



MACROPLAST UK 1351 B25 / MACROPLAST UK 5452

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PRODUCT DESCRIPTION

MACROPLAST UK 1351 B25 / MACROPLAST UK 5452 provides the following product characteristics:

Technology	Polyurethane
Product Type	Structural Adhesive
Cure	Polymerisation
Condition	Solvent-free
Components	Two component
Application	General assembly
Appearance (Component A)	Beige
Appearance (Component B)	Green
Mixing Ratio, by weight Part A: Part B	100 : 40

MACROPLAST UK 1351 B25 / MACROPLAST UK 5452 is a solvent-free, two-component structural adhesive based on polyurethane.

The resin part (component A) contains organic compounds with hydroxyl groups, the hardener (component B) is based on isocyanates. By mixing both components in a weight ratio of 100 : 40, a hard elastic two-component structural adhesive is formed through chemical reaction.

The product can also be used for bridging wide gaps up to 15 mm. Moreover, the adhesive is not abrasive, since high-quality raw materials are used. In addition, the product group is outstanding for its low exothermic reaction while curing.

Due to the use of natural raw materials (from different cultivation areas), a variation in color between different batches is possible.

Application Areas

MACROPLAST UK 1351 B25 / MACROPLAST UK 5452 is mainly used for the structural bonding of fibrous composite materials, e.g. in the wind energy or shipbuilding industry.

TECHNICAL DATA

Component A

Macroplast UK 1351 B25:

Consistency:	pasty
Density, g/cm ³	1.5 ± 0.05
Viscosity Henkel method 10	pasty

Component B

Macroplast UK 5452:

Consistency:	pasty
Density, g/cm ³	1.2 ± 0.05
Viscosity Henkel method 10	pasty

Mixture (Component A + B):

Consistency:	pasty
Viscosity at 20°C, mPas Brookfield RVT, Henkel method 11	400,000 to 500,000

Potlife (280g, 20 °C), min Henkel method 21	25 ± 5
Open Time, (23°C, 50% rh) Henkel method 30, min	50 ± 10
Initial setting time (23 °C), hrs	1 to 2
Final setting time (23°C), days	2 to 3
Tensile shear strength, MPa * EN 1465, Henkel method 40	> 20
Glass Transition, °C DSC	> 70
In service temperature, °C	-40 to +120

Certificates and Approvals

MACROPLAST UK 1351 B25 / MACROPLAST UK 5452 complies with the requirements of Germanischer Lloyd (GL).

DIRECTIONS FOR USE

Preliminary Statement:

Prior to application it is necessary to read the **Material Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed.

Pretreatment:

The substrate should be clean, dry, free of dust, oil, grease and other contaminants. The usage of suitable primers on metal surfaces can improve the adhesion and/or the long-term bond stability. The surface of plastic materials should be cleaned, so as to remove any kind of release agents present on the substrate surface. An improvement of the adhesion can be achieved by grinding or sandblasting the surface.

Application:

MACROPLAST UK 1351 B25 / MACROPLAST UK 5452 is processed from a side-by-side cartridge using commercially available compressed-air guns. Since the material is thixotropic, it is advisable to use geared compressed-air guns. The two components are mixed with a static mixer, e.g. spiral mixers with no less than 24 mixing elements. Striation must not be visible. The first and the last 10 cm of material mixed and dispensed with a static mixer need to be disposed of (do only use thoroughly mixed material, consider the color of the mixture). In case of manual mixing, the thixotropic formulation of resin/hardener involves high risk to the quality, such as the inclusion of air.

The adhesive is only to be used within a limited time (pot life). After this time the mixture gels up and is not suitable for use. Therefore only the amount that can be applied within the time of pot life should be mixed. The pot life depends on the quantity and temperature of the mixed batch. With larger quantities and an increase in temperature, the pot life decreases. Lower temperatures extend the pot life. Adhesive components should not come in contact with moisture during storage or application.

Contact with moisture (water vapour) generates foaming of the adhesive and weakens the bondline. Therefore all packaging should be sealed properly and protected against humidity during storage.

Curing:

MACROPLAST UK 1351 B25 / MACROPLAST UK 5452 can be cured between 15°C and elevated temperatures (up to 80°C). The curing time will be reduced substantially with increasing temperatures. The addition of chemical catalysts (accelerators) also speeds up the curing reaction (i.e. pot life, open time). While curing there should be adequate contact pressure (load pile, presses, clamps) and fixtures to hold the joint in place. An improvement of the mechanical properties can be achieved by tempering at 80°C.

Cleaning:

Fresh, uncured material (cleaning application equipment, substrate contamination etc.) can be removed with Macroplast B 8040; cured adhesive can only be removed mechanically.

Classification:

Please refer to the corresponding **safety data sheets** for details on:

- Hazardous Information**
- Transport Regulations**
- Safety Regulations**

Storage:

When properly stored in a cool, dry location, with the container tightly closed when not in use, this product will have a shelf life of at least 12 months.

Optimal Storage : 15°C to 25°C. Storage below 15°C or greater than 25°C can adversely affect product properties. Component B is frost-sensitive.

ADDITIONAL INFORMATION

Disclaimer:

The information provided herein, especially recommendations for the usage and the application of our products, is based upon our knowledge and experience. Due to different materials used as well as to varying working conditions beyond our control we strictly recommend to carry out intensive trials to test the suitability of our products with regard to the required processes and applications. We do not accept any liability with regard to the above information or with regard to any verbal recommendation, except for cases where we are liable of gross negligence or false intention.

This datasheet replaces all former versions.

Reference 0.0

