

# PLASTIC STEEL LIQUID (B)

## PRODUCT INFORMATION

	<u>Stock No.</u> 10211	<u>Package Size</u> 500g
Description	A steel-filled liquid epoxy for fast-curing, durable, low cost moulds, dies and holding fixtures.	
Recommended Applications	<ul style="list-style-type: none"> <li>• Ideal chocking, filling and levelling compound for machinery and equipment</li> <li>• Creating holding fixtures for intricate parts</li> <li>• Repairing hard to reach areas where a flowable epoxy is required</li> <li>• Creating duplicating or tracing masters</li> <li>• Use to create rigid moulds</li> </ul>	

## PRODUCT DATA

Typical Physical Properties	Colour	Dark Grey	
	Mix Ratio by Volume	3:1	
	Mix Ratio by Weight	9:1	
	% Solids by Volume	100	
	Pot life at 25°C/ mins	45	
	Specific Volume CC/Kg	473	
	Cured Shrinkage cm/cm	0.0006	
	Specific Gravity	2.11	
	Temperature resistance / °C	Dry 120°C	
	Coverage	946cm <sup>2</sup> /Kg @ 5mm	
	Cured Hardness / Shore D	85 D	
	Dielectric Strength KV/mm	1.17	
	Adhesive Tensile Shear / MPa	19.3	
	Compressive Strength MPa	70	
	Coefficient of Thermal Expansion x10 <sup>-6</sup> cm/cm/°C	68.4	
	Thickness per Coat / mm	As Required	
	Functional Cure Time /Hours	16	
	Recoat Time /Hours	4	
Mixed Viscosity /cps (where applicable)	15-25,000		
Chemical Resistance	<b>7 days room temperature cure (30 days) - Testing carried out 30 days immersion at 21°C</b>		
	Ammonia	Very Good	Methylene Chloride Very Good
	Cutting Oil	Very Good	Sodium Hypochlorite 5% (Bleach) Very Good
	Isopropyl Alcohol	Poor	Sodium Hydroxide 10% Very Good
	Gasoline (Unleaded)	Very Good	Sulphuric Acid 10% Very Good
	Hydrochloric Acid 10%	Very Good	Xylene Fair
	Methyl ethyl Ketone (MEK)	Poor	
	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**

Cure	<p>A 12.7mm thick section of Devcon Epoxy will harden at 22°C in 4 hours. The material will be fully cured in 16 hours. The actual cure time of epoxy is determined by the mass used and the temperature at the time of repair.</p>
Surface Preparation	<p>Proper surface preparation is essential to a successful application. The following procedures should be considered:</p> <ul style="list-style-type: none"> <li>• All surfaces must be dry, clean and rough.</li> <li>• If surface is oily or greasy use MEK, Acetone, IPA or similar to degrease the surface.</li> <li>• Remove all old material from the surface by abrasive blasting or other mechanical means.</li> <li>• Aluminum repairs: Oxidation of aluminum surfaces will reduce the adhesion of an epoxy to a surface. This film must be removed before repairing the surface, by mechanical means such as grit-blasting or chemical means.</li> <li>• Provide a "profile" on the metal surface by roughening the surface. This should be done ideally by grit blasting (8-40 mesh grit), or by grinding with a coarse wheel or abrasive disc pad. An abrasive disc may be used provided white metal is revealed. Do not 'feather edge' epoxy materials. Epoxy material must be 'locked in' by defined edges and a good 75 - 125 micron profile.</li> <li>• Metal that has been handling sea water or other salt solutions should be grit blasted and high pressure water blasted and left overnight to allow any salts in the metal to 'sweat' to the surface. Repeat blasting may be required to 'sweat out' all the soluble salts. A test for chloride contamination should be performed prior to any epoxy application. The maximum soluble salts left on the substrate should be no more than 40 p.p.m. (parts per million).</li> <li>• Chemical cleaning with MEK, Acetone, IPA or similar should follow all abrasive preparation. This will help to remove all traces of sandblasting, grit, oil, grease, dust or other foreign substances.</li> <li>• Under cold working conditions, heating the repair area to 30°C - 40° C immediately before applying any of Devcon's Metal-filled Epoxies is recommended. This procedure dries off any moisture, contamination or solvents and assists the epoxy in achieving maximum adhesion to the substrate.</li> <li>• Always try to make the repair as soon as possible after cleaning the substrate, to avoid oxidation or flash rusting. If this is not practical, a general application of FL-10 Primer will keep metal surfaces from flash rusting.</li> </ul>
Mixing	<p>Add the hardener to resin. Mix thoroughly with a spatula or similar tool until a uniform, streak-free consistency is obtained, in approx 4 minutes. Be sure to mix material from bottom and sides of container.</p>
Application	<p>Mouldmaking</p> <ul style="list-style-type: none"> <li>• First ensure good surface preparation and coat the entire "box" with Devcon's Release Agent. Let it dry for 10 minutes. Apply a second coat, and let this dry for 10 minutes.</li> <li>• Now take a small brush and apply a thin coat of mixed product over the surface. This helps to alleviate any air bubbles in the curing process.</li> <li>• Then pour the liquid into the mould cavity. It is recommended to tilt the mould slightly onto one side when pouring to let the air escape easily and produce no blow holes in the finished product.</li> <li>• De-mould time is when the product has cured at room temperature.</li> </ul> <p>Note: Preheating the mould to 40°C will ensure that the liquid should flow better and reduce air entrapment.</p>

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Shelf life & Storage	A shelf life of 3 years from date of manufacture can be expected when stored at room temperature (22°C) in their original containers
Precaution	For complete safety and handling information, please refer to Material Safety Data Sheets prior to using this product.
Warranty	ITW Devcon will replace any material found to be defective. As storage, handling and application of this material is beyond our control we can accept no liability for the results obtained.
Disclaimer	<p>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.</p> <p>For product information visit <a href="http://www.devconeurope.com">www.devconeurope.com</a> alternatively for technical assistance please call +353 61 771501 (Ireland) or +49 (0) 431 71791-0 (Germany)</p>