

# LOCTITE<sup>®</sup> AA H4720<sup>™</sup>

Known as Loctite Speedbonder H4720  
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## PRODUCT DESCRIPTION

LOCTITE<sup>®</sup> AA H4720<sup>™</sup> provides the following product characteristics:

<b>Technology</b>	Acrylic
Chemical Type	Methacrylate
Appearance, Resin (Component A)	Off-white
Appearance, Hardener (Component B)	Dark blue
Appearance (Mixture)	Teal <sup>LMS</sup>
Components	Two component - requires mixing
Mixing Ratio, by weight Component A: Component B	10 : 1
Mix Ratio, by volume - Part A: Part B	10 : 1
Thixotropic	Reduced migration of liquid product after application to substrate
<b>Cure</b>	Room temperature cure
<b>Application</b>	Bonding
Specific Benefit	<ul style="list-style-type: none"> <li>• Excellent environmental resistance</li> <li>• Excellent tolerance to off-ratio mixing</li> <li>• Superior impact and peel strength</li> <li>• Non-sagging gaps filled to 9.5 mm</li> <li>• Little or no surface preparation</li> </ul>

LOCTITE<sup>®</sup> AA H4720<sup>™</sup> is a methacrylate adhesive system that forms resilient bonds and maintains its strength over a wide range of temperatures. This adhesive contains 0.127 mm (5 mil) glass beads to insure adequate bondline control. Typical applications include galvanized steel and other metal bonding.

## TYPICAL CURING PERFORMANCE

### Open Time

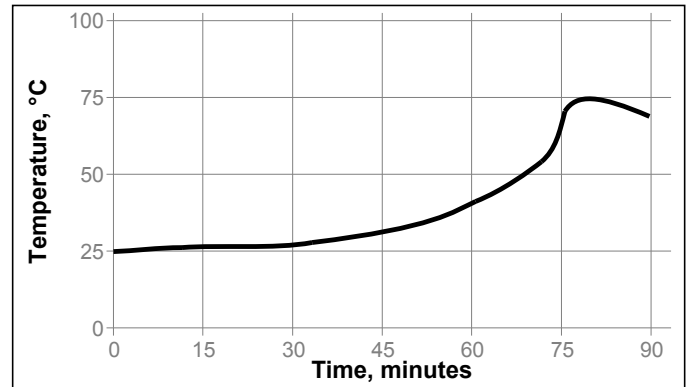
Open Time @ 22°C, (mixed), minutes                      40 to 65

### Fixture Time

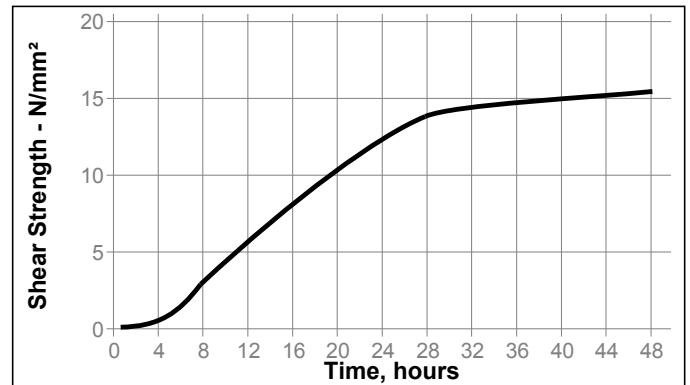
Fixture time is defined as the time to develop a shear strength of 0.1 N/mm<sup>2</sup>.

Fixture Time @ 22°C, (mixed), minutes                      90 to 105

## Peak Exotherm Curve - 10 gram mass



## Development of Bond Strength Strength build on Galvanized Steel



## TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 48 hours @ 22 °C

### Physical Properties:

Shore Hardness, ISO 868, Durometer D	67
Elongation, at break, ISO 527-3, %	15
Tensile Strength, ISO 527-3	N/mm <sup>2</sup> 18 (psi) (2,600)
Tensile Modulus, ISO 527-3	N/mm <sup>2</sup> 897 (psi) (130,000)

**TYPICAL PERFORMANCE OF CURED MATERIAL****Adhesive Properties**

Cured for 24 hours @ 22 °C.

Lap Shear Strength, ISO 4587:

Steel	N/mm <sup>2</sup>	≥12.4 <sup>LMS</sup>
	(psi)	(≥1,800)

Cured for 24 hours @ 22 °C followed by 25 minutes @ 82 °C, tested @ 22 °C

Lap Shear Strength, ISO 4587:

Steel	N/mm <sup>2</sup>	≥19.3 <sup>LMS</sup>
	(psi)	(≥2,800)

Cured for 48 hours @ 22 °C

"T" Peel Strength, ISO 11339:

Steel	N/mm	8.0
	(lb/in)	(40)
Aluminum	N/mm	4.0
	(lb/in)	(20)

Lap Shear Strength, ISO 4587:

Aluminum	N/mm <sup>2</sup>	14
	(psi)	(2,000)
Stainless steel	N/mm <sup>2</sup>	13
	(psi)	(1,900)
Zinc dichromate	N/mm <sup>2</sup>	19
	(psi)	(2,700)
Galvanized Steel	N/mm <sup>2</sup>	15
	(psi)	(2,200)
Polycarbonate	N/mm <sup>2</sup>	1.7
	(psi)	(250)
Fiberglass (FRP)	N/mm <sup>2</sup>	6.0
	(psi)	(870)
Gelcoat	N/mm <sup>2</sup>	6.0
	(psi)	(870)

**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. Mixing:**

1. It is highly recommended that either meter mix equipment or cartridges with static mix nozzles be used to properly ratio and dispense the adhesive.
2. For hand mixing, combine Part A and Part B in the correct ratio and mix thoroughly.
3. Once mixed, LOCTITE® AA H4720™ should achieve a uniform color. This is important!
4. Heat buildup during and after mixing is normal. To reduce the likelihood of exothermic reaction or excessive heat buildup, mix less than 100 grams at a time. Mixing smaller amounts will minimize heat buildup.

**2. Applying**

1. Bonding surfaces should be clean, dry, and free of contamination.
2. Extensive surface preparation is not required for LOCTITE® AA H4720™, and good bonds can be formed on most substrates after a solvent wipe.

3. To assure maximum bond strength, surfaces must be mated within the adhesive's open time.
4. Use enough material to completely fill the joint when parts are clamped.

**3. Curing**

1. Parts should remain undisturbed during the interval of time between the material's open time and fixture time.
2. After the fixture time is achieved the material has reached handling strength.
3. Cure temperatures below 13°C will slow curing time; above 29°C will accelerate the cure.

**4. Clean up**

1. It is important to clean up excess adhesive from the work area and application equipment before it hardens.
2. Denatured alcohol and many common industrial solvents are suitable for removing uncured adhesive.

**Loctite Material Specification<sup>LMS</sup>**

LMS dated August 26, 2004 (Part A) and LMS dated August 26, 2004 (Part B). 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 Loctite Quality.

**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 labelling.

**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 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**

$$\begin{aligned}
 (^\circ\text{C} \times 1.8) + 32 &= ^\circ\text{F} \\
 \text{kV/mm} \times 25.4 &= \text{V/mil} \\
 \text{mm} / 25.4 &= \text{inches} \\
 \mu\text{m} / 25.4 &= \text{mil} \\
 \text{N} \times 0.225 &= \text{lb} \\
 \text{N/mm} \times 5.71 &= \text{lb/in} \\
 \text{N/mm}^2 \times 145 &= \text{psi} \\
 \text{MPa} \times 145 &= \text{psi} \\
 \text{N}\cdot\text{m} \times 8.851 &= \text{lb}\cdot\text{in} \\
 \text{N}\cdot\text{m} \times 0.738 &= \text{lb}\cdot\text{ft} \\
 \text{N}\cdot\text{mm} \times 0.142 &= \text{oz}\cdot\text{in} \\
 \text{mPa}\cdot\text{s} &= \text{cP}
 \end{aligned}$$

**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

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Reference 1.2