

Technical data

CODE:

8900

PRODUCT:

MONOLITH® 342-1

NOTE:

TECHNICAL DATA

IMAGE:**LAST UPDATE:**

5/2023

MONOLITH® 342-1

Two-part methacrylate adhesive

Description

Monolith® 342-1 is a two-part methacrylate adhesive for structural bonding of thermoplastics, metals and composites. It is a fast curing system mixed at a ratio of 10:1. Monolith® 342-1 is recommended for bonding composite materials in transport vehicles. It requires virtually no surface preparation. In addition, this product offers a unique combination of high strength, excellent fatigue life, significant impact resistance and high resistance to environmental conditions.

Features & Benefits

- No surface preparation required.
- Highly durable.
- Tolerates inaccuracies in mixing ratios.
- No streaking..

Chemical resistance

Excellent resistance for:

- Hydrocarbons
- Acids and Bases (3-10 pH)
- Salt Solutions

Susceptible to:

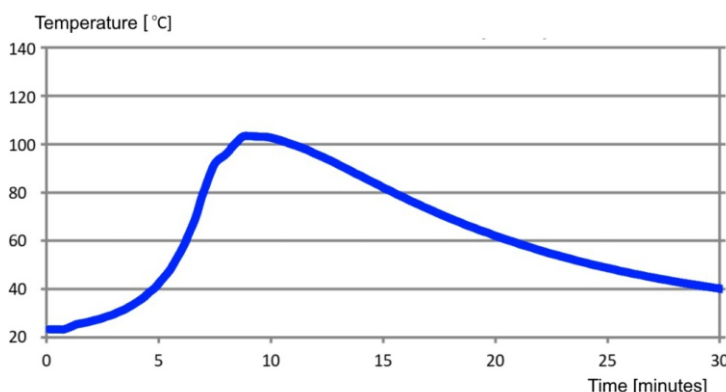
- Strong Acids and Bases
- Polar Solvents

Tests should be carried out prior to bonding.

Recommended for bonding materials

- ABS, Acrylic (PMMA), Polycarbonate, PVC, Dibond
- Aluminium (MA primer recommended)
- Carbon steel (MA Primer recommended)
- Stainless steel (MA Primer recommended)
- FRP - Fibre Reinforced Polymer
- Gelcots, Polyesters (including modified DCPD), Styrenic resins
- Urethanes (general), Vinyl esters

Typical exothermic curve for Monolith 342-1 at 23°C (10 grams)



Typical performance of cured adhesive

Tensile (ASZM D638)	
Strength, Mpa	18,6 - 20,7
Modulus, Mpa	517 - 689
Strain to failure (%)	30 - 50%
Lap shear (ASTM D1002)	20,7 - 26,2
Cohesive strength, MPa	(joint GBS A -0,75 mm)

Physical properties of uncured

Appearance
Appearance when mixed
Viscosity (23°C)
Specific gravity

COMPONENT A

Off white
Blue - green / Black
100.000 - 125.000 mPa·s
0,97 g/cm ³

COMPONENT B

Blue / Black
Blue - green / Black
35.000 - 80.000 mPa·s
1,05 g/cm ³

Typical curing properties (RT)

Mixing ratio	10:1 by volume 91:10 by weight
Gap filling	0,75 mm - 9,5 mm
Working time	4 - 6 minutes
Fixture time	18 - 22 minutes
Full cure	6 hours
Flash point	+ 11°C
Operating temperature	-55°C - + 120°C
Mixed density	0,98 g/cm ³
Volatile organic compounds, VOC	<2% (<20 g/L)

Handling and application

Surface Preparation.

Substrates must be clean, dry and free from oil and grease. The cleaning agents offered by Proxima Adhesives are suitable for cleaning. The use of special primers is not required. The adhesive will tolerate general industrial contamination. However, cleanliness of the surface will significantly increase the strength of the bond.

Directions for Use.

Monolith® 342-1 can be applied manually or by automatic equipment. Automatic application can be carried out using a variety of dispensing equipment in a 10:1 ratio, with both components fed into a static mixer. Information on dispensing equipment can be obtained from your Proxima Adhesives representative. Metered cartridges and hand guns are also available to apply the adhesive. To ensure maximum bond strength, bond surfaces together before the specified shelf life. Use enough material to completely fill the gap after mating the parts and applying pressure. All adhesive application, part alignment and fastening operations should be carried out before the expiry of the shelf life of the adhesive. After the stated shelf life, parts must be held in place until functional strength is achieved. Cleaning is easiest before the adhesive has cured. It is best to use citrus terpene or isopropyl alcohol (IPA), which contain cleaning and degreasing agents. Once the adhesive has cured, the most effective method of cleaning is to carefully scrape and then rinse with a solvent.

TEMPERATURE IMPACT: Applying the adhesive at temperatures between +18°C and +30°C will ensure proper curing. Temperatures below +18°C will slow down the cure and above +30°C will speed up the cure. Temperature affects the viscosity of the A and B components of this adhesive. To ensure good dispensing performance, the temperature of the adhesive and activator should be kept fairly constant throughout the year. Prolonged storage at low temperatures or freezing of the adhesive may cause a change in the consistency of the components and the appearance of thickening and lumps. In this situation, the adhesive should be left at room temperature for at least a few days before use until its consistency becomes homogeneous again (see also Storage section).

Cleaning.

Soapy water or common solvents can be used to clean equipment contaminated with Monolith® 342-1 in the uncured state. Cured adhesive can only be removed mechanically.

Storage

The shelf life of Monolith® 342-1 adhesive and activator (components A and B) depends on the storage temperature. This temperature is between +12°C and +23°C. Prolonged exposure to temperatures above +23°C will reduce the shelf life of these materials. The expiry date is printed on each package and refers to the conditions described above. Exposure of activators, including cartridges containing activators, to temperatures above +37°C should be avoided as this will rapidly reduce the reactivity of the product. Shelf life can be extended by refrigeration (+7°C - +12°C). These products must never be frozen.

Shelf Life: 10 months (blue) / 7 months (black) in original packaging

Safety

Precautions generally accepted for chemical products should be followed. Details are given in the Safety Data Sheet of the product.

Notes

- **Working Time:** The time from when component A and component B of the adhesive are thoroughly mixed until the adhesive is no longer usable. Times are tested at +23 °C.
- **Fixture Time:** the time taken for the bonded surfaces to hold a 1kg load without movement over a 12.7mm overlap with a 25.4mm width. Time tested at +23°C.
- **Chemical resistance** varies considerably depending on several parameters: temperature, concentration, bond thickness and exposure time. The chemical resistance stated refers to long-term exposure under ambient conditions.
- **Thermal reaction:** In a typical joint, the exothermic reaction temperatures will be lower than specified.
- **Bonding gelcoats:** Weathering urethane modified gelcoats may require a different adhesive. Tests should be carried out with the chosen adhesive.
- **Metal Bonding:** Exterior applications require coatings or primers that inhibit oxidation of the steel.

Cartridges: 380 ml

Our data reflect the current state of chemistry and technology and do not claim to be exhaustive. The best safeguard against possible errors, for which we cannot accept any responsibility, is to carry out your own tests. In this way, the variable data, which depend on the application, working method and materials, will be confirmed in each case under specific conditions.