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Laboratory Data Sheet

LOCTITE®™

H3405

Date: November 27 ,2019

PRODUCT DESCRIPTION

LOCTITE® provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate
Appearance (Part A)	Amber
Appearance (Part B)	Black
Appearance (Mixed)	Gray
Cure	Room temperature cure
Components	Two component - requires mixing
Mix Ratio, by volume – Part A: Part B	4:1
Product Benefits	• Superior impact and peel strength • Little or no surface preparation • Rapid room temperature cure • Excellent environmental Resistance • Compatible with metal pre-treatment and paint bake cycles. • Contains 10mil spacer
Application	Bonding

LOCTITE® H3405 is a two component, room temperature curing methacrylate adhesive system. The product is designed to have excellent bond strength on multiple substrates which includes a variety of metals including galvanized steel, plastics and composites. LOCTITE® H3405 offers superior peel and impact resistance.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A:

Specific Gravity @ 25ºC: 0.97

Viscosity, Cone & Plate, 25 °C, mPa·s (cP):

PP25 @ shear rate ^{20} Sec^{-1}: 25,000-50,000

Flash Point – See SDS

PART B:

Specific Gravity @ 25C: 1.41

Viscosity, Cone & Plate, 25 °C, mPa·s (cP):

PP25 @ shear rate ^{20} Sec^{-1}: 17,000-25,000

Flash Point – See SDS

Working Time @ 25ºC
(Maximum time before assembly):
Aluminum: 3-5 minutes

TYPICAL CURING PERFORMANCE

Fixture Time

Fixture time is defined as the time to develop a shear strength of 100 psi

Fixture Time @ 22º C: 8-12 minutes:
2024 T3 Bare Aluminum

Peak Exotherm Temperature

Peak Exotherm Temperature, 20-gram mass:
Peak Temperature Time: 7-13 minutes

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 22º C

Lap Shear Strength, ISO 4587:
2024 T3 Bare Aluminum — >19.3 N/mm^2 (2800 PSI)

Side Impact @ 22º C
Ground Steel — 12.2 kJ/m2

Cured for 1 hour 22C, 5 min water soak, 25 mins 200C, 24 hours RT

Lap Shear Strength, ISO 4587:
2024 T3 Bare Aluminum — >24.8 N/mm^2 (3600 PSI)

Side Impact @ -20º C
Ground Steel — 14.2 kJ/m2

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 (SDS)

Directions for use:

1. For high strength, structural bonds, remove surface contaminants such as paint, oxide films, oils, dust, mold release agents and all other surface contaminants
2. Use gloves to minimize skin contact. DO NOT use solvents for cleaning hands.

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3. **Dual Cartridges:** To begin using a new cartridge, remove cartridge cap and dispense a small amount of adhesive, making sure both parts A&B are extruding. Attach nozzle and dispense approximately 25 to 50mm, before applying onto part to be bonded. Partially used cartridges can be stored with the mixing nozzle attached. To reuse, remove and discard old nozzle, attach the new nozzle, dispense approximately 25 to 50mm, before applying onto part to be bonded.
   Bulk Containers: Normally material is dispensed through volumetric metered mixing equipment, attached to static mix nozzles.
4. For maximum bond strength apply adhesive evenly to both surfaces to be joined.
5. Application to the substrates should be made as soon as possible. Larger quantities and/or higher temperatures will reduce the working time.
6. Join the adhesive coated surfaces and allow to cure. Higher temperatures will speed up curing.
7. Keep assembled parts from moving during cure. The bond should be allowed to develop full strength before subjecting to any service load.
8. Excessive uncured adhesive can be cleaned up with ketone type solvents.

Storage
The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labeling.
Optimal Storage: 2 ºC to 8 ºC. Storage below 2 ºC or greater than 28 ºC can adversely affect product properties. 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 Technical Service Center or Customer Service Representative

Conversions
(ºC x 1.8) + 32 = ºF
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
um / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm^2 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 = $_c$P

NOTE
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Reference 0.2