

LOCTITE UK 1351 B25 / LOCTITE UK 5452

April 2014

PRODUCT DESCRIPTION

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

Technology	Polyurethane
Product Type	Structural Adhesive
Cure	Polyaddition
Condition	Solvent-free
Components	Two-components
Component A	Resin
Component B	Hardener
Application	General assembly
Appearance (Comp. A)	beige
Appearance (Comp. B)	green
Mixing Ratio, by weight Comp. A : Comp. B	100 : 40

LOCTITE UK 1351 B25 / LOCTITE 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

LOCTITE UK 1351 B25 / LOCTITE 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

Loctite UK 1351 B25:

Consistency:	pasty
Density, g/cm ³	1.45 to 1.55

Component B

Loctite UK 5452:

Consistency:	pasty
Density, g/cm ³	1.21 to 1.26

Mixture (Component A + B):

Consistency:	pasty
Viscosity at 20°C, mPas	400,000 to 500,000
Brookfield RVT, Henkel method 11	500,000
Pot life (280g, 20 °C), min*	20 to 30
Henkel method 21	
Initial setting time (23 °C), hrs	1 to 2
Final setting time (23°C), days	2 to 3
Tensile shear strength, MPa *	> 20
EN 1465 / Henkel method 40	
Glass Transition, °C	> 70
DSC	
In service temperature, °C	-40 to 100

All technical data based on Henkel test method.

Data with * is specified.

Certificates and Approvals

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

DIRECTIONS FOR USE

Preliminary Statement:

Prior to use 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. Please also refer to the local safety instructions and contact Henkel for analytical support.

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:

LOCTITE UK 1351 B25 / LOCTITE 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:

LOCTITE UK 1351 B25 / LOCTITE 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. 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 LOCTITE SF 8040; cured adhesive can only be removed mechanically.

Classification:

Please refer to the corresponding **Material Safety Data Sheets** for details on:

**Hazardous Information
Transport Regulations
Safety Regulations**

Storage

Component A

Recommended Storage Temperature, °C	15 to 30
Shelf-life (in unopened original packaging)	12 months

Component B

Recommended Storage Temperature, °C	15 to 30
Shelf-life (in unopened original packaging)	12 months

ADDITIONAL INFORMATION

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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