

LOCTITE UK 1352 / UK 5401

August 2014

PRODUCT DESCRIPTION

LOCTITE UK 1352 / UK 5401 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)	brown
Mixing Ratio, by weight Comp. A : Comp. B	100 : 40

The Loctite UK 135X Series includes solvent-free two-component structural adhesives based on polyurethane. The resin part (component A) contains organic compounds with hydroxyl groups, the hardener (component B) is based on isocyanates. The adhesives are not abrasive, since high-quality raw materials are used. In addition the product group is outstanding for its low exothermic reaction while curing. As natural raw materials (from different cultivation areas) are used a variation in color between different batches is possible. A different color of the resin and hardener components facilitates the visual control of streaks and increases the process reliability.

Application Areas

Products of Loctite UK 135X Series are used for structural bonding of fibrous composite materials, e.g. in wind energy or shipbuilding. LOCTITE UK 1352 can also be used as an undercoat resin.

TECHNICAL DATA

Component A

LOCTITE UK 1352:

Density and SG:

Consistency (20°C):	liquid
Density (20°C), g/cm ³	1.45 to 1.55
Viscosity, Brookfield - RVT, 20°C, mPas * Henkel method 10	30,000 to 50,000

Component B

LOCTITE UK 5401:

Consistency (20°C):	thin liquid
Density (20°C), g/cm ³	1.17 to 1.27
Viscosity, Brookfield - RVT, 20°C, mPas * Henkel method 10	150 to 350

Mixture (Component A + B):

Consistency (20°C):	liquid
Viscosity, Brookfield - RVT, 20°C, mPas * Henkel method 11	5,000 to 15,000
Pot life (210g, 20 °C) , min* Henkel method 21	50 to 90
Initial setting time (23 °C, 1-2 MPa), hrs	5 to 7
Final setting time (23°C), days	7 to 10
Tensile shear strength at 20 °C, MPa* EN 1465 / Henkel method 40	> 20
Glass Transition, °C DSC	> 65
In service temperature, °C	-40 to 100

All technical data based on Henkel test method.

Data with * are specified.

Certificates and Approvals

LOCTITE UK 1352 / UK 5401 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:

Component A must be properly homogenized before use. Adhesive components can be mixed manually by using an electrical hand mixer or by using a two-component dispensing system. After mixing no streaks must be visible. 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 into 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 1352 / UK 5401 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 place. A filler squeeze out along the bond line is a good indication of sufficient filler in the joints.

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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