

LOCTITE UK 8160 / LOCTITE UK 5400

April 2014

PRODUCT DESCRIPTION

LOCTITE UK 8160 / LOCTITE UK 5400 provides the following product characteristics:

Technology	Polyurethane
Product Type	PU Adhesive
Cure	Polyaddition
Condition	Solvent-free
Components	Two-components
Component A	Resin
Component B	Hardener
Application	Assembly
Appearance (Comp. A)	beige
Appearance (Comp. B)	brown
Mixing Ratio, by weight Comp. A : Comp. B	5 : 1
Mixing Ratio, by volume Comp. A : Comp. B	4.2 : 1

LOCTITE UK 8160 / LOCTITE UK 5400 is a solvent-free two-component 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 mix ratio of 5 : 1 a hard elastic product is formed through chemical reaction. After curing the product exhibits no measurable change in volume.

As natural raw materials (from different cultivation areas) are used a variation in color between different batches is possible.

Application Areas:

LOCTITE UK 8160 / LOCTITE UK 5400 is used for bonding of pretreated metals, wood and plastics with rigid foams.

The main application is the production of sandwich elements, e.g. for vehicles, containers, the construction and shipbuilding industry, tanks and tankers as well as for engineered insulations down to -190°C.

LOCTITE UK 8160 / LOCTITE UK 5400 is used for the repair of composite elements (level out).

TECHNICAL DATA

Component A

Loctite UK 8160:

Consistency:	pasty
Density, g/cm ³	1.4 to 1.5
Viscosity	pasty

Component B

Loctite UK 5400:

Consistency:	liquid
Density, g/cm ³	1.17 to 1.27
Viscosity - Brookfield - RVT, 20°C, mPa.s * Henkel method 10	150 to 350

Mixture (Component A + B):

Consistency:	pasty
Pot life (120g, 20°C), min * Henkel method 20	60 to 90
Initial setting time (23 °C), hrs	5 to 8
Final setting time (23°C), days	5 to 7
Consumption, g/m ²	200 to 500 (depending on substrate)
Tensile shear strength, MPa * EN 1465 / Henkel method 40	>7
Service Temperature, °C	- 190 to 80

All technical data based on Henkel test method.
Data with * are specified.

Certificates and Approvals

Test certificates of 'Brandversuchshaus, Hamburg', D-22767 Hamburg, for low flammability in ship building according to IMO Resolution FTPC part 5, based on an applied quantity of 250g/m².

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:

Adhesive components can be mixed manually, with stirring application or two-component mixing equipment. The product may be applied by spatula, wheel, pouring or spraying. 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 8160 / LOCTITE UK 5400 can be cured at room temperature above 15°C and elevated temperatures (up to 60°C). The curing time can be reduced by increasing the temperature or the addition of the accelerator Loctite UK 6100, with the simultaneous reduction of processing time (i.e. pot life, open time) to be observed. While curing there should be adequate contact pressure (load pile, presses, clamps) and fixture hold the joint in place. An adhesive squeeze out along the bond line is a good indication of sufficient adhesive 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.

TYPICAL TEST RESULTS

Tensile Shear Strength (in MPa) as function of the curing time at 20 °C:

time	1 d	2 d	5 d	7 d
TSS	6.0	8.5	10.5	11.0

Classification:

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

Hazards identification

Transport information

Regulatory information

Storage:

Component A

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

Component B

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

ADDITIONAL INFORMATION

Disclaimer

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. Any liability in respect of the information in the Technical Data Sheet or any other

written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, or Henkel Canada Corporation, the following disclaimer is applicable:

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned

herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.0