLY**

Our technical advice for use, whether verbal, written or in tests, is given in good faith and reflect the current level of knowledge and experience with our products. When using our products, a detailed object-related and qualified inspection is required in each individual case in order to determine whether the product and /or application technology in question meets the specific requirements and purposes. We are liable only for our products being free from faults; correct application of our products therefore falls entirely within your scope of liability and responsibility. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our R+D department. The new edition of the technical data sheet supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice.