

Technical Data Sheetswiftsupplies.com.au

Our Easy-Mix PE-PP 45 is a specialised, professional-quality adhesive designed for bonding low surface energy plastics. This two-part adhesive can join all but the most difficult to bond materials (think PTFE) thanks to its special formulation and integrated primer.

PE-PP 45 is manufactured by Weicon in Germany and used in many different industrial sectors around the world.

Easy to Use thanks to the Easy-Mix System.

The Weicon Easy-Mix Dosing System eradicates complex mixing and measuring and makes getting the right amount of glue, where you need it, simple.

[View This Product](#)

Simply slot the container of PE-PP into a compatible dispensing pistol (we suggest the Weicon D 50 with a special piston or the already modified D 50 for PE-PP 45) and attach the Special Mixing Nozzle (one is included with each container).

That's it. When you pull the trigger the two parts that make up PE-PP45 Adhesive will be mixed as they travel along the nozzle so that, by the time they reach the surface, you have a single homogenous adhesive.

Spare mixing nozzles are also available, and the gun works with a variety of our adhesives, so you can mix and match depending on your particular requirements.

Compatible with Almost All Types of Plastic.

Let's get the bad news out of the way first: Our PE-PP 45 Adhesive is not suitable for bonding PTFE (aka, Teflon®). That said, it can be used for pretty much every other type of plastic.

Known problems like polyethylene and polypropylene can be joined with PE-PP 45. It is also highly compatible with higher surface energy plastics like PVC, polycarbonate (PC) and phenolics (Bakelite).

Compatible with Other Material Types.

Easy-Mix PE-PP 45 is also well suited for joining hard to bond plastics to other types of materials. Based on Methyl Methacrylate (MMA), this adhesive is highly compatible with common types of metals including steel, stainless and aluminium.

Fast.

Weicon Easy-Mix PE-PP 45 is a fast curing adhesive with a short pot life and cure time. Pot life is listed at just 2-3 minutes (once the parts are mixed) while cure times vary depending on material combinations.

Important

The values listed here and the information presented should not be treated as a substitute for specific technical advice. We cannot warrant the products performance or suitability for particular applications.

Date Created: 10/9/2018

Date Modified: 12/9/2018

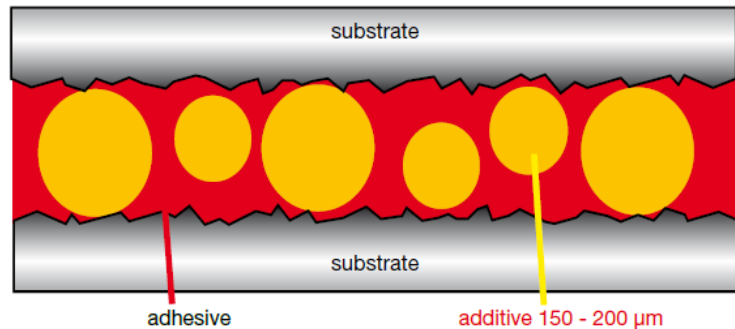
Document # SSD-TDS-SWP000267

Integrated Primer with No Complex Mixing.

One of the reasons that PE-PP 45 works so well where other adhesive fail is that this specialised glue has an integrated primer. This is not separate to the adhesive, rather, it is included within the contents and requires no separate process.

When PE-PP 45 has worked its way down the mixing nozzle and reaches the bonding surface, the primer will work to modify the structure to increase the surface energy. This makes bonding possible.

For the primer to work, a bonding gap of 0.15mm to 0.2mm is required. Fortunately, this is ensured through the presence of tiny glass beads in the mixture which ensure that the two bonding surfaces are forced no closer than this. In this way, you can prime and glue in one simple action.

**Chemical and Age Resistant with Good Residual Elasticity.**

Bonds made with PE-PP 45 are long lasting and resistant to aging. They are also resistant to attack from a vast range of chemicals including many common fluids such as petrol, mineral oil, water, brake fluid and cooling lubricants.

Pasty, Stable Adhesive that is Easy to Apply.

This MMA Adhesive has a high viscosity (approx. 45,000 MPa) which makes deliberate application easy and helps reduce wastage. It also means that this glue for polyethylene or polypropylene can be applied to vertical surfaces without any issues.

PE-PP 45 can be used to bridge gaps up to 1mm.

Applications

PE-PP 45 is used by numerous industries for joining PE or PP and as an alternative to cold welding. Some of the specific uses we've seen include:

- Fixing polyethylene guides to metal frame work for conveyor systems.
- Bonding PE insulation to supporting systems.
- Fitting polypropylene wear pads.
- Assembling plastic flanges for oil and gas lines.
- In the manufacture and repair of polypropylene cases for electronics.
- Many, many more applications where PP or PE needed to be joined or bonded to other materials.

Important

The values listed here and the information presented should not be treated as a substitute for specific technical advice. We cannot warrant the products performance or suitability for particular applications.

Date Created: 10/9/2018

Date Modified: 12/9/2018

Document # SSD-TDS-SWP000267

Properties

Basis	Methyl Methacrylate (MMA)
Colour After Curing	Yellowish, Transparent
Density of the Mixture	1.07 g/cm ³
Mixing Ratio	10:1
Viscosity of the Mixture	45,000 MPa
Application Procedure	Easy-Mix
Composition	Pasty
Pot Life (at 20°C)	2-3 Minutes (approx.)
Handing Strength (35% of Final)	2 – 3 Hours (PP-PP) 6 Hours (Alu-Alu)
Capable of Bearing Mechanical Loads (50% of Final)	3 – 4 Hours (PP-PP) 24 Hours (Alu-Alu)
Fully Cured (100%)	24 Hours (PP-PP) 72 Hours (Alu-Alu)
Adhesive Gap Bridging	0.25mm – 1mm
Temperature Resistance (After Curing)	-50°C to +80°C
Shore D Hardness	55
DIN EN ISO 868	

Shear Strength (According to DIN 53281)

Aluminium	14 N/mm ²
Steel	17 N/mm ²
Stainless Steel	16 N/mm ²
Polycarbonate	6 N/mm ²
PMMA	7 N/mm ²
ABS	11 N/mm ²
Hard PVC	14 N/mm ²
Fibreglass Reinforced Polyester	17 N/mm ²
Fibreglass Reinforced Epoxy	16 N/mm ²
Polyamide 6.6	6 N/mm ²
Polyoxymethylen (POM)	2 N/mm ²
Polyethylene, High Density (HDPE)	7 N/mm ²
Polypropylene	8 N/mm ²

Important

The values listed here and the information presented should not be treated as a substitute for specific technical advice. We cannot warrant the products performance or suitability for particular applications.

Date Created: 10/9/2018

Date Modified: 12/9/2018

Document # SSD-TDS-SWP000267

Easy-Mix PE-PP 45 Adhesive Chemical Resistance After Curing

Acetone	+	Isopropyl Acetate	+
Acidic Vapours	+	Isopropyl Alcohol	+
Alcohol	+	Isopropyl Ether	+
Aliphatic Hydrocarbons	+	Kerosene	+
Alkaline Vapours	+	Ketone	+
Ammonia, Ammonium Chloride	+	Lubricating Oils & Greases	+
Aromatic Hydrocarbons	O	Mercury	+
Benzoyl	O	Methanol (Methyl Alcohol)	+
Benzoyl Acid	+	Methyl Benzoyl	+
Bile Medium (Bilge Water)	+	Methyl Chloride	O
Brake Fluid	+	Methyl Ethyl Ketone	+
Bromide Solution	O	Methyl Isobutyl Ketone	+
Butyl Alcohol (Isobutanol)	+	Methylene Dichloride	+
Calcium Chloride (Sea Salt)	+	Mineral Oil	+
Calcium Sulphate	+	Mineral Turpentine	+
Calcium Sulphite	+	Nitric Acid (5%)	+
Chlorinated Hydrocarbons	+	Nitric Acid (Fuming)	-
Chlorinated Salt Water	+	Oxygen	-
Chlorinated Solvents	-	Ozone	-
Chlorinated Water	+	Paraffin oil (Kerosene)	+
Chlorine Alcohol	+	Perchlomethylmercaptan	+
Chlorine Bleach	-	Persulfuric Acid (5%)	+
Chlorine Gas (Liquid & Dry)	-	Petrol	+
Chlorine Sulphuric Acid	-	Phenol (Carbolic Acid)	+
Chlorine (Liquid & Dry)	-	Phenol Resin	+
Chloroform	+	Phosphoric Acid (5%)	+
Chromatic Acid (5%)	+	Phthalic Acid	+
Cooling Lubricants	+	Polyphosphoric Acid (5%)	+
Corrosive Ammonium, Ammonium Hydroxide	O	Potassium Carbonate (Potash)	+
Cylinder Oil	+	Propyl Alcohol	+
Dichloroethylene Ether	+	Selenium Chloride	+
Epichlorohydrin	+	Silicon Oils	+
Freon	O	Sulphur Dioxide (Wet & Dry)	+
Fuel (Jet or Turbine)	+	Sulphur Trioxide Gas	-
Glycocol, Glycine	+	Sulphuric Acid	O
Heating Oil (Diesel)	+	Sulphuric Acid (Fuming)	-
Heptane	+	Tannic Acid	O
Hydrochloric Acid	O	Toulene	O
Hydrocyanic Acid (Prussic Acid 5%)	+	Toulene Sulphuric Acid	O
Hydrogen Bromide (5%)	+	Trichloroethylene	+
Hydrogen Chloride	+	Turpentine, Turpentine Oil	+
Hydrogen Fluoride (Hydrofluoric Acid)	-	Waste Water	+
Hydrogen Peroxide	O	Water	+
Hydrogen Sulphide (Wet & Dry)	+	Water (Boiling)	O
Isobutyl Alcohol (Isobutene)	+	Water (Distilled)	+
		Xylene (Dimethylbenzoyl)	O

+ = Resistant

O = Resistant for a Limited Time

- = Not Resistant

Important

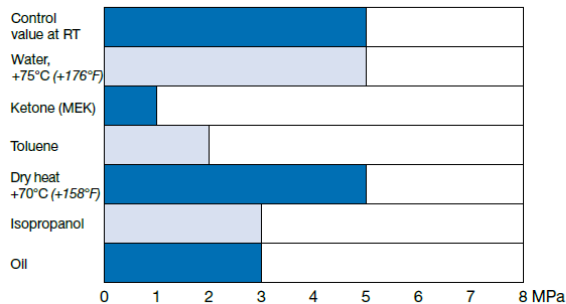
The values listed here and the information presented should not be treated as a substitute for specific technical advice. We cannot warrant the products performance or suitability for particular applications.

Date Created: 10/9/2018

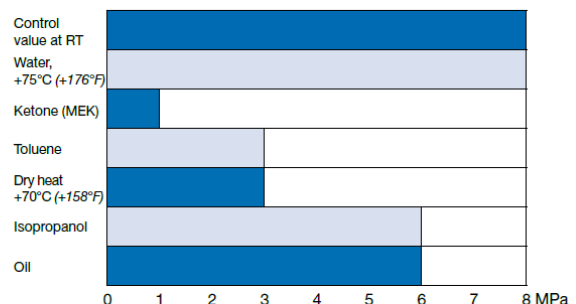
Date Modified: 12/9/2018

Document # SSD-TDS-SWP000267

Ageing resistance of PE adhesive bonds
after storage in various media
(14 days at room temperature)



Ageing resistance of PP adhesive bonds
after storage in various media
(14 days at room temperature)

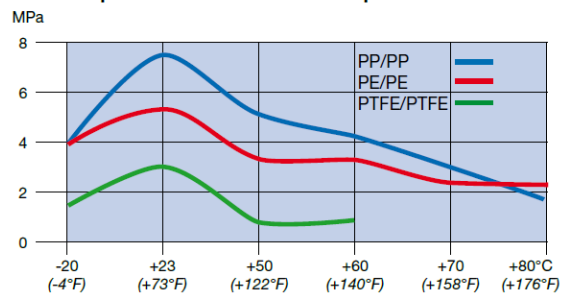


Specification of the test specimen:

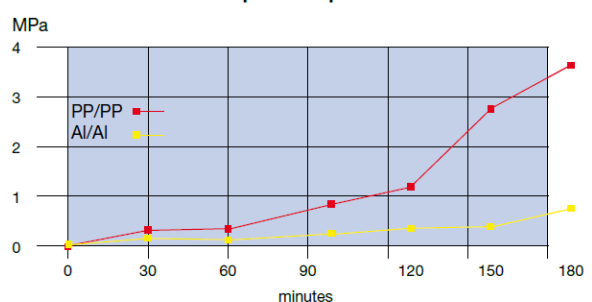
Standard: DIN 53283
Adhesive surface: 12.5 mm x 25 mm
Adhesive thickness: 0.2 mm

Curing: 7 days at room temperature
Testing speed: 10 mm/min

Tensile shear strength of WEICON Easy-Mix PE-PP 45
compliant with DIN 53283 in temperature curve



Strength development of WEICON Easy-Mix PE-PP 45 on
tensile shear test samples compliant with DIN 53283



Preparation of the Surface

To ensure perfect bonding, the surfaces to be joined must be clean and dry (to clean and degrease use Weicon Surface Cleaner). The highest strength values can be achieved through additional pre-treatment of the surfaces, such as roughening using blasting or abrasive agents. Several plastics, in particular (PTFE in particular) can only be bonded after special surface treatment, for example using fluoridation, low-pressure plasma, corona, flame impingement etc.

Processing

All Weicon Easy-Mix Adhesives can be processed directly from the double cartridge with the assistance of a compatible dispensing gun (such as the Weicon D 50 for PE-PP 45) and the included mixing nozzle.

Reject the first 5cm of the dosed bear. Apply the adhesive to only one side of the surfaces being bonded. The pot life given is for a material quantity of 10ml at room temperature. If larger quantities are used, pot life will be shortened.

Storage

Easy-Mix PE-PP 45 Adhesive has a minimum shelf-life of 3 months if stored, unopened, in normal climate conditions. This can be extended if kept in cold storage.

Available Sizes

Easy-Mix PE-PP 45 is available from Swift Supplies in 38ml Double Cartridge Packs.

Important

The values listed here and the information presented should not be treated as a substitute for specific technical advice. We cannot warrant the products performance or suitability for particular applications.

Date Created: 10/9/2018

Date Modified: 12/9/2018

Document # SSD-TDS-SWP000267