Technical Data Sheet

LOCTITE 3874

August 2014

PRODUCT DESCRIPTION

LOCTITE 3874 provides the following product characteristics:

Technology	Acrylic
Chemical Type	Acrylic ester
Appearance (uncured)	Light grey opaque fluid , No visible bubbles. Slight separation of filler acceptable[LMS]
Components	One component - requires no mixing
Viscosity	High, thixotropic
Cure	Activator
Application	Bonding

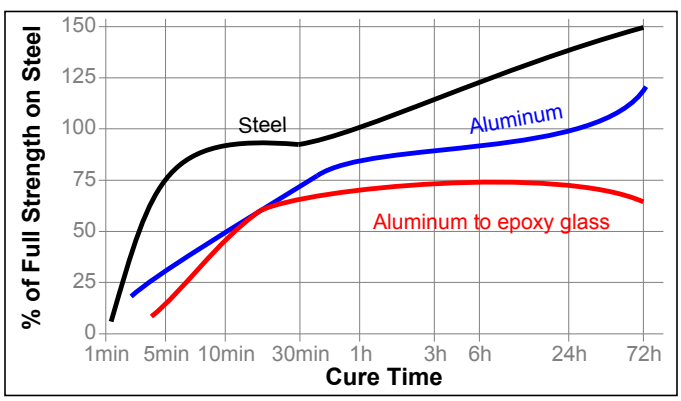
LOCTITE 3874 is a thermally conductive adhesive. When used with Activator 7387™, it cures rapidly to form a high strength, high modulus, thermoset acrylic polymer. Typical applications include bonding heat sinks to heat dissipating components such as BGAs in electronics applications. The thixotropic nature of LOCTITE 3874 reduces the migration of liquid product after application to the substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	2.08
Flash Point - See SDS	
Viscosity, Brookfield - HBT, 25 °C, mPa·s (cP):	
Spindle TB, speed 0.5 rpm, Helipath	800,000 to 1,800,000[LMS]
Spindle TB, speed 5 rpm, Helipath	200,000 to 450,000[LMS]

Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the shear strength developed with time on grit blasted steel lap shears and tested according to ISO 4587. (Activator 7387™ applied to one surface).



TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 24 hours @ 70 °C, followed by 7 days @ 22 °C

Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}	76×10^{-6}
Coefficient of Thermal Conductivity, ISO 8302, W/(m·K)	1.25
Glass Transition Temperature, °C	49
Shore Hardness, ISO 868, Durometer D	72
Elongation, at break, ISO 37, %	3.2

Initial @ 22 °C.

Electrical Properties:

Volume Resistivity, IEC 60093, Ω·cm	4.3×10^{14}
Surface Resistivity, IEC 60093, Ω	3.8×10^{14}
Dielectric Breakdown Strength, IEC 60243-1, kV/mm	23.6

After 1 week @ 85 °C / 85% RH

Electrical Properties:

Volume Resistivity, IEC 60093, Ω·cm	1.5×10^{14}
Surface Resistivity, IEC 60093, Ω	2.6×10^{13}
Dielectric Breakdown Strength, IEC 60243-1, kV/mm	3.5

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 24 hours @ 22 °C, Activator 7387™ on 1 side

Lap Shear Strength, ISO 4587:

Steel	N/mm²	≥11.7[LMS]
	(psi)	(≥1,695)
Aluminum	N/mm²	≥7[LMS]
	(psi)	(≥1,015)

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 Safety Data Sheet (SDS).

Directions for use:

1. For best performance bond surfaces should be clean and free from grease.
2. Apply Activator 7387™ to one of the bond surfaces and the adhesive to the other surface. Parts should be assembled immediately..
3. Excess adhesive can be wiped away with organic solvent.
4. Bond should be held clamped until adhesive has fixtured.
5. Product should be allowed to develop full strength before subjecting to any service loads (typically 24 to 72 hours after assembly, depending on bond gap, materials and ambient conditions).

Loctite Material Specification[LMS]
LMS dated March 07, 2003. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Storage
Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties. Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation 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 Technical Service Center or Customer Service 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

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.
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, Resin Technology Group, Inc., 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 and/or registered trademarks of Henkel and its affiliates in the U.S. and elsewhere.

Reference 1

This document was created and digitally signed by tdx.henkel.com at 2025-11-28T02:42:45.814Z