



## Scotch-Weld™

### Pipe Sealant Anaerobic Adhesives

HP42 • HP45 • PS65 • PS67 • PS77

Technical Data

November 2016

<b>Product Description</b>	3M™ Scotch-Weld™ Pipe Sealant Anaerobic Adhesives are one-component anaerobic sealants that cure and seal hydraulic and pneumatic pipes and fittings to withstand high temperatures and pressures
<b>Specific Features</b>	<ul style="list-style-type: none"><li>• <b>3M™ Scotch-Weld™ Pipe Sealant Anaerobic Adhesives HP42</b> is formulated to lock and seal fine to medium pipe threads, particularly for hydraulic and pneumatic pipe systems, 15mm pipe diameter. HP42 prevents vibration loosening and leakage through the pipe threads. It is formulated to give medium strength break and prevail torque on assembled joints, thus enabling easier disassembly and servicing. Pipe joints made with HP42 should be fully torqued up within maximum of 10 minutes from initial assembly. HP42 give rapid low pressure seal (after 20 minutes)</li><li>• <b>3M™ Scotch-Weld™ Hydraulic Pneumatic Sealant HP45</b> is a low breakaway torque strength, medium viscosity liquid sealant for most high pressure hydraulic and pneumatic fittings. It has excellent solvent resistance.</li><li>• <b>3M™ Scotch-Weld™ General Purpose Pipe Sealant PS65</b> is a general purpose, low to medium breakaway torque strength paste pipe sealant. It is formulated to lock and seal medium to coarse straight and tapered pipe threads on pipes of diameter from approximately 5/8" to 3". It is used for applications that require easy disassembly.</li><li>• <b>3M™ Scotch-Weld™ Stainless Steel High Temperature Pipe Sealant PS67</b> is a fast cure, low breakaway torque strength, high temperature paste pipe sealant for metal connections in applications such as pressure vessels, air compressors, hydraulic, and pneumatic systems. It works on inactive surfaces (such as stainless steel) and provides an almost instant low pressure seal. A high pressure seal results when the bond is fully cured.</li><li>• <b>3M™ Scotch-Weld™ Stainless Steel High Temperature Pipe Sealant PS77</b> is formulated to lock and seal medium to coarse straight and tapered pipe threads on pipes of diameter from 15mm to 80mm. PS77 prevents vibration loosening and leakage through the pipe threads. PS77 is formulated to give medium strength break torque, but lower prevail torque on assembled joints, thus enabling easier disassembly and servicing. Pipe joints made with PS77 should be fully torqued up within a maximum of 15 minutes from initial assembly. PS77 will give a rapid low pressure seal (after 20 minutes).</li></ul>

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**Typical  
Uncured  
Physical  
Properties**

Note: The following technical information and data should be considered representative or typical only and should not be used for specification purpose

	HP42	HP45	PS65	PS67	PS77
<b>Chemistry</b>	Dimethacrylate				
<b>Color</b>	Brown	Purple	White	Off-White	Fluorescent Yellow
<b>Appearance</b>	Liquid	Liquid	Paste	Paste	Liquid
<b>Viscosity (cP)</b>	400-800 <sup>1</sup>	10,000-16,000 <sup>2</sup>	350,000-900,000 <sup>3</sup>	150,000-400,000 <sup>3</sup>	50,000- 100,000 <sup>4</sup> 16,000- 33,000 <sup>5</sup>
<b>Fixture time (min)</b>	22 <sup>a</sup> (<30) <sup>b</sup>	23 <sup>a</sup> (<30) <sup>b</sup>	4 hr <sup>a</sup> (2-5hr) <sup>b</sup>	25 <sup>a</sup> (15-30) <sup>b</sup>	25 <sup>a</sup> (15-30) <sup>b</sup>
<b>Full Cure time (hours)</b>	24	24	24	24	24

<sup>1</sup> Brookfield Viscometer spindle #2 at 20 rpm; <sup>2</sup> Brookfield Viscometer spindle #3 at 2.5 rpm

<sup>3</sup> Brookfield Viscometer spindle T-E at 2.5 rpm; <sup>4</sup> Brookfield Viscometer spindle #6 at 2.5 rpm

<sup>5</sup> Brookfield Viscometer spindle #6 at 20 rpm; <sup>a</sup> Average time; <sup>b</sup> Range;

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### Typical cured Physical Properties

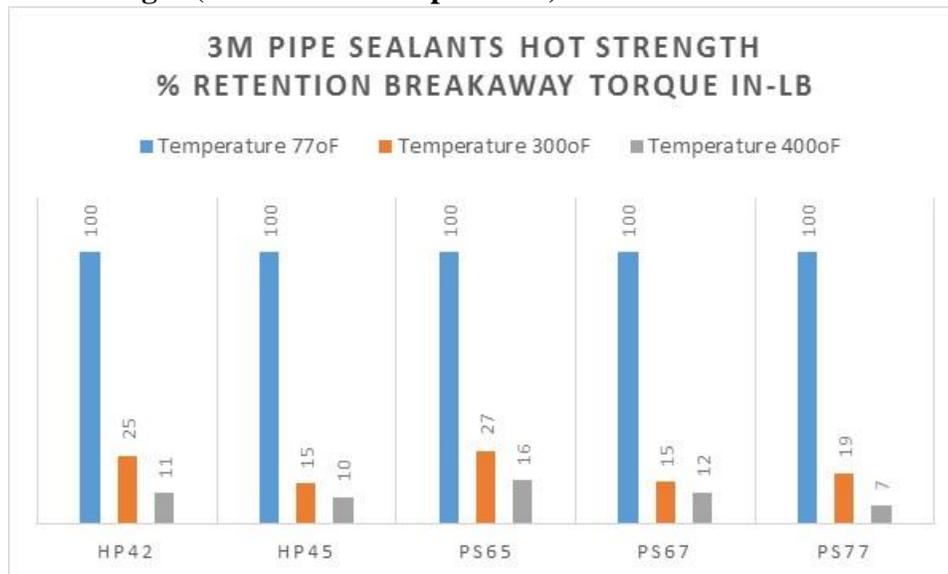
Note: The following technical information and data should be considered representative or typical only and should not be used for specification purpose

	HP42	HP45	PS65	PS67	PS77
<b>Color</b>	Brown	Purple	White	White	Fluorescent Yellow
<b>Max Pipe Diameter</b>	½”	2”	3”	3”	3”
<b>Breakaway Torque (in.lb)</b>	80 <sup>a</sup> (70-160) <sup>b</sup>	40 <sup>a</sup> (15-90) <sup>b</sup>	47 <sup>a</sup> (18-90) <sup>b</sup>	40 <sup>a</sup> (20-45) <sup>b</sup>	80 <sup>a</sup> (70-160) <sup>b</sup>
<b>Prevailing Torque (in.lb)</b>	85 <sup>a</sup> (60-120) <sup>b</sup>	30 <sup>a</sup> (20-40) <sup>b</sup>	20 <sup>a</sup> (2-48) <sup>b</sup>	30 <sup>a</sup> (12-40) <sup>b</sup>	40 <sup>a</sup> (17-90) <sup>b</sup>
<b>Temperature Range (°F)</b>	-65 to 300	-65 to 300	-65 to 400	-65 to 400	-65 to 300

\*Reference ISO 10964. To convert to (N.m) divide (in.lb) by 8.851

<sup>a</sup> Typical value; <sup>b</sup> Range

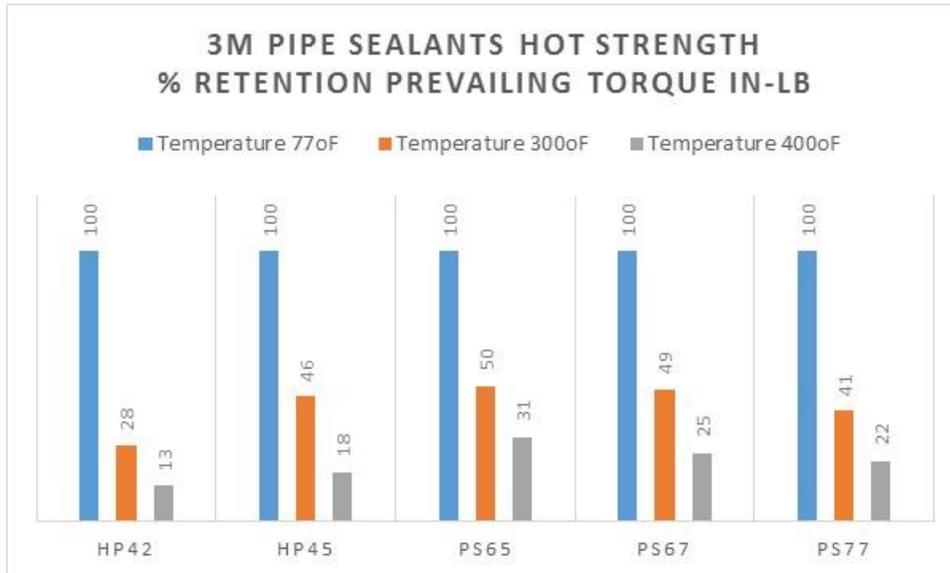
### Hot Strength (measured at temperature)



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### Handling Information

#### Directions for Use:

3M™ Scotch-Weld™ Pipe Sealant Anaerobic Adhesives are not recommended for use on most plastics due to potential cracking of plastic parts. Also, they are not recommended for use in piping systems that contain pure oxygen or an oxygen-rich environment, chlorine, or strong oxidizing substances.

#### For Assembly:

1. Ensure parts are clean, dry and free from oil, grease and dirt. For best results, clean and dry parts with solvent or 3M™ Scotch-Weld™ Activator. (Activator can also be used on inactive surfaces or to accelerate the cure on active surfaces.) Note: Use of 3M™ Scotch-Weld™ Activator may reduce bond strength depending on substrates and gap. Testing is recommended to evaluate the effect.
2. If not sure of surface type, always use activator. Refer to Material surface Activity and Cure Speed section for more information.
3. Apply sealant onto the second and third threads (not the first thread) of the male fitting so as to avoid introducing uncured sealant into the system. (However, should uncured sealant get into the piping system, it will not cure or cause blockage and can be slushed out.) Avoid touching the metal surfaces with the bottle tip since the metal ions may react with the adhesive upon contact and eventually may clog the bottle tip.
4. Spread adhesive evenly around the male fitting.

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<b>Handling Information</b>	<b>For Assembly:</b> <ol style="list-style-type: none"><li>5. Assemble parts and tighten as required.</li><li>6. Allow assemblies to set for sufficient time so that handling strength or full cure will occur before further processing or testing.</li></ol> <b>For Disassembly:</b> <ol style="list-style-type: none"><li>1. Loosen or remove with regular hand tools.</li><li>2. If hand tools do not work due to the assembled parts being well tightened, apply localized heat (approximately 490°F / 254°C) to the nut or bolt and disassemble while parts are still hot. Use extreme caution when working with heat sources (e.g. heat gun, flames, etc.)</li></ol>
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<b>Material Surface Activity and Cure Speed</b>	<b>Active (Fast cure)</b>	<b>Inactive (Slow cure)</b>
	<ul style="list-style-type: none"><li>• Brass</li><li>• Bronze</li><li>• Commercial aluminum</li><li>• Copper</li><li>• Iron</li><li>• Kovar®</li><li>• Manganese</li><li>• Monel®</li><li>• Nickel</li></ul>	<ul style="list-style-type: none"><li>• Anodized Aluminum</li><li>• Cadmium</li><li>• Chemical black oxide</li><li>• Galvanized steel</li><li>• Gold</li><li>• Inconel®</li><li>• Magnesium</li><li>• Magnetite Steel</li><li>• Plated parts</li><li>• Pure aluminum</li><li>• Silver</li><li>• Stainless Steel</li><li>• Zinc</li></ul>

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<b>Storage</b>	Store product in cool, dry area out of direct sunlight
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<b>Shelf Life</b>	3M™ Scotch-Weld™ Pipe Sealant Anaerobic Adhesives have a shelf life of 12 months when stored at 60° to 80°F (16° to 27° C) in the original unopened container.
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<b>Precautionary Information</b>	Refer to Product Label and Material Safety Data Sheet for health and safety information before using this product. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501.
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ISO 9001:2000

This product was manufactured under a quality system registered to ISO 9001:2000 standards.

### 3M

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