

# 3M

# Scotch-Weld™

## Polyurethane Multi Purpose Adhesive

## 5005

### Product Data Sheet

Date January 2009

Supersedes: March 2001

#### Product Description

3M Polyurethane Multi Purpose Adhesive 5005 is a high performance, one component polyurethane adhesive that bonds to a broad variety of substrates like plastic, concrete, rigid foams (PU, PS,...) and other porous substrates.

It is particularly suitable for structural bonding of all types of wood, including those with high moisture content, and also difficult to bond exotic woods.

Typical applications include bonding of wood joints, furniture and wood floors.

3M Polyurethane Multi Purpose Adhesive 5005 is not suitable for bonding on metals.

#### Key Features

- Solvent free
- Fast setting
- Outstanding resistance to water
- Ideally suited for outdoor applications (D4 classification)
- Very good adhesion to wood

#### Physical Properties

Not for specification purposes

<b>Base</b>	Polyurethane
<b>Solvent</b>	None
<b>Colour</b>	Off white – translucent
<b>Specific Gravity @ 23°C</b>	1.03
<b>Viscosity</b>	Thixotropic paste 200,000 mPa.s (RVT spindle 7, rpm5)
<b>Skin Formation at 23°C, 50% RH</b>	10 – 15 minutes

#### Performance Characteristics

Not for specification purposes

##### Typical performances on etched aluminium.

Aluminium 2024 T3 claded – Surface preparation: sulfochromic etching – 25\*25mm overlap shear sample – Test speed: 10 mm/min – CF: cohesive failure in the adhesive joint.

Shear (Mpa)	Alu / alu
- 55 °C	26.4 CF
+ 23 °C	10.8 CF
+ 60 °C	7.6 CF
+ 80 °C	6.5 CF

**Typical performances on etched aluminium (continued).**  
25mm width aluminium to cotton duck sample - 60° peel at 150 mm/min.

Peel (daN/cm)	Alu / cotton
+ 23 °C	3.52 CF
+ 80 °C	3.83 CF

**Performance Characteristics**

Not for specification purposes

**Typical performances on key substrates.****AF:** adhesive failure on the substrate**CF:** cohesive failure in the adhesive joint

25\*25 mm overlap shear pulled at 10 mm/min

Shear at (Mpa)	23°C	40°C, 95% RH (14 days)
PMMA	4.1 AF	4.0 AF
Pine	4.4 CFS	2.2 CFS
Stainless Steel	6.9 CF	2.3 AF
Glass	5.2 AF	0.0 AF
ABS	3.4 AF	3.4 AF
PC	7.2 CF	3.0 AF
PVC	3.9 AF	5.0 AF
PS	2.9 AF	2.8 AF
Oak	3.3 CF	1.8 AF/CF

**Typical performances on key substrates**

25mm width, 60° peel cotton duck sample to test substrate

Peel (daN/cm)	23°C
PMMA	1.96 AF
Pine	6.78 CF
Stainless Steel	1.09 AF
Glass	1.23 AF
ABS	2.95 AF
PC	3.72 AF / CF
PVC	1.41 AF
PS	0.74 AF
Oak	5.61 CF

**Performance Characteristics**

Not for specification purposes

**Typical rate of strength build up.**

Polyurethane Multi Purpose Adhesive 5005 is a moisture curing adhesive. Rate of strength build up depends on substrate porosity and moisture content.

Shear Mpa	10 min	30 min	1 h	4 h	24 h	7 days
PINE	0.4	1.2	1.9	3.1	4.5	4.4
PMMA	0.0	0.0	0.1	0.8	4.3	4.1

**Performance Characteristics**

Not for specification purposes

**Service Temperature**

- 55°C / +80°C

**Health and Safety Information**

Refer to product label and Material Safety Data Sheet for health and safety information before using the product.

For information please contact your local 3M Office

www.3M.com

**Storage**

Store 3M Scotch-Weld™ Polyurethane Multi Purpose Adhesive 5005 at +5°C/+25°C in the original package for maximum shelf life.

<b>Shelf Life</b>	3M Scotch-Weld™ Polyurethane Multi Purpose Adhesive 5005 has a shelf life of 12 months from date of dispatch by 3M when stored in the original carton at 21°C (70°F) & 50 % Relative Humidity
<b>Precautionary Information</b>	Refer to product label and Material Safety Data Sheet for health and safety information before using the product. For information please contact your local 3M Office. <a href="http://www.3m.com">www.3m.com</a>
<b>For Additional Information</b>	To request additional product information or to arrange for sales assistance, call 0870 6080050 Address correspondence to: 3M United Kingdom PLC, 3M House, 28 Great Jackson Street, Manchester, M15 4PA
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Values presented have been determined by standard test methods and are average values not to be used for specification purposes. Our recommendations on the use of our products are based on tests believed to be reliable but we would ask that you conduct your own tests to determine their suitability for your applications. This is because 3M cannot accept any responsibility or liability direct or consequential for loss or damage caused as a result of our recommendations

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