HIGH TEMPERATURE MOULD MAKER (C-1)

PRODUCT INFORMATION

Stock No.	Package Size
10361	500g

Description

High Temperature Mould Maker is a liquid epoxy designed for forming moulds, dies and parts exposed to temperatures 260 ºC. Cured material has exceptional strength at high operating temperatures such as injection moulding or vacuum forming.

Recommended Applications

- Used in making fine detailed two-part moulds
- Designing and forming moulds
- Pattern making
- Reproducing fine detail in making masters
- Ideal for prototyping, extrusion dies, injection or vacuum-forming

PRODUCT DATA

Typical Physical Properties

Colour	Grey
Mix Ratio by Volume	64:1
Mix Ratio by Weight	112:1
% Solids by Volume	100
Pot life at 25^{o}C/ mins	45
Specific Volume CC/Kg	588
Cured Shrinkage cm/cm	0.003
Specific Gravity	1.7
Temperature resistance / ^{o}C	260ºC
Coverage	N/A
Cured Hardness / Shore D	88 D
Dielectric Strength KV/mm	4
Adhesive Tensile Shear / MPa	35
Compressive Strength MPa	251
Coefficient of Thermal Expansion x10^{-6} cm/cm/^{o}C	N/A
Thickness per Coat / mm	As Required
Functional Cure Time /Hours	N/A
Recoat Time /Hours	N/A
Mixed Viscosity /cps (where applicable)	3000 @ 70ºC

Chemical Resistance

7 days room temperature cure (30 days) - Testing carried out 30 days immersion at 21^{o}C

Ammonia	Excellent	Methylene Chloride	Excellent
Cutting Oil	Very Good	Sodium Hypochlorite 5% (Bleach)	Very Good
Isopropyl Alcohol	Very Good	Sodium Hydroxide 10%	Excellent
Gasoline (Unleaded)	Excellent	Sulphuric Acid 10%	Excellent
Hydrochloric Acid 10%	Excellent	Xylene	Excellent
Methyl ethyl Ketone (MEK)	Fair		

Excellent = +/- 1% weight change
Very Good = +/- 1-10% weight change
Fair = +/- 10-20% weight change
Poor = > 20% weight change

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APPLICATION INFORMATION

Mixing less than 5 kg of High Temp Mould Maker

Cure	Place the filled mould box in a 49˚C oven. The mixture will harden in 1 - 4 hours depending on the size and shape of the mould. Check the top of the mould to determine hardness. When hard, take the box from the oven and de-mould. Place the mould back in the oven and post cure as follows: 2 hours @ 70˚C 2 hours @ 120˚C 2 hours @ 200˚C
Surface Preparation	The master part to be reproduced should have a smooth, non-porous surface to allow for easy mould release and exact duplication. Coat the master part and mould box with Devcon Release Agent. For highly detailed reproduction, give the model 3 coats of hard finish wax, buffing each coat well in-between applications. Place the master part securely in a mould box. Put the mould box, master part, and resin can in a 49ºC oven for 3 hours. **CAUTION:** Hardener may crystallise. Dissolve by heating to 49˚C
Mixing	Add entire contents of hardener container to resin container. Mix for 3-5 minutes with a spatula or similar tool. Mix all material from bottom and sides of container.
Application	Using a brush, apply a coating of the mixed epoxy to the preheated master. This step eliminates bubbles in the formed part. Pour the remainder of the mixed epoxy in a fine stream until the master part is covered.
Shelf life & Storage	A shelf life of 3 years from date of manufacture can be expected when stored at room temperature (22ºC) in their original containers.

Mixing more than 5kg of High Temp Mould Maker	Devcon epoxies cure by a chemical reaction between hardener and resin, a reaction that is accelerated by mixing large masses of material at high temperatures. This chemical reaction produces heat which can cause excessive shrinkage and cracking in the cured epoxy unless measures are taken to slow down the rate of cure. Reducing the oven temperature from 49º C to 38º C during the initial cure eliminates shrinkage and warpage when casting large parts. Reducing thickness of mould sections (maximum 38mm – 51mm) will also reduce shrinkage.

Precaution	For complete safety and handling information, please refer to the appropriate Material Safety Data Sheets prior to using this product. **FOR INDUSTRIAL USE ONLY** **WARNING: CAUSES EYE IRRITATION. MAY ALSO CAUSE SKIN IRRITATION.** **READ WARNINGS ON CONTAINER BEFORE USING.**
Warranty	ITW Devcon will replace any material found to be defective. As the storage, handling and application of this material is beyond our control we can accept no liability for the results obtained.
Disclaimer	All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Devcon makes no representations or warranties of any kind concerning this data. For product information visit www.devconeurope.com alternatively for technical assistance please call +44 (0) 870 458 7388 (UK) or +49 431 718830 (Germany).