PERMABOND® LH050 PURE
Anaerobic Threadsealant
Technical Datasheet

Features & Benefits

- Full cure seal to the burst rating of pipe
- Easy to use and apply
- Directional freedom
- NSF/ANSI 61 Certified - Drinking Water System
- Components
- Does not contain solvents
- Excellent chemical and temperature resistance
- Cures at room temperature
- Will not shred, tear or cause blockages

Description

PERMABOND® LH050 PURE anaerobic pipe sealant is single component paste that cures only when in contact with metal parts and oxygen is excluded. The sealant fills up the entire space between male and female parts, instantly sealing the connection for water, hydraulic fluids, air, gases and chemicals. Once cured, the cured anaerobic sealant typically exceeds the burst rating of the pipe and in addition it locks the pipes, plugs or fittings against vibration loosening. After cure, disassembly of fittings for maintenance is still possible using normal tools.

Permabond® LH050 PURE pipe sealant performs well on most metals, particularly steel and brass. It provides an excellent alternative to pipe dopes and pipe tapes for sealing pipe joints.

Another feature of PERMABOND® LH050 PURE is the ability to seal pipes that have not been fully seated. In piping systems, pipe joints must connect with other pipes and in the direction in which the joint must face may not allow the pipe to be fully seated. LH050 PURE will seal – even when the direction in which the pipe must face does not allow the complete seating of the threads. Anaerobic sealant will seal with simple hand assembly while still obtaining the seal of a fully torqued pipe joint.

Physical Properties of Uncured Adhesive

<table>
<thead>
<tr>
<th>Chemical composition</th>
<th>Methacrylate esters</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Viscosity @ 25°C</td>
<td>250,000 mPa.s (cP)</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.1</td>
</tr>
<tr>
<td>UV fluorescence</td>
<td>No</td>
</tr>
</tbody>
</table>

Typical Curing Properties

| Maximum gap fill | 0.5 mm | 0.02 in |
| Time taken to reach handling strength (M10 steel) @23°C | 2 hours |
| Full strength (M10 steel) @23°C | 24 hours |

* Copper and its alloys will make the adhesive cure more quickly, while oxidized or passivated surfaces (like stainless steel) will reduce cure speed. To reduce curing time, use Permabond activator A905 or ASC10. Alternatively, increasing the curing temperature will reduce curing time.

Typical Performance of Cured Adhesive

| Torque strength (M10 steel) (ISO10964) | Break 4 N·m | 35 in.lb |
| Compressive shear strength (steel collar & pin ISO10123) | 7 MPa 1000 psi |
| Coefficient of thermal expansion | 90 x 10⁻⁶ mm/mm°K |
| Thermal conductivity | 0.19 W/(m.K) |

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Surface Preparation

Though the anaerobic adhesives will tolerate a slight degree of surface contamination, best results are obtained on clean, dry and grease free surfaces. The use of a suitable solvent-based cleaner (such as acetone or isopropanol) is recommended. To reduce the curing time, especially on inactive surfaces (such as zinc, aluminum and stainless steel), the use of Permabond® A905 or ASC10 can be considered.

Directions for Use

1) Prevent the tip from touching metal surfaces during application.
2) Apply Permabond® LH050 PURE onto the leading 3-4 threads half way around the male pipe for pipes up to 1½ inches in diameter. For larger pipes, apply completely around the pipe.
3) Screw fittings together. Permabond pipe sealants will seal even when the direction the pipe must face does not allow the complete seating of the threads.
4) Visually inspect for a bead of pipe sealant around the entire pipe. If the sealant isn’t visible around the circumference, repeat the steps above using more sealant.

Permabond®LH050 PURE is designed for use on threaded metallic pipe joints; not recommended for use on plastic components.

Video Link

Pipe sealant directions for use: https://youtu.be/mLvX0LoaNaE

Storage & Handling

Storage Temperature 5 to 25°C (41 to 77°F)

Users are reminded that all materials, whether innocuous or not, should be handled in accordance with the principles of good industrial hygiene. Full information can be obtained from the Safety Data Sheet.

This Technical Datasheet (TDS) offers guideline information and does not constitute a specification.

www.permabond.com
- UK: 0800 975 9800
- General Enquiries: +44 (0)1962 711661
- US: 732-868-1372
- Asia: + 86 21 5773 4913
  info.europe@permabond.com
  info.americas@permabond.com
  info.asia@permabond.com

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