

Devweld 531

ORDERING INFORMATION

	<u>Stock No.</u> 21500	<u>Package Size</u> 50ml Cartridge
Description	Devweld 531 is a two-part 1:1 ratio methacrylate adhesive designed for structural bonding of thermoplastic, metal and composite assemblies. Devweld 531 is particularly well suited for bonding thermoplastic materials and combines high strength and stiffness with the ability to adhere difficult-to-bond materials.	
Features	<ul style="list-style-type: none"> • Excellent shear, peel and impact strength • Non-sagging • Will fill gaps of up to 4mm • Excellent load bearing qualities • Resistant to weathering and humidity 	<ul style="list-style-type: none"> • Specifically designed for difficult-to-bond substrates • Room temperature cure • No surface preparation • 100% reactive
Substrates	<ul style="list-style-type: none"> • PVC & Vinyl • ABS • Acrylics (PMMA) • Polyesters • Styrenics • Vinyl Esters • Gelcoats • Cast iron • Sheet metal* • RIM Urethane • E-coat & other coated metal 	<ul style="list-style-type: none"> • Aluminum* • Galvanized Steel* • Phenolics • PC blends • Polyurethanes • Fibreglass • PBT & PET blends • Polyurea RIM • Epoxies • LMR • Nylon 6 and Blends
Notes	*Metal Prep 90 Primer suggested	

PRODUCT DATA

Physical Properties Uncured @23°C

	<u>Part A</u>	<u>Part B</u>
Colour	Off white	Yellow
Viscosity, cps	40,000-60,000	40,000-60,000
Mixed Ratio by Volume and weight	1	1
Density, g/cc	1.03	0.97
Mixed Density g/cc	1.00	
Working Time ²	15 – 18 mins	
Fixture Time ³	30 – 35 mins	
Full Cure	24 hours	
Flash Point, °C	9	
Gap Fill, mm	1 – 4 ¹	
Tensile Strength MPa	27 – 31	
Modulus MPa	1034 – 1206	
Lap Shear Strength MPa (GBS)	20 – 24	
Elongation (%)	5-15	
Operational temperature range, °C	-55 – 121	

Mechanical Properties Cured @23°C

Notes	¹ For bond lines less than 1 mm please contact ITW Devcon for advice
(2) Working time	The time elapsed between the moment Part A and B are combined and thoroughly mixed and the time when the adhesive is no longer usable.
(3) Fixture time	The interval of the time after which surfaces being joined will support a 2lb (1kg) dead weight on a ½" (12.7mm) overlap joint 1" (25.4mm) wide without movement.

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CHEMICAL RESISTANCE

Hydrocarbons	Excellent
Acids and bases (pH3-10)	Excellent
Salt solutions	Excellent

Susceptible to polar solvents

APPLICATION INFORMATION

Mixing	Devweld 531 is available in pre-measured 50ml cartridge form. The cartridge should be used with the appropriate manual Applicator Gun and Static Mixer Nozzle. The Static Mixer Nozzle enables the material to be thoroughly mixed when dispensed, and thus can be applied directly to the surfaces to be bonded. Please note: Once the product goes beyond its working time the nozzle has to be thrown away and a new nozzle used for further dispensing.
Application	Apply mixed adhesive directly to one surface in an even film or as a bead. Assemble with the mating part within the recommended working time. To assure maximum bond strength, surfaces must be mated within the specified working time of the adhesive. Use sufficient material to insure 100% joint fill when parts are mated and clamped. All adhesive applications, part positioning and clamping should occur before the working time of the mix has expired. Movement of the part after the working time has expired can result in bond strengths lower than normal. Ensure that the assembly remains undisturbed until fixture has occurred.
Effect of Temperature	Application of adhesive at temperatures between 18°C and 26°C will ensure proper cure. Temperatures below 18°C will slow cure speed; above 26°C will increase cure speed. The viscosities of Parts A and B of this adhesive are affected by temperature.
Storage and Shelf life	All Devcon Adhesives should be stored in a cool, dry place when not used for a long period of time. A shelf life of 1 year from date of manufacture can be expected when stored at room temperature 22°C in their original containers. Shelf life may be extended by refrigeration (7°C - 12°C). This product should never be frozen.
Handling and Storage	WARNING! This product is flammable (Parts A and B). Contents include Methacrylate Ester. Keep containers closed after use. Avoid skin and eye contact. Wash with soap and water after skin contact. In case of eye contact, flush with water for 15 minutes and get medical attention. Harmful if swallowed. Keep out of the reach of children. Keep away from heat, sparks and open flames. NOTE: Because of the rapid curing features of this product, large amounts of heat are generated when large masses of material are mixed at one time (film thickness cures in excess of 4mm should be avoided wherever possible). The heat generated by the exotherm resulting from the mixing of large masses of adhesive can result in the release of entrapped air and volatile components as evidenced by gassing. To prevent this, use only enough material as needed for use within the working time for the product, and confine gap thickness to no more than 4mm. Do not dispense waste material into plastic cups as heat may melt container. Do not hold metal containers of Devweld adhesive during curing or else heat generated may cause burning.
Clean up	Clean up is best accomplished before the adhesive cures. For cured adhesive carefully scrape it away and wipe with a solvent. Spills should be cleaned up with an absorbent material and disposed of as flammable material.
Precaution	For complete safety and handling information please refer to the appropriate Materials Safety Data Sheets prior to using this product.
Warranty	Devcon will replace any material found to be defective. Because 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 +353 61 771501 (Ireland) or +49 431 718830 (Germany)