

# COLTECH E 445

TECHNICAL DATA SHEET  
Date: 15.03.2015 – Version 3

## Polyurethane Elastomer

### Product description

COLTECH E 445 is a two component, solvent free, high modulus, polyurethane elastomer. It provides excellent elasticity and high tear resistance properties with minimum shrinkage.

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

### Uses

The COLTECH E 445 is a specialized elastomeric resin for:

- production of moulds for use in producing concrete objects.
- production of medium-elastic pressing molds for use in the stamped concrete procedure (edge stamps)
- production of medium-elastic objects.
- filling / casting applications

### Advantages

- Solvent free
- Shore A 45
- Long pot life
- Cold curing
- Minimum shrinkage
- High tear strength
- High impact strength
- Chemical resistant
- Over 10 years of positive feedback worldwide.

### Consumption

1,2 kg / liter

### Colors

The COLTECH E 445 is supplied in grey.  
Other colors may be supplied on demand.

### Technical Data \*

PROPERTY	RESULTS	TEST METHOD
Composition	Polyurethane Resin + Hardener. Solvent free.	
Mixing Ratio	A : B = 100 : 75 by weight	
Hardness (Shore A Scale)	45 + 2	ASTM D 2240
Solids Content	100 %	CALCULATED
Temperature strength	80°C (Fully cured)	IN HOUSE LAB
Low Temperature Brittleness	-40° C (Fully cured)	IN HOUSE LAB
Pot Life	15 minutes	
Tack Free Time	3-4 hours	Conditions:20°C,50%RH
Demoulding Time	24 hours	
Final Curing time	7 days	

### 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

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### Mould Preparation

Before casting, check that parts or moulds are free of any trace of moisture (Maximum surface moisture content should not exceed 4%). Before the application of the COLTECH E 445, the prepared object has to be coated with a suitable liquid-applied mould release agent as the COLTECH E 499 to avoid bonding with the mould.

### Mixing

Stir COLTECH E 445 Component A well before using. Stir COLTECH E 445 Component B well before using.

COLTECH E 445 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 3 min if applied manually. Both parts (Component A and Component B) have to be mixed at a temperature higher than 18°C. Component B may be heated to 40°C in order to reduce its viscosity but this will result in a shorter pot life.

**ATTENTION:** The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous.

### Casting

Apply COLTECH E 445 resin with a brush on the bottom of the mould to avoid entrapped air pockets.  
After 15-30 min pour COLTECH E 445 resin into mould.

<b>RECOMMENDATION:</b> Use suitable vacuum to remove entrapped air bubbles.
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<b>ATTENTION:</b> Please ensure consumption within the Pot Life.
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### Prototyping

It is advisable to prepare the object to be copied, by sealing all pores with the COLTECH E 495 resin, especially if the object is very porous and absorbent.

### 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<sup>o</sup>-30<sup>o</sup>C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

### Safety measures

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.