

LOCTITE UK 8116 B5 / LOCTITE UK 5400

July 2013

PRODUCT DESCRIPTION

LOCTITE UK 8116 B5 / LOCTITE UK 5400 provides the following product characteristics:

Technology	Polyurethane
Product Type	PU Adhesive
Cure	Polymerisation
Condition	Solvent-free
Components	Two-component
Application	Assembly, Construction
Color (Comp. A)	Beige
Color (Comp. B)	Brown
Mixing Ratio, by weight Comp. A : Comp. B	5 : 1
Mixing Ratio, by volume Comp. A : Comp. B	3.7 : 1

LOCTITE UK 8116 B5 / 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 weight ratio of 5 : 1, a hard elastic product is formed through chemical reaction. After curing the product exhibits no measurable change in volume.

APPLICATION AREAS

LOCTITE UK 8116 B5 / LOCTITE UK 5400 is used for bonding of pretreated metals, synthetic materials and rigid foams.

The main application area is the production of sandwich elements and fire doors (rock wool + steel doors).

TECHNICAL DATA

Component A

Loctite UK 8116 B5:

Consistency:	liquid
Density, g/cm ³	1.6 to 1.7
Viscosity, Brookfield - RVT, 20°C, mPa.s * Henkel method 10	20,000 to 30,000

Component B

Loctite UK 5400:

Consistency:	thin liquid
Density, g/cm ³	1.17 to 1.27
Viscosity, Brookfield - RVT, 20°C, mPa.s * Henkel method 10	250 to 350

Mixture (Component A + B):

Consistency:	liquid
Viscosity, Brookfield - RVT, 25°C, mPa.s * Henkel method 11	8,000 to 10,000
Pot life (120g, 20 °C), min* Henkel method 20	3 to 7
Initial setting time (23 °C), min	25 to 30
Final setting time (23°C), days	after 1 day
Consumption, g/m ² (depending on substrate)	200 to 400
Tensile shear strength, MPa * EN 1465 / Henkel method 40	≥7
Shore D hardness at 20 °C ISO 868	55
Peel strength (AI/AI sheets), N/cm	30 to 40
Service Temperature, °C	- 40 to 100
Short exposure (up to 1 h), °C	150

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

Certificates and Approvals

MED certificate issued by VTT Expert Services Ltd, NB 0809, type approval for marine industry according to IMO resolution FTPC part 5.

Typical Test Results:

Tensile shear strength (MPa) as function of the curing time at +20°C.

Time (vrk)	TSS (MPa)
1	5.5
2	7
4	7
7	7.5

Tensile shear strength (MPa) at different temperatures (after 12 days at ambient temperature).

Temp °C	TSS (MPa)
-40	24.0
-20	24.0
0	20.0
+20	7.5
+40	4.0
+60	2.5
+80	1.5

Tensile shear strength based on DIN EN 1465, measured an AI/AI.

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, rolling, 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 8116 B5 / LOCTITE UK 5400 can be cured between 15°C and elevated temperatures (up to +60°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 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.

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 25
Shelf-life (in unopened original packaging)	12 months

Component B

Recommended Storage Temperature, °C	15 to 25
Shelf-life (in unopened original packaging)	12 months
Frost-Sensitive	Yes

Storage below 10°C or greater than 50°C can adversely affect product properties.

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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