Technical Data Sheet

LOCTITE® UK 2018

LOCTITE® UK 2018 January 2026

Product description

LOCTITE® UK 2018 provides the following product characteristics:

Technology	2k polyurethane
Chemical type ((Part A)	Polyols
Chemical type ((Part B)	Polyurethane
Appearance (Part A)	Blue paste
Appearance (Part B)	Yellow paste
Appearance (Mixed)	Green paste
Mix ratio, by volume - Part A: Part B	1:1
Cure	At room temperature, can be accelerated by heat
Application	Structure bonding for Automotive battery module or cell

Application areas

LOCTITE® UK 2018 is a two-component polyurethane adhesive with moderate viscosity. After mixed, this product can cure completely at room temperature. Heat can accelerate the curing process. After fully cured, the material provides the excellent electrical insulation property. The product is well designed for the structure bonding application of the battery module and/or cell in the automotive industry.

Part A properties*

Viscosity, 10 s^{-1}, Pa·s	50-150
Density @ 25°C, g/cm^3	1.35

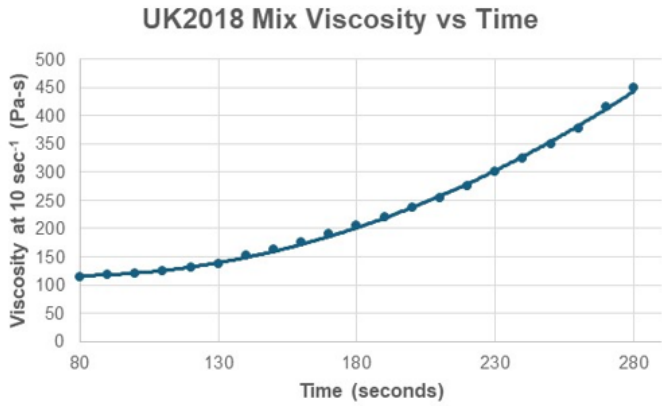
Part B properties*

Viscosity, 10 s^{-1}, Pa·s	50-200
Density @ 25°C, g/cm^3	1.58

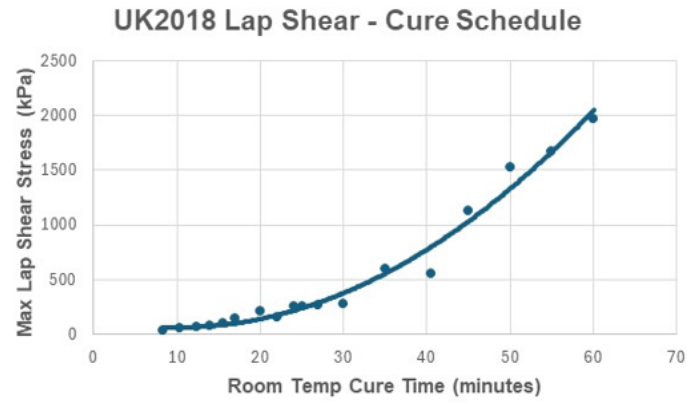
*Viscosity (Rheometer, spindle: PP25, sample thickness: 0.5 mm, data acquisition every second for 1 min, average viscosity at 50~60 second at 25°C)

Typical properties of uncured material

Working time @ 25°C, minutes	<7
Full cure @ 25°C, days	3
Time to double viscosity @ 25°C, minutes	3.3
Time to cure to 1 MPa @ 25°C, minutes	45



Viscosity (Rheometer, spindle PP25, sample thickness 0.5 mm, 25°C)



Typical properties of cured material

After cured (at 25°C, for 3 days)

Hardness, Shore D, ASTM D2240	85
Lap shear strength, ASTM D1002, 25°C, MPa	
3003Al/3003Al	10
SUS/SUS	10
E-coat/E-coat	12
SUS/PET Film (PSA failure**)	2
3003Al/PET Film (PSA failure**)	2

** PSA = Pressure Sensitive Adhesive on PET Film

Tensile strength, ASTM D638, 25°C, MPa	22
Elongation at break, ASTM D638, 25°C %	10
Thermal conductivity, ASTM D5470, W/m-K	0.55
Volume shrinkage upon cure, %	1.3

Electrical properties

Volume resistance, ASTM D257, Ω·cm	10^{14}
Breakdown voltage, ASTM D149, kV/mm	18
Dielectric constant, ASTM D150	4.4

General information

For safe handling information on this product, consult the Safety Data Sheet (SDS).

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

Application
Make sure to utilize Personal protective equipment (PPE) for handling of this material. The surfaces must be dry and free of oil, grease and dust.

Dual cartridges
LOCTITE® UK 2018 are processed from universal cartridges with manual application tools (guns driven by hand, air pressure or battery). Only use cartridge pistols that are equipped with a piston rod. Prior to screwing the static mixer, a small amount of the material should be pressed out to ensure that both components are passed on simultaneously. After mixing, the adhesive is ready for use and must be processed within the given working life, since viscosity increases when curing starts. The working life depends on the temperature and mixed quantity. In order to avoid the bonded parts being displaced, it is recommended that they should always be fixed during the process of curing. Keep the static mixer attached while not dispensing. For further use of the product, simply remove the mixer and install a new one.

Bulk containers
LOCTITE® UK 2018 can be applied by using a suitable 2-component system with high pressure pumps, the use of volume-controlled dispensers is preferred. These 2 components are mixed by a static mixing system or by using a dynamic mixing system. The given mixing ratio shall not deviate more than +/- 5% from the setting value.

1. Prior to screwing the static mixer, a small amount of the materials should be pressed out to ensure that both components are passed on simultaneously.
2. To ensure proper mixing, discard the first approx. 10~20 cm of the adhesive bead.
3. After the mixing, the material must be applied within the given working life.
4. If the application is interrupted, the mixture must be purged out of the mixer.
5. If the interruption lasts considerably longer, the purging should be done by using only one of the components to stop the 2-component reaction.
6. If application starts again, the mixing system must be purged again until all unmixed material has been rinsed out of the nozzle.
7. Preferably immediately after mixing, the adhesive should be applied to the parts to be bonded.
8. The material is applied to one surface and the parts should be assembled directly.

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal storage: 25°C for a 6-month shelf life. In sealed containers with moisture barrier packaging. Storage below 5°C or greater than 35°C can adversely affect product properties.

Do not use LOCTITE® UK 2018 after 6 months storage. Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Henkel representative.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer
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Reference 1