



CRESTABOND® PP-04

PROVISIONAL TDS

Methacrylate based Structural Adhesive

Product Overview

Crestabond PP-04 is designed to structurally bond low surface energy substrates such as polypropylene (PP), polyethylene (PE) and other difficult to bond plastics, commonly known as thermoplastic polyolefins (TPO). Such plastics repel rather than attract adhesion due to their non-polar, non-porous and chemically inert surfaces. Crestabond PP-04 will bond these materials without surface treatments.

Features and Benefits

- Primer-less application
- Excellent adhesion to dissimilar substrates
- Room temperature cure
- Ready-to-use two component adhesive
- Easy to use and dispense
- Replaces mechanical fasteners
- Reduces labour

Characteristics of Crestabond PP-04

Characteristics	Typical Value
Working time ¹	3 – 5 Minutes
Handling time	Light duty: 25 minutes Heavy duty: 120 minutes
Full cure	24 hours minimum
Gap Filling	0.5 – 5 mm
Flash Point	11°C
Mixed Colour	Off white

1. Working time is the approximate time after mixing the adhesive and activator, that the mixed adhesive remains usable. (Refer to application guidelines on page 3.)

Liquid Properties

Property	Typical Value	
	PP-04 Adhesive	PP-04 Activator
Viscosity ²	150,000 – 200,000 cP	130,000 – 150,000 cP
Specific Gravity	0.99	0.98
Mix Ratio (by volume)	1.0	1.0
Mix Ratio (by weight)	1.0	1.0
Colour	Off White	Translucent
Stability at 5°C ³	6 Months	6 Months

2. Viscosity measured using a Brookfield Viscometer.
3. Stability defined from date of manufacture when left un-opened in the original container and out of direct sunlight.

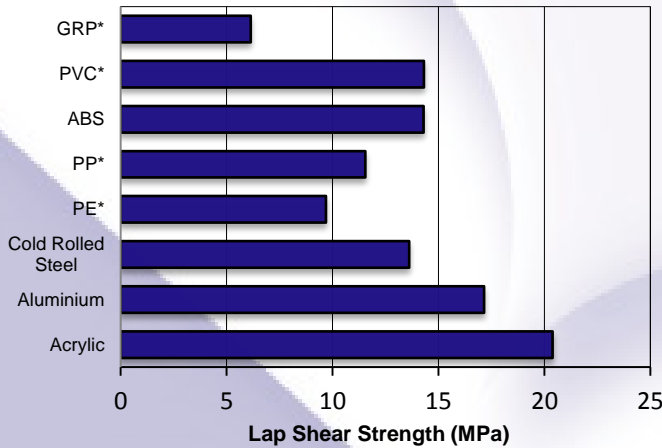
Typical Material Properties

Property	Typical Value
Tensile Strength	21 – 23 MPa
Tensile Modulus	1300 - 1500 MPa
Tensile Elongation	4%

Tested to ASTM D638

Bond Joint Strength – Typical Lap Shear Strengths at 23°C

Values are based on substrate failure where marked by *



Material	Surface Preparation	Bondline Thickness	Test Method
GRP	Solvent Degrease	3.00mm	ASTM 5868
PVC	Solvent Degrease	0.76mm	ASTM 2564
ABS	Solvent Degrease	0.76mm	ASTM 2564
PP	Solvent Degrease	0.76mm	ASTM 2564
PE	Solvent Degrease	0.76mm	ASTM 2564
Cold Rolled Steel	Degrease, Abrade & Degrease	0.26mm	ISO 4587
Aluminium	Solvent Degrease	0.26mm	ISO 4587
Acrylic	Solvent Degrease	0.76mm	ASTM 2564

Recommended Substrates

Metals

Aluminium
Stainless Steel
Carbon Steel

Thermoplastics

Acrylic Styrenics
ABS PVC
PP LDPE
PE HDPE

Composites

GRP/FRP

Non-Recommended Substrates

Zinc/Galvanised Coated Metals

Surface Preparation

The surface to be bonded can affect the strength and durability of the bond joint. Appropriate treatment may be required to ensure that there are no traces of oil, grease or dirt through the use of a degreasing agent, for instance acetone, iso-propanol or another degreasing agent on the joint surfaces.

Mechanically abrading or chemically etching degreased surfaces can make bond joints more durable and stronger. If abrading, a second treatment of degreasing is highly recommended.

Do not use gasoline (petrol), low grade alcohol or paint thinners.

i) Metals

Typically, the surface should be clean and dry by using an alcohol/solvent wipe and allowing the solvent to evaporate before application. Certain metals, such as carbon steel may also require mechanical abrasion and a subsequent alcohol solvent wipe prior to bonding.

ii) Thermoplastics

The surface must be clean, dust-free and dry. A suitable solvent such as iso-propanol can be used to degrease.

iii) Composites

The surface must be clean, free of dust and dry. This can be achieved by the use of proprietary strippable cloths such as peel-ply (without lubricant contaminates). The laminate should be fully cured prior to bonding and if the laminate surfaces are more than 3 days old, it is recommended that the surface must be cleaned with a suitable solvent or cleaner with a lint-free, clean cloth prior to bonding.

Application

Crestabond PP-04 is supplied ready to use in pre-packed 50ml and 400ml cartridges. Prior to bonding, ensure the substrate surface is clean by following the instructions provided. Dispense the adhesive at a slow rate initially onto a non-bonding surface until the bead colour is uniform. Check the dispensed bead for cure quality before beginning the bonding process. Dispense enough adhesive to fill the bond gap before parts are mated. Avoid dry bonds by using adequate pressure to mate parts and clamp properly to prevent joint movement.

All these processes must be completed before the working time of the mixed adhesive expires. The viscosities of both adhesive and activator are affected by temperature. The adhesive, activator and parts to be bonded should be allowed to attain workshop temperature of between 18°C and 25°C prior to bonding. This temperature should be maintained during the bonding process and until the adhesive is sufficiently cured to allow movement of the assembly.

For industrial/ commercial use only. Not to be used in household applications. The user must determine the suitability of a selected adhesive for a given substrate and application. Contact your local Scott Bader representative for questions or assistance with the selection of adhesives for your use. This product is intended for use by skilled individuals at their own risk. Recommendations contained herein are based on information we believe to be reliable. The properties and strength values were obtained under controlled conditions at the Scott Bader laboratory.

Storage and Shelf life

The shelf life for Crestabond PP-04 is defined from date of manufacture when stored at the recommended temperature, between 5°C and 8°C. These products must be stored within this temperature range; short periods (up to 7 days) of exposure to temperatures up to 30°C will reduce the shelf life; longer periods at this temperature will cause the product to thicken and become unusable. These products must never be frozen.

Crestabond products should be stored in their original container out of direct sunlight. The cartridge should only be opened immediately prior to use. The expiry date is indicated on the product labels.

Packaging

Crestabond PP-04 is supplied in pre-packed 50ml and 400ml cartridges.

Health and Safety

See separate Material Safety Data Sheet.

All information on this data sheet is based on laboratory testing and is not intended for design purposes. Scott Bader makes no representations or warranties of any kind concerning this data. Due to variance of storage, handling and application of these materials, Scott Bader cannot accept liability for results obtained. The manufacture of materials is the subject of granted patents and patent applications; freedom to operate patented processes is not implied by this publication.

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