



LOCTITE® AA 5821™

November 2024

Product description

LOCTITE® AA 5821™ provides the following product characteristics:

Technology	Formed-In-Place gasketing
Chemical Type	Polyacrylate
Appearance (uncured)	Dark grey paste
Components	One component – requires no mixing
Cure	Moisture cure
Application	Sealing
Specific Benefits	- Superior hot oil resistance - Joint movement tolerant - Non sagging

LOCTITE® AA 5821™ is a single component, non-silicone,oxime-free, polyacrylate based adhesive/sealant that cures with moisture at room temperature. It is designed with a heavy body viscosity for on-line, low air pressure tests to be carried out before product begins to cure. The non-silicone based resin does not promote foaming in lubricants and exhibits excellent resistance to powertrain fluids. LOCTITE® AA 5821™ is primarily designed for flange sealing with excellent oil resistance and is non-permeable to hydrocarbons. It also shows compatibility with almost all Gap Fillers of The Bergquist Company. Typical applications include cast metal, stamped steel, and molded plastic covers for engines, transmissions and axles. This product also works well for sealing plastic and metal housings on electronic components.

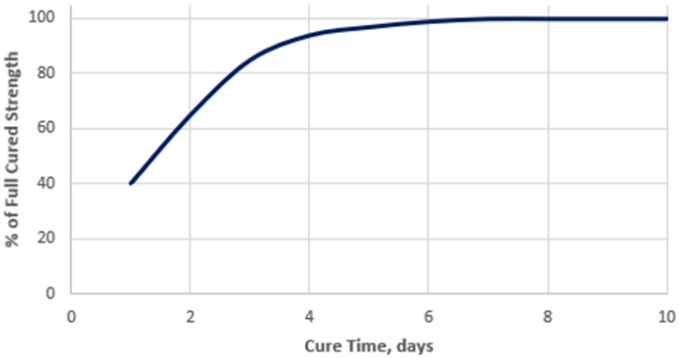
Typical properties of uncured material

Specific gravity @ 23°C, g/cm³	1.29-1.36
Extrusion rate at 6.2 bar, 3.2 mm, g/min	20 to 60 (at DOM)
Skin over time, minutes	25 - 45
Cure rate, mm/24h	>1.7
Blow out resistance, seconds	60
6 mm Flange, 0.75 mm Gap @ 0.021 MPa	

Typical curing performance

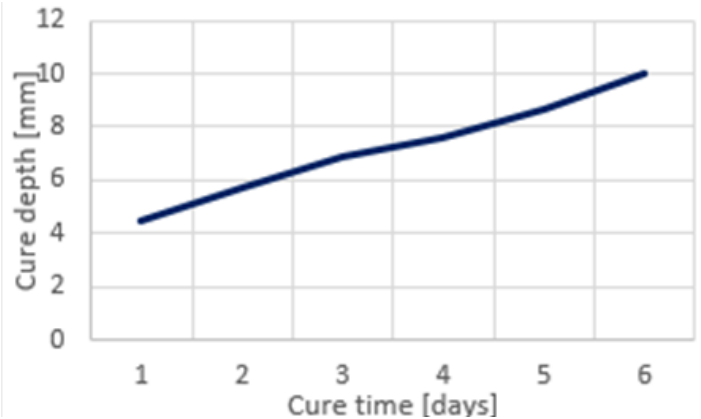
Cure speed vs. time

The graph below shows shear strength developed with time on Aluminum (Alclad) lapshears at a bond gap of 1.0 mm, bond with 15*25 mm. Cure condition 23±2 °C / 50±5% RH. Strength is determined according to ISO 4587.



Depth of cure

The depth of cure depends on temperature and humidity. Depth of cure was determined by filling a 10 mm deep cup and removing the cured film of material. The cured section of product is measured to determine depth of cure.



Typical properties of cured material

Cured for 2 weeks @ 25±2°C / 50±5 % RH

Physical Properties

Hardness, Shore A	20 to 30
Tensile strength, MPa	>1.3
Elongation at break, %	>175
Alclad lap shear, MPa	>0.8 (1w)
Alclad lap shear, MPa	>1.0 (2w)
% Cohesive failure (Al)	100 (1w)
Glass transition temperature, °C	-43



TYPICAL ENVIRONMENTAL RESISTANCE

Environmental aging – effect on bulk properties

Cured for 14 days @ 25±2°C / 50±5% and 2 mm thick film.

Tensile Strength, ISO 37, N/mm² (Elongation at break, %):

Environment	168h	1008h
Control, 23°C	≥1(≥175)	---
SL107 engine oil, 150°C	3,2(133)	3,9(114)
ATF818 transmission oil, 130°C	3,2(181)	3,5(138)
BOT341 transmission oil, 130°C	2,6(174)	3,1(139)
ATF-ULV transmission oil, 130°C	2,6(180)	3,1(149)
F21 transmission oil, 130°C	2,6(168)	3,0(136)
Air at 130°C	3,0(234)	4,4(175)

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

For safe handling information on this product, consult the Material Safety Data Sheet.

Directions for use

1. Excess material can be easily wiped away with non-polar solvents, e.g. mineral spirits or naphtha based cleaners.
2. Moisture curing begins immediately after the product is exposed to the atmosphere, therefore parts to be assembled should be mated within a few minutes after the product is dispensed.
3. The bond should be allowed to cure (e.g. seven days), before subjecting to heavy service loads.
4. Excess material can be easily wiped away with non-polar solvents, e.g. mineral spirits or naphtha based cleaners.
5. For full automatic applications a volumetric dispensing system is recommended.

Storage

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

Optimal Storage: 5°C to 25°C. Storage below 5°C or greater than 25°C can adversely affect product properties.

Shelf life is 8 months. Do not use LOCTITE® AA 5821™ after 8 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

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