

# Product Selection Guide

Matching 3M Structural Adhesives to your design, performance and process requirements



# Design with Confidence. Build to Last.

In today's world, successful new products demand advancements in design, manufacturing processes and end-use performance. Industrial engineering and design professionals around the world depend on 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Structural Adhesives to help them design beyond the limits of mechanical fasteners to create next generation products.

# Trusted innovations from aerospace to office space

With over 60 years of experience developing innovative structural adhesives for aerospace, automotive and hundreds of other industries, 3M delivers the solutions you can trust. Our advanced formulations create durable bonds, even on challenging materials or in extreme conditions.

### 3M global service and support

3M supports our customers with the testing, technology, and training needed to help our customers create better products. Our world-wide support staff has the experience you can rely on.

- 3M Application Engineers can work directly with you to test the strength performance of multiple adhesives, using your specific substrates under different heat, humidity and force tests.
- Finite Element Analysis (FEA) and data modeling.
- Online and video-based training services, online product comparison and selection tools and real-time customer support live chat.

### **3M Bonding Process Center**

Improving your production process is a must if you want to stay ahead of the competition. 3M can help. We've created a state-of-the-art Bonding Process Center with three locations around the world where our scientists and engineers can work with you in person or remotely to address your production challenges. Whether you want to try new innovations in dispensing and automation or are simply looking for a better tape or adhesive to bond your parts together, the 3M Bonding Process Center will work with you to find customized solutions for your production challenges.

We'll work with you to explore bonding with different types of adhesives and dispensing options from powered manual dispensers all the way to fully programmable machinery.

For more information, please visit 3M.com/bondingprocesscenter.

3M<sup>™</sup> Scotch-Weld<sup>™</sup> Structural Adhesives are transforming the way engineers think.

### Advancing design, process and performance

The benefits of designing and building products with 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Structural Adhesives help drive product success. Eliminating mechanical fasteners provides a wide range of benefits for all stages of product development.



Improve Aesthetics: Improve product appearance with invisible joints and smoother bond lines, reduce weight and noise, enhance corrosion and fatigue resistance, and more.

Freedom of Design: Join composites to metal, build with hard-to-bond plastics, and use thinner, lighter weight materials.



**Enhance Productivity:** Reduce labor and material costs, build faster with minimal surface prep and match cure rates to your process needs.

Accurate and Easy: Dispense by hand or with automated equipment, and choose from a wide range of viscosities and flow rates.



**Strong, Flexible Bonds:** Adhesives bond and seal simultaneously, eliminate stress concentration and absorb shock and vibration for durable bonds.

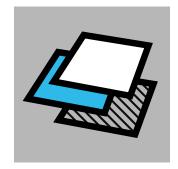
**Increased Durability:** Resist chemicals, environment, galvanic corrosion, fatigue, and material separation along edges or corners.

# Simplifying Adhesive Decisions for Your Application

The following questions will help you narrow adhesive choices to a few possibilities for evaluation.

# Q: What materials will be bonded?

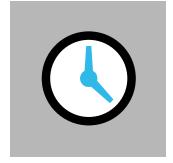
A: Structural adhesives work by adhering to the top surface of the bonded parts, so it's important to know the exact material and condition on those surfaces. For metals, will the adhesive be applied



to bare metal, or will there be a paint or coating on the surface? For plastics, exactly which base resin? Could there be residual release agents on the surfaces used for mold release?

#### Q: What is the preferred cure speed?

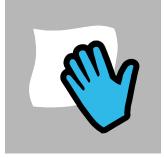
A: The chosen structural adhesive must have enough work life (open time, pot life) to allow proper mixing and application of the adhesive and assembling of the bonded parts. Smaller assemblies or



shorter cycle time production processes may be able to use a faster curing adhesive with a work life of only five minutes or less, while larger assemblies that require alignment and clamping will probably need a work life of 20 minutes or more.

#### Q: What surface preparation will be required?

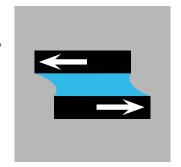
A: Structural adhesives generally prefer clean, rough, dry surfaces for highest bond strength. This typically means either light abrasion and solvent cleaning of the



surface, or solvent cleaning followed by chemical etching or applying a primer. Adhesion tests should be performed to determine the adequate surface preparation for a specific application.

# Q: What types of joints are best for structural adhesives?

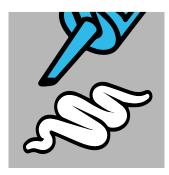
A: Joint designs that put the adhesive bond under shear, tension, or compression forces will provide the highest strength. Designs that tend to apply peel or cleavage



forces to the adhesive, where the applied stresses are not distributed over the entire bond area, will have lower bond strength, but the bond may still be sufficient for the needs of the application. In addition, optimum bond line thickness typically ranges from 0.005" to 0.020". The adhesive qualification process should always include testing of prototype assemblies to ensure the adhesive will provide enough performance.

# Q: How are structural adhesives used and applied?

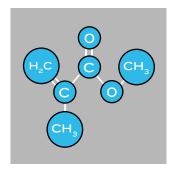
A: Structural adhesives come in many forms, including low viscosity liquids and non-sag pastes, one- and two-component formulations, short and long work lives, and various package



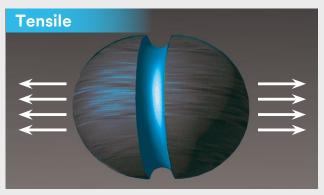
sizes and shapes. Most two-part structural adhesives are available in both bulk containers and convenient, easy-to-use cartridge mixing systems.

# Q: What are the general characteristics of the different types of structural adhesives?

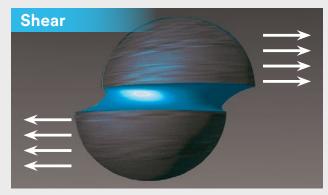
A: All structural adhesives provide at least 1,000 psi of overlap shear strength to aluminum, but the different adhesive chemistries have various properties:



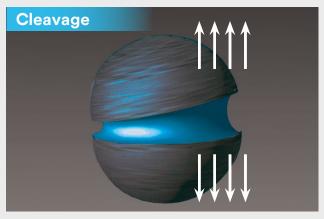
- Epoxy adhesives come in both two-part adhesives (that cure upon mixing the two components) and one-part adhesives (that cure with temperature). They generally have the highest strength and overall performance. They also provide the best resistance to high temperatures, solvents and outdoor weathering. They adhere well to metals, woods and concrete, and the flexible epoxy adhesives also bond to some plastics and rubbers. Epoxy adhesives usually require clean, abraded surfaces to obtain maximum bond strength.
- Acrylic adhesives are two-part adhesives that provide excellent bond strength and durability, although slightly lower than epoxy adhesives. However, they have several features that make them easier to use in many applications and manufacturing processes. These benefits include a much faster cure speed, higher tolerance for oily or unprepared bonding surfaces and the ability to bond a wide variety of materials, including nearly all plastics. Newer acrylic adhesive formulations are room temperature stable with a long shelf life, and some have much lower odor than regular acrylic adhesives.
- Urethane adhesives are two-part adhesives that are relatively flexible when cured, and therefore tend to have excellent impact resistance and good adhesion to most plastics. They also bond well to woods, concrete and rubbers, but they tend to have reduced resistance to solvents and high temperatures. Uncured adhesive components are sensitive to moisture.
- Cyanoacrylate adhesives (instant adhesives) are one-component, lower viscosity liquids that cure extremely quickly with just contact pressure and surface moisture. They adhere well, with thin bond lines, to plastics, metals and rubbers. With the use of primers, they can also adhere to low surface energy plastics and elastomers. They tend to have low flexibility, peel strength and impact resistance compared to other structural adhesives. They are generally used for applications such as gasket bonding and smaller assemblies.
- Anaerobic adhesives are one-part adhesives that cure
  on active metal surfaces when oxygen gets excluded
  from the bond line. These products keep your factory
  running efficiently, reducing maintenance and leakage.
  They do not bond well to glass, plastics or rubbers, and
  are primarily used for applications such as locking threads
  and sealing pipe connections.
- PUR adhesives (Polyurethane-reactive adhesives) are one-part adhesives that apply like a hot melt, but cure with ambient moisture for near structural strength bonds. Fast set times and build strength over the next 24-48 hours can reach as much as 1,000 psi in overlap shear strength. They are flexible and resistant to temperature extremes and most solvents. Most commonly used in bonds where at least one substrate contains or transmits moisture (such as wood or plastic).



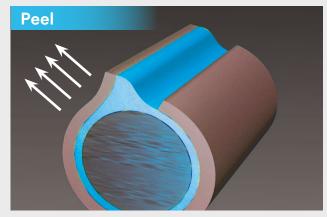
Tensile is pull exerted equally over the entire joint. Pull direction is straight and away from the adhesive bond.



Shear is pull directed across the adhesive, forcing the substrates to slide over each other.



Cleavage is pull concentrated at one edge of the joint, exerting a prying force on the bond. The other edge of the joint is theoretically under zero stress.



Peel is concentrated along a thin line at the edge of the bond where one substrate is flexible.

# **Key Markets & Applications**

### For 3M™ Scotch-Weld™ Structural Adhesives



#### **Sporting Goods**

#### **Key Features & Benefits:**

- Excellent impact resistance of high stressed bonds
- High strength for small joints
- High strength bonding of rubber, composites and metals to each other

#### **Key Products:**

DP420NS, DP8010, DP8710NS, PR100, DP8910NS

#### **Specialty Vehicle**

#### **Key Features & Benefits:**

- Weight reduction
- High strength
- Vibration & fatigue resistance

#### **Key Products:**

DP6330NS, DP8410NS, DP8610NS, LSB60NS, TL42





### Signage

#### **Key Features & Benefits:**

- One adhesive to bond all of your substrates
- Strong formulations and thin bond lines
- Weather resistance
- UL recognition

#### **Key Products:**

DP100 Plus, DP8405NS, DP8710NS, DP8805NS, PR Gel

### Metalworking

#### **Key Features & Benefits:**

- High strength and durability
- Reduced surface preparation before bonding, and no grinding after bonding
- Save weight and improve appearance with adhesives instead of welds or rivets

#### **Key Products:**

DP420NS, DP8407NS, DP8410NS



#### **Electronics**

#### **Key Features & Benefits:**

- Low halogen formulations available to meet customer needs
- Fast cure to speed production
- Protect sensitive electrical connections from the environment

#### **Key Products:**

DP270, DP8705NS, DP8910NS, TS230, PR100, 6101







### **Appliance**

#### **Key Features & Benefits:**

- Simplify operations by bonding after powdercoating
- Eliminate the challenge of bonding rigid to flexible substrates
- Noise damping
- Reduce complexity-bond and seal glass to metal in one step

#### **Key Products:**

DP125, DP6310NS, DP8610NS, DP8710NS, DP8810NS, TS230, TL42

#### **Aerospace**

#### **Key Features & Benefits:**

- Available in UL94 or FST compliant options
- Strong, yet flexible bond lines

#### **Key Products:**

2216, DP100FR, DP420NS, DP640, TL71





#### Plastics, Composite, Rubber & Nylon

#### **Key Features & Benefits:**

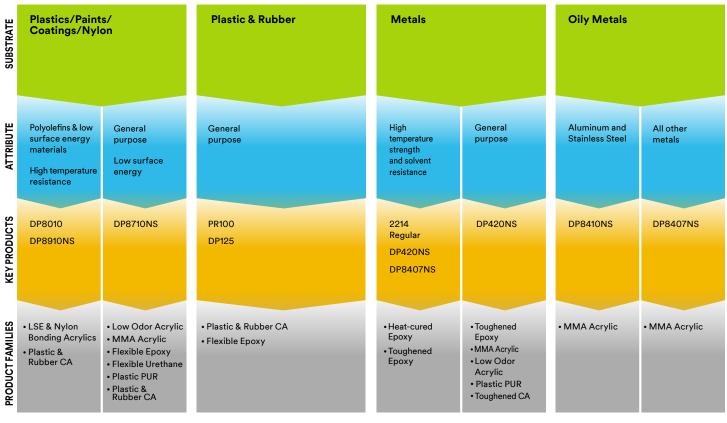
- Bonding of low surface energy plastics without priming
- Impact resistant composite and nylon bonding

#### **Key Products:**

DP100 Plus, DP6310NS, DP8010, DP8405NS, DP8810NS, DP8910NS, TS230, PR100

# 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Adhesives Selector Guide

Step 1: Select Most Difficult Substrate Step 2: Determine Key Attribute Step 3: Select Product Family



<sup>\*</sup>See chart in back of guide for more details.

SUBSTRATE ATTRIBUTE KEY PRODUCT PRODUCT FAMILIES

#### **Structural Adhesive Families**

**Rigid Epoxy Adhesives** — Higher tensile strength at lower elongations for greater long-term holding power. Mostly used for rigid substrates (metals) with high static loads.

Flexible Epoxy Adhesives — Lower tensile strength at higher elongations for greater capability to withstand differential movement of bonded parts; higher peel strength and higher adhesion to most plastics.

Toughened Epoxy Adhesives — Higher tensile strength at lower elongations for fatigue resistance; best suited for dynamic stresses. They have long-term holding power, higher peel strength, and exceptional higher resistance against shock, vibration and impact loads. Lower adhesion to most thermoplastics.

**Heat-cured Epoxy Adhesives** — One-component, rigid adhesives with outstanding strength at elevated temperatures. These adhesives require a thermal cure, typically around 250-350°F (120-180°C) for 40-60 minutes.

MMA Acrylic Adhesives — Provides greater adhesion to a wide variety of materials including most plastics and paint systems, are tolerant of many surface contaminations. High impact resistance for metal bonds.

Low Odor Acrylic Adhesives — Less odor than typical acrylic adhesives and faster rate of strength build than most two-part structural adhesives. Excellent adhesion to a variety of materials, including plastics and paint systems. They provide high impact resistance for plastic bonds; and are tolerant of many surface contaminations.

**LSE and Nylon Bonding Acrylic Adhesives** — Outstanding adhesion to polyolefin materials such as polypropylene, polythylene, nylon, and TPO without surface treatment.

**Semi-rigid Urethane Adhesives** — Higher tensile modulus and lower elongation capability, with greater long-term holding power.

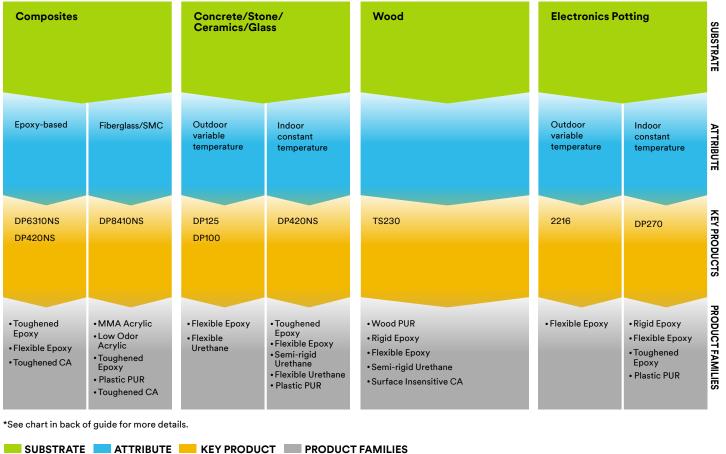
**Flexible Urethane Adhesives** — Lower tensile modulus and higher elongation capability. Excellent adhesion to most plastics.

#### **Instant Adhesive Families**

Plastic & Rubber (PR) Instant Adhesives bond to the widest variety of materials, have an extremely fast cure speed, and come in a wide range of viscosity.

**Surface Insensitive (SI) Instant Adhesives** cure even on acidic surfaces (such as wood, paper, leather, and ceramic); these adhesives have a slower cure speed than traditional instant adhesives.

**Step 1:** Select Most Difficult Substrate **Step 2:** Determine Key Attribute **Step 3:** Select Product Family



Low Odor (LO) Instant Adhesives provide a reduced blooming effect for applications that require an improved appearance.

General Purpose (EC) Instant Adhesives are slightly less expensive products that have lower strength and impact resistance compared to traditional instant adhesives.

Super Fast (SF) Instant Adhesives provide the fastest rate of cure speed for most applications.

Rubber Toughened (RT) Instant Adhesives can be used for applications that require improved impact strength or vibration resistance; preferred for applications bonding two rigid materials together.

Metal (MC) Instant Adhesives provide improved performance on metal substrates.

Engineered Grade (EG) Instant Adhesives provide excellent overall performance for most applications.

#### **Anaerobic Adhesive Families**

Threadlockers (TL) hold screws and other threaded fasteners in place to prevent loosening from shock, vibration, and thermal expansion and contraction; these adhesives replace lock washers and nylon-insert nuts.

#### **PUR Adhesive Families**

Wood PUR - Higher shear strength at lower elongations for long term holding power. Mostly used for rigid wood substrates and some plastics.

Plastic PUR - Higher impact strength, elongation and flexibility for greater capacity to withstand movement of bonded parts. Higher adhesion to most plastics, glass and aluminum.

# **Substrate Selector**

Step 1: Select Substrate Step 2: Determine Key Attribute Step 3: Select Product (see definitions below)

		Plastic/Paint	s/Coatings		Metals			Oily Metals		Composites		Concrete/St Ceramics/GI		
		Low Surface	General		Temperature and Solvent	Stainless Steel &	Other	Stainless Steel &	Other	Fiberglass/				
	Low	Energy LSE Acrylic*	Purpose LSE Acrylic*	Rubber Plastic &	Resistant N/A	Aluminum LSE Acrylic	Metals LSE Acrylic	Aluminum LSE Acrylic	Metals LSE Acrylic	SMC LSE Acrylic	Epoxy LSE Acrylic	Indoor LSE Acrylic	Outdoor LSE Acrylic	Wood LSE Acryl
	Surface Energy	Plastic & Rubber CA	Plastic & Rubber CA	Rubber CA*						Toughened CA*	Toughened CA*	,		Surface Insensitive CA*
	General Purpose	LSE Acrylic* Plastic & Rubber CA	LO Acrylic MMA Acrylic Plastic PUR Flexible Epoxy Plastic & Rubber CA	Plastic & Rubber CA* Plastic PUR	Toughened Epoxy Flexible Epoxy	LO Acrylic MMA Acrylic Flexible Epoxy Plastic PUR Plastic & Rubber CA	DP8407NS Toughened Epoxy Flexible Epoxy Plastic PUR Plastic & Rubber CA	LO Acrylic MMA Acrylic	DP8407NS	Semi-rigid Urethane MMA Acrylic LO Acrylic Flexible Urethane Plastic PUR Toughened CA	Semi-rigid Urethane MMA Acrylic Flexible Epoxy Toughened Epoxy Plastic PUR Toughened CA	Flexible Epoxy Rigid Urethane Flexible Urethane Plastic PUR	Flexible Epoxy Flexible Urethane Plastic PUR	Wood PU Flexible Epoxy Rigid Urethane Surface Insensitive CA
		Plastic & Rubber CA*	Plastic & Rubber CA* Plastic PUR	Plastic & Rubber CA*	N/A	Flexible Epoxy Plastic PUR	Flexible Epoxy Plastic PUR	N/A	N/A	Plastic & Rubber CA* Plastic PUR	Plastic & Rubber CA* Plastic PUR	Flexible Epoxy Plastic PUR	Flexible Epoxy Plastic PUR	Surface Insensitiv CA* Plastic PU Flexible Epoxy
	Temperature and Solvent Resistant	N/A	Toughened Epoxy Flexible Epoxy	N/A	Toughened Epoxy Flexible Epoxy	Toughened Epoxy Flexible Epoxy	One-part Heat-cured Epoxy Toughened Epoxy	Heat-cured Epoxy	Heat-cured Epoxy	Toughened Epoxy Flexible Epoxy Plastic PUR	Toughened Epoxy Flexible Epoxy Plastic PUR	Toughened Epoxy Flexible Epoxy	Flexible Epoxy	Toughene Epoxy Plastic PU Flexible Epoxy
ı	Stainless Steel & Aluminum	LSE Acrylic	LO Acrylic MMA Acrylic Flexible Epoxy Plastic PUR Plastic & Rubber CA	Plastic & Rubber CA* Plastic PUR	Toughened Epoxy Flexible Epoxy	LO Acrylic MMA Acrylic Toughened Epoxy Flexible Epoxy Rigid Epoxy Toughened CA	Heat-cured Epoxy Toughened Epoxy	LO Acrylic MMA Acrylic	DP8407NS Heat-cured Epoxy	Semi-rigid Urethane MMA Acrylic LO Acrylic Toughened Epoxy Plastic PUR Toughened CA	Semi-rigid Urethane Toughened Epoxy MMA Acrylic LO Acrylic Plastic PUR Toughened CA	Toughened Epoxy Flexible Epoxy	Flexible Epoxy	Plastic PL Toughene Epoxy Rigid Epo: Flexible Epoxy Surface Insensitive CA
	Other Metals	LSE Acrylic	DP8407NS Toughened Epoxy Flexible Epoxy Plastic PUR Plastic & Rubber CA	Plastic & Rubber CA* Plastic PUR	Heat-cured Epoxy Toughened Epoxy	Heat-cured Epoxy Toughened Epoxy	Toughened Epoxy Flexible Epoxy Heat-cured Epoxy DP810	DP8407NS Heat-cured Epoxy	DP8407NS Heat-cured Epoxy	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR	Toughened Epoxy Flexible Epoxy Heat-cured Epoxy Plastic PUR	Toughened Epoxy Heat-cured Epoxy	Flexible Epoxy	Plastic PU Toughene Epoxy
ı	Stainless Steel & Aluminum	LSE Acrylic	LO Acrylic MMA Acrylic	N/A	Heat-cured Epoxy	LO Acrylic MMA Acrylic	DP8407NS Heat-cured Epoxy	LO Acrylic MMA Acrylic	DP8407NS	MMA Acrylic LO Acrylic	MMA Acrylic LO Acrylic Heat-cured Epoxy	N/A	N/A	N/A
	Other Metals	LSE Acrylic	DP8407NS	N/A	Heat-cured Epoxy	DP8407NS Heat-cured Epoxy	DP8407NS Heat-cured Epoxy	DP8407NS	DP8407NS Heat-cured Epoxy	DP8407NS	Heat-cured Epoxy	N/A	N/A	N/A
	Fiberglass/ SMC	LSE Acrylic Toughened CA*	Semi-rigid Urethane MMA Acrylic LO Acrylic Flexible Urethane Plastic PUR Toughened CA	Plastic & Rubber CA* Plastic PUR	Toughened Epoxy Flexible Epoxy Plastic PUR	Semi-rigid Urethane MMA Acrylic LO Acrylic Toughened Epoxy Plastic PUR Toughened CA	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR	MMA Acrylic LO Acrylic	DP8407NS	Semi-rigid Urethane MMA Acrylic LO Acrylic Toughened Epoxy Flexible Epoxy Plastic PUR Toughened CA	Semi-rigid Urethane Toughed Epoxy Flexible Epoxy Plastic PUR Toughened CA	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR	Semi-rigid Urethane Flexible Epoxy Flexible Urethane Plastic PUR	Semi-rigi Urethane Toughene Epoxy Rigid Urethane Flexible Epoxy Plastic PL
	Ероху	LSE Acrylic Toughened CA*	Semi-rigid Urethane MMA Acrylic Flexible Epoxy Toughened Epoxy Plastic PUR Toughened CA	Plastic & Rubber CA* Plastic PUR	Toughened Epoxy Flexible Epoxy Plastic PUR	Semi-rigid Urethane Toughened Epoxy MMA Acrylic LO Acrylic Plastic PUR Toughened CA	Toughened Epoxy Flexible Epoxy Heat Cured Epoxy Plastic PUR	MMA Acrylic LO Acrylic Heat Cured Epoxy	Heat Cured Epoxy	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR Toughened CA	Toughened Epoxy Flexible Epoxy Plastic PUR Toughened CA	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR	Semi-rigid Urethane Flexible Epoxy Plastic PUR	Semi-rigi Urethane Toughene Epoxy Flexible Epoxy Plastic PU
	Indoor	LSE Acrylic	Flexible Epoxy Rigid Urethane Flexible Urethane Plastic PUR	Flexible Epoxy Plastic PUR	Toughened Epoxy Flexible Epoxy	Toughened Epoxy Flexible Epoxy	Toughened Epoxy Heat Cured Epoxy	N/A	N/A	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR	Toughened Epoxy Flexible Epoxy Rigid Urethane Flexible Urethane	Flexible Epoxy Flexible Urethane	Flexible Epoxy Plastic PU Flexible Urethane
	Outdoor	LSE Acrylic	Flexible Epoxy Flexible Urethane Plastic PUR	Flexible Epoxy Plastic PUR	Flexible Epoxy	Flexible Epoxy	Flexible Epoxy	N/A	N/A	Semi-rigid Urethane Flexible Epoxy Flexible Urethane Plastic PUR	Semi-rigid Urethane Flexible Epoxy Plastic PUR	Flexible Epoxy Flexible Urethane	Flexible Epoxy Flexible Urethane	Flexible Epoxy Plastic PU Flexible Urethane
		LSE Acrylic Surface Insensitive CA*	Wood PUR Flexible Epoxy Rigid Urethane Surface Insensitive CA	Wood PUR Surface Insensitive CA*	Toughened Epoxy Plastic PUR Flexible Epoxy	Wood PUR Toughened Epoxy Rigid Epoxy Flexible Epoxy Surface Insensitive CA	Wood PUR Toughened Epoxy	N/A	N/A	Semi-rigid Urethane Toughened Epoxy Rigid Urethane Flexible Epoxy Plastic PUR	Semi-rigid Urethane Toughened Epoxy Flexible Epoxy Plastic PUR	Flexible Epoxy Plastic PUR Flexible Urethane	Flexible Epoxy Plastic PUR Flexible Urethane	Wood PU Rigid Epo Toughene Epoxy Rigid Urethane Surface Insensitiv CA

### 3M™ Scotch-Weld™ Structural Adhesives

# **Coverage Guide**

#### Approximate Coverages for 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Adhesives in Duo-Pak Cartridges

Bead Size Dimension* inches/mm	Linear ft/m per 37 mL (2:1 Cart.)	Linear ft/m per 43 mL (2:3 Cart.)	Linear ft/m per 45 mL (10:1 Cart.)	Linear ft/m per 50 mL (1:1 & Cart.)	Linear ft/m per 200 mL (1:1 & 2:1 Cart.)	Linear ft/m per 400 mL (1:1 & 2:1 Cart.)	Linear ft/m per 490 mL (10:1 Cart.)	Linear ft/m per 295 mL (1/10 gal. Cart.)
1/2 in (12.7 mm)	2 ft (0.6 m)	2 ft (0.7 m)	2 ft (0.7m)	2.5 ft (0.8 m)	10 ft (3 m)	21 ft (6 m)	26 ft (8 m)	20 ft (6 m)
3/8 in (9.5 mm)	3.5 ft (1 m)	4 ft (1 m)	4 ft (1 m)	4.5 ft (1 m)	18 ft (6 m)	37 ft (11 m)	45 ft. (14 m)	35 ft (11 m)
1/4 in (6.4 mm)	8 ft (2 m)	9 ft (3 m)	9 ft (3 m)	11 ft (3 m)	41 ft (13 m)	83 ft (25 m)	102 ft (31 m)	79 ft (24 m)
1/8 in (3.2 mm)	31 ft (9 m)	36 ft (11 m)	37 ft (11 m)	42 ft (13 m)	165 ft (50 m)	331 ft (101 m)	405 ft (123 m)	312 ft (95 m)
1/16 in (1.6 mm)	122 ft (37 m)	142 ft (43 m)	147 ft (45 m)	165 ft (50 m)	656 ft (200 m)	1,313 ft (400 m)	1,600 ft (488 m)	1,234 ft (376 m)

# Coverages per Gallon for Various Thicknesses of 100% Solids 3M Adhesives

#### Coverages per Gallon for Various Bead Sizes of 100% Solids 3M Adhesives

Wet Thickness inches/mm	Ft²/gal (m²/liter)	Gal/1,000 ft <sup>2</sup> (liter/1,000 m <sup>2</sup> )	Bead Size Dimension* inches/mm	Approx. lineal ft/ gal (m/liter)	Approx. gal/1,000 lineal ft (liter/1,000 m)
1/2 in (12.7 mm)	3 ft <sup>2</sup> (0.1 m <sup>2</sup> )	312 gal (12,700 liter)	1/2 in (12.7 mm)	196 ft (16 m)	5 gal (63 liter)
1/8 in (3.2 mm)	13 ft² (0.3 m²)	78 gal (3,175 liter)	3/8 in (9.5 mm)	350 ft (28 m)	3 gal (36 liter)
1/16 in (1.6 mm)	26 ft² (0.6 m²)	39 gal (1,587 liter)	1/4 in (6.4 mm)	785 ft (63 m)	1.3 gal (16 liter)
1/32 in (0.8 mm)	51 ft <sup>2</sup> (1 m <sup>2</sup> )	20 gal (794 liter)	1/8 in (3.2 mm)	3,130 ft (252 m)	0.3 gal (4 liter)
25 mils (0.64 mm)	64 ft <sup>2</sup> (1.5 m <sup>2</sup> )	16 gal (635 liter)	1/16 in (1.6 mm)	12,420 ft (1,000 m)	0.1 gal (1 liter)
5 mils (0.13 mm)	320 ft <sup>2</sup> (8 m <sup>2</sup> )	3 gal (127 liter)	* Bead size is semi-circular bead equal to 1/2 the width.	with width equal to size noted	and height at center of bead

NOTE: The technical information and data provided here should be considered representative or typical only and should not be used for specification purposes.

#### Coverage for 3M<sup>™</sup> Scotch-Weld<sup>™</sup> PUR Adhesives

Approximate coverage per container (linear foot per container based on 1/8" dia. bead size)

1/10 Gallon Cartridge	2 Kilo Bag	5 Gallon Pail	55 Gallon Drum
250'	1,650'	13,500'	170,200'
(76.2m)	(502.9m)	(4144.8m)	(51876.9m)

#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Low Odor and MMA Acrylic Adhesives

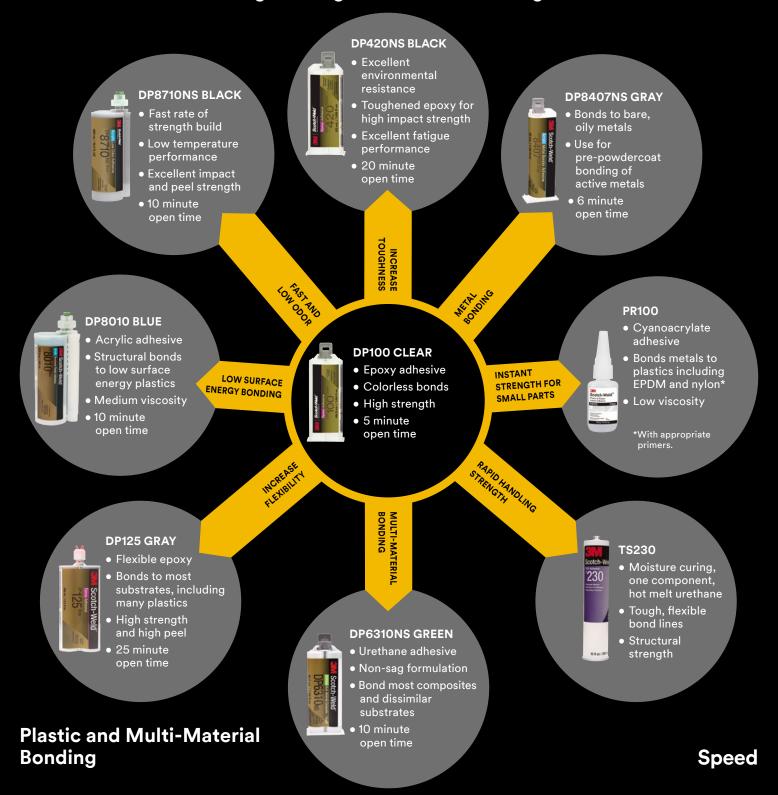
3M's Low Odor and MMA Acrylic Adhesives are designed for all of your sign application needs. They provide excellent impact strength, high peel strength and greatly extended shelf life compared to ordinary structural adhesives. With high structural strength, fast cure and environmental resistance, they are the first choice for the sign industry. DP8705NS, DP8710NS, DP8725NS, DP8405NS, DP8407NS, DP8410NS, DP8425NS, DP8610NS and DP8625NS





# Go-to products for Structural Bonding

### **High Strength and Metal Bonding**



### **3M<sup>™</sup> Scotch-Weld<sup>™</sup> Structural Adhesives (cont.)**



Product	- Tolori	ie <sup>s</sup>	8:1	ste st. ci co	iste Lite	ate Street	str. Peel Roller Peel Limbert & Pe	ကို <sup>C)</sup> Over	lap Shear	: psi (MPa)		
Product	Zolori Key Featu	Mix	John Approxim	12 Poblite	de tite dyor parin	ate 50°C ading 94°C at 15°C to ati	in the sale of the	55° 75° (1	180°C	St.C) Site	J <sub>P</sub> C	Stock*
DP100 100 (Clear)	General purpose Rigid bonds	1:1	13,000	5 minutes	20 minutes	2 (4)	900 (6)	1,500 (10)	300 (2)	48.5mL 200mL 400mL 5 gal. pail A 5 gal. pail B	00-638060-08994-1 00-021200-87260-0 00-021200-87261-7 00-021200-82345-9 00-021200-82344-2	7100148763 7100075490 7000121318 7100086557 7100086558
OP100FR IO0FR (Cream)	Flame retardant UL94 V-0 rating	1:1	80,000	6 minutes	20 minutes	2 (4)	1,250 (9)	2,200 (15)	800 (6)	48.5mL 200mL 5 gal. pail A 5 gal. pail B	00-638060-08989-7 00-048011-56744-0 00-048011-57230-7 00-048011-57229-1	7100148760 7000148268 7010366158 7010366123
DP100NS IOONS Translucent)	General purpose Non-sag	1:1	95,000	5 minutes	20 minutes	2 (4)	900 (6)	1,500 (10)	300 (2)	48.5mL 200mL 5 gal. pail A 5 gal. pail B	00-638060-08974-3 00-021200-87264-8 00-021200-82257-5 00-021200-82256-8	7100148744 7100014024 7010367412 7010295308
DP270 270 (Black)	Rigid potting compound Non-corrosive	1:1	12,000	60 minutes	3 hours	2 (4)	1,200 (8)	2,500 (17)	300 (2)	48.5mL 200mL 400mL Gallon kit 5 gal. pail A 5 gal. pail B	00-638060-08975-0 00-021200-87836-7 00-021200-87837-4 00-021200-82263-6 00-021200-82265-0 00-021200-82264-3	7100148745 7000121252 7100082565 7000121253 7000046463 7000046439
OP270 270 (Clear) (IL)	Rigid potting compound Non-corrosive	1:1	12,000	60 minutes	3 hours	2 (4)	1,200 (8)	2,500 (17)	300 (2)	48.5mL 200mL 5 gal. pail A 5 gal. pail B	00-638060-08973-6 00-021200-87834-3 00-021200-82251-3 00-021200-82250-6	7100148730 7100228179 7000028575 7000028567
1751 B/A (Gray)	Excellent void filler Rigid bonds	3:2	700,000	45 minutes	10 hours	4 (7)	1,400 (10)	2,000 (14)	500 (3)	Gallon kit	00-021200-20105-9	7000046339
(Green)	Multi-purpose Rigid bonds	4:5	400,000	60 minutes	8 hours	4 (7)	1,500 (10)	3,000 (21)	500 (3)	Quart kit	00-021200-20152-3	7000046340
1838L B/A Translucent)	Multi-purpose Rigid bonds	1:1	10,000	60 minutes	8 hours	4 (7)	2,000 (14)	2,500 (17)	300 (2)	Quart kit	00-021200-22646-5	7000036224
2158 B/A (Gray)	Multi-purpose Rigid bonds	1:1	375,000	2 hours	10 hours	3 (5)	1,500 (10)	2,000 (14)	400 (3)	Gallon kit	00-021200-20262-9	7010330060

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## **3M<sup>™</sup> Scotch-Weld<sup>™</sup> Structural Adhesives (cont.)**



	Colori	ies	SiA	or or color	te at life of	te de de C	n oller peet	Over	rlap Shear	r: psi (MPa)			
Product	Colory	Mix	Volume Briting	ate at of chiral strict of the	Alo to the	te Tin Streng	Roller Peet	55° 75° 75	180° 6	Ste Site	JPC JPC	Stock	
DP100 Plus 100 Plus (Clear)	Very flexible Colorless	1:1	8,500	4 minutes	20 minute	55 (98)	3,000 (21)		200 (1)	48.5mL 200mL 5 gal. pail A 5 gal. pail B 50 gal drum A 50 gal drum B	00-638060-08976-7 00-021200-87266-2 00-021200-87198-6 00-021200-87197-9 00-068060-00518-2 00-068060-00520-5	7100148750 7100069498 7100046020 7100084539 7100306667 7100307357	
DP105 105 (Clear)	Very flexible Colorless	1:1	6,500	5 minutes	20 minute	50 (89)	3,500 (24)	2,000 (14)	150 (1)	48.5mL 200mL 5 gal. pail A 5 gal. pail B	00-638060-08981-1 00-021200-87270-9 00-021200-87206-8 00-021200-87205-1	7100148733 7010309884 700000085 700000085	
DP110 110 (Gray)	General pur- pose Flexible bonds	1:1	55,000	8 minutes	20 minute	40 (71)	2,700 (19)	3,500 (24)	250 (2)	48.5mL 200mL 5 gal. pail A 5 gal. pail B	00-638060-08990-3 00-021200-87274-7 00-021200-82472-2 00-021200-82471-5	7100148777 7000121312 7010299362 7010299357	
DP110 110 (Translucent)	General pur- pose Flexible bonds	1:1	50,000	8 minutes	20 minute	40 (71)	2,500 (17)	2,500 (17)	200 (1)	48.5mL 200mL 400mL 5 gal. pail A 5 gal. pail B	00-638060-08993-4 00-021200-87846-6 00-021200-87847-3 00-021200-82467-8 00-021200-82466-1	7100148762 7000148270 7000148269 7010366163 7010366143	
DP125 125 (Gray)	High performance Very flexible bonds	1:1	52,500	25 minutes	2.5 hours	90 (160)	3,400 (23)	4,300 (30)	400 (3)	48.5mL 200mL 400mL 5 gal. pail A 5 gal. pail B	00-638060-08985-9 00-021200-87844-2 00-021200-87845-9 00-021200-87218-1 00-021200-87217-4	7100148735 7000121264 7100076727 7100084588 7100084538	
DP125 125 (Translucent)	High performance Very flexible bonds	1:1	15,000	25 minutes	2.5 hours	85 (151)	4,000 (28)	2,500 (17)	150 (1)	48.5mL 400mL	00-638060-08983-5 00-021200-87843-5	7100148734 7000121262	
DP190 (Translucent)	High performance Flexible bonds	1:1	10,000	80 minutes	6 hours	60 (107)	3,500 (24)	1,200 (8)	150 (1)	48.5mL 5 gal. pail A 5 gal. pail B	00-638060-08980-4 00-638060-40468-3 00-638060-40467-6	7100148752 7100218836 7100218835	
DP190 (Gray)	High perfor- mance Slightly flexible bonds	1:1	80,000	90 minutes	10 hours	50 (89)	1,500 (10)	2,500 (17)	400 (3)	48.5mL 200mL 400mL	00-638060-08992-7 00-021200-87840-4 00-021200-87841-1	7010410438 7000121314 7100076722	
2216 B/A (Gray)	High performance Very flexible bonds	2:3	80,000	90 minutes	10 hours	50 (89)	3,000 (21)	3,200 (22)	400 (3)	41.5mL Duo-Pak 2 oz. tube kit Pint kit Quart kit Gallon kit 5 gal. pail A 5 gal. pail B 50 gal drum A 50 gal drum B	00-068060-00115-3 00-021200-20351-0 00-021200-20354-1 00-021200-20356-5 00-021200-20358-9 00-021200-20365-7 00-021200-20360-2 00-021200-20366-4 00-021200-20361-9	700026203 700000081 70000081 70000081 700004636 70004636 7100166318	
2216 B/A (Translu- cent)	General pur- pose Very flexible bonds	1:1	10,000	2 hours	14 hours	70 (125)	3,000 (21)	1,700 (12)	140 (1)	2 oz. tube kit Quart kit Gallon kit 5 gal. pail A 5 gal. pail B	00-021200-20851-5 00-021200-20854-6 00-021200-20856-0 00-021200-64981-3 00-021200-64980-6	700004647 700000086 700004648 700004649 7000121307	
2216NS B/A (Tan)	High performance Non-sag	2:3	350,000	2 hours	10 hours	50 (89)	2,000 (14)	2,500 (17)	400 (3)	5 gal. pail A 5 gal. pail B	00-021200-87180-1 00-021200-87179-5	7010367414 701030988	

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						ime no	i ged	A°C) Over	rlan Shea	r: psi (MPa)		
ď	Color	iles	8:17	ste st. Och	ate with co	ate Guero	Roller Port	V Over		/		
Product	colori Keyfeat	Mix	John Approxit	15 Poblite	st 15 kg to to	at 15°F Chatin	Roller Peerly Roller Str.	55° 75° 40	180° 6	5te	J <sub>P</sub> C	Stock*
DP405 405 (Black)	Tough durable bonds High impact resistance	2:1	70,000	4 minutes	15 minutes	40 (71)	4,500 (31)	4,500 (31)	600 (4)	50mL 5 gal. pail A 5 gal. pail B	00-638060-08971-2 00-051111-07708-5 00-051111-07707-8	7100148728 7010301041 7010329549
DP420 420 (Black)	Tough durable bonds High impact resistance	2:1	30,000	20 minutes	2 hours	75 (133)	4,500 (31)	4,500 (31)	1,250 (9)	50mL 200mL 400mL Gallon Kit 5 gal. pail A 5 gal. pail B 43 gal. drum A 43 gal. drum B	00-638060-08966-8 00-021200-41530-2 00-021200-41529-6 00-051115-25796-4 00-021200-41531-9 00-021200-41534-0 00-021200-41533-3	7100148731 7100007956 7100077148 7000046381 700000834 700000827 7010365967 7010309750
DP420 420 (Off- White)	Tough durable bonds High impact resistance	2:1	30,000	20 minutes	2 hours	70 (125)	4,500 (31)	4,500 (31)	450 (3)	50mL 200mL 400mL 5 gal. pail A 5 gal. pail B	00-638060-08978-1 00-021200-87832-9 00-021200-87833-6 00-021200-82239-1 00-021200-82238-4	7100148736 7100077136 7100002516 7100001144 7100001145
DP420NS 420NS (Black)	Tough durable bonds Non-sag	2:1	180,000	20 minutes	2 hours	60 (107)	4,500 (31)	4,500 (31)	1,250 (9)	50mL 200mL 400mL 5 gal. pail A 5 gal. pail B 50 gal. drum A 50 gal. drum B	00-638060-08987-3 00-021200-39286-3 00-021200-39287-0 00-021200-31309-7 00-021200-56587-8 00-048011-58133-0 00-048011-58132-3	7100148758 7100036943 7100010680 700000857 7000000853 7100160352 7100160334
DP460 460 (Black)	Tough durable bonds	2:1	30,000	60 minutes	4 hours	80 (142)	4,500 (31)	4,500 (31)	700 (5)	5 gal. pail A 5 gal. pail B	00-021200-25319-5 00-021200-25318-8	7000121271 7000121265
DP460 460 (Off- White)	Tough durable bonds	2:1	30,000	60 minutes	4 hours	80 (142)	4,500 (31)	4,500 (31)	700 (5)	50mL 200mL 400mL Quart kit 5 gal. pail A 5 gal. pail B 53 gal. drum A 53 gal. drum B	00-638060-08998-9 00-021200-87830-5 00-021200-87831-2 00-021200-82226-1 00-021200-82228-5 00-021200-82227-8 00-021200-83757-9 0-00-76308-14623-8	7100148768 7000121321 7100082563 700000874 700000876 700000875 7010366165 7100153215
DP460NS 460NS (Off- White)	Tough durable bonds Non-sag	2:1	125,000	60 minutes	4 hours	70 (125)	3,600 (25)	4,900 (34)	4,650 (32)	50mL 200mL 400mL 5 gal. pail A 5 gal. pail B	00-638060-08968-2 00-021200-43671-0 00-021200-43672-7 00-021200-43674-1 00-021200-43673-4	7100148751 7100069441 7100076677 7010329565 7010301036
DP490 490 (Black)	Tough durable bonds	2:1	90,000	90 minutes	4 hours	34 (60)	3,600 (25)	4,500 (31)	2,000 (14)	400mL	04-054596-67913-9	7100200501
7240FR (Black)	Tough durable bonds	2:1	120,000	45 minutes	6 hours	15 (92)	3,400 (18)	4,500 (27)	900 (12)	400mL 14 gal. Kit	04-064035-15229-1 54-046719-95284-2	7100331273 7100042123
LSB60 (Gray)	Tough durable bonds High impact resistance	1:1	30,000	90 minutes	5 hours	15 (27)	3,400 (23)	4,500 (31)	900 (6)	400mL 50 gal. drum A 50 gal. drum B	00-051115-63411-6 00-051115-63418-5 00-051115-63417-8	7000046487 7010366162 7010310202
LSB60NS (Gray)	Tough durable bonds Non-sag High impact resistance	1:1	60,500	90 minutes	5 hours	10 (18)	3,800 (26)	4,500 (31)	800 (6)	5 gal. pail A 5 gal. pail B 50 gal. drum A 50 gal. drum B	00-051115-63428-4 00-051115-63427-7 06-38060-40269-6 06-38060-40270-2	7100079533 7100079534 7100198360 7100198390
LSB360NS (Green)	Tough durable bonds Non-sag Extra long work life Bonds oily metals	1:1	60,500	10 hours	16 hours	30 (53)	4,000 (28)	4,000 (28)	800 (6)	55 gal. drum A 55 gal. drum B	00-051115-64360-6 00-051115-64391-0	7010330243 7010299359



Regular (Gray) (	tot 30,000  150,000  150,000  100  100  100	20	149 (65) 350 (177) 350 (177) 250 (121)	N/A 10 (18) 2 (4)	ons 288 Rediet 15 Rediet 65 RVA N/A 3,000 (21) 3,150 (22) 2,000 (14)	N/A 5,500 (38)	N/A 4,500 (31) 3,700 (26) 2,000 (14)	N/A	30mL cart.  1 quart  1 quart 5 gal. pail 6 oz. cart. 5 gal. pail	00-021200-19917-2  00-021200-19949-3  00-021200-19950-9  00-021200-20833-1  00-021200-20835-5	7100208553  7000046326  7000046328 7100056050  7000046474 7010330200
Cream)  Excellent impair resistence, low temp cure temp cure  High temperate strength Impact resistant tempth Low viscosity  Environmentar teststance (Gray)  Environmentar resistance (Gray)  Environmentar resistance  Environmentar teststance  High temperate strength  High temperate strength  High temperate strength	20,000 are 150,000 are 60,000 Paste	60	350 (177) 350 (177) 250 (121)	N/A 10 (18) 2 (4)	3,000 (21) 3,150 (22)	5,500 (38) 3,700 (26)	4,500 (31) 3,700 (26)	2,500 (17)	1 quart 1 quart 5 gal. pail 6 oz. cart.	00-021200-19917-2 00-021200-19949-3 00-021200-19950-9 00-021200-20833-1	7000046326 7000046328 7100056050 7000046474
(Cream) strength Impact resistar High temperatus strength Low viscosity High temperatus strength Environmenta resistance (Gray) (Inc.)  We will be the properatus strength Environmenta resistance (Gray) (Inc.)  We will be the properatus strength High temperatus strength Higher insulativalue (Cream)  We will be the properatus strength High temperatus strength High temperatus strength High temperatus strength	ure 60,000	120	(177) 350 (177) 250 (121)	2 (4)	3,150 (22)	3,700 (26)	3,700 (26)	3,600 (25)	1 quart 5 gal. pail 6 oz. cart.	00-021200-19949-3 00-021200-19950-9 00-021200-20833-1	7000046328 7100056050 7000046474
(Cream) strength Low viscosity High temperatus strength Environmenta resistance (Gray) (Cray) High temperatus strength High temperatus strength High temperatus strength Higher insulati value (Cream)  High temperatus strength High temperatus strength High temperatus value (Cream)	ure Paste	60	(177)						5 gal. pail 6 oz. cart.	00-021200-19950-9	7100056050 7000046474
Hi-Temp New Strength Environmenta resistance (Gray) (1) 2214 High temperate strength Higher insulati value (Cream) 2214 High temperate strength High temperate strength strength High temperate strength	ı			2 (4)	2,000 (14)	2,500 (17)	2,000 (14)	2,000 (14)			
High temperate strength Higher insulati value Cream  High temperate strength Higher insulati value High temperate strength  High temperate strength	ire Paste	40	OEO (404)								
egular strength	on		250 (121)	7 (12)	3,000 (21)	2,200 (15)	2,000 (14)	400 (3)	6 oz. cart.	00-021200-25496-3	7000121273
aray) Cow terrip curi		40	250 (121)	5 (9)	3,000 (21)	2,500 (17)	2,000 (14)	800 (6)	6 oz. cart. 1 quart 5 gal. pail	00-021200-20344-2 00-021200-20345-9 00-021200-23047-3	7000000811 7000046356 7100111206
290 Low solids liquidamber) coating for me laminations		30- 60	350 (177)	5 (9)	5,000 (34)	5,000 (34)	3,500 (24)	1,200 (8)	Gallon cont. 5 gal. pail 54 gal. drum	00-021200-76225-3 00-021200-76227-7 00-021200-76228-4	7000000897 7100144895 7100144896
BM <sup>™</sup> Scoto	h-We	ld™	Prime	er							
Product	∕f <sub>s</sub>	Y Feature's		·i	scosity co	lot Or	time C.33°	Dry time of	size	UPC	Stock*

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#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Epoxy Adhesive DP420NS

3M Scotch-Weld Epoxy Adhesive DP420NS is a black, toughened, non-sag, two-part epoxy structural adhesive that provides good strength along with high impact and fatigue resistance. It can replace mechanical fasteners, screws, rivets and spot welds in many applications



#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Epoxy Adhesive DP100 Clear

3M Scotch-Weld Epoxy Adhesive DP100 Clear is a very flexible, fast-setting, two-part epoxy adhesive that cures clear and colorless. It provides a strong, permanent bond, even under vibration and impact and is flexible when cured, making it a good choice for bonding dissimilar surfaces.











7000121240

4.4 gal. pail B

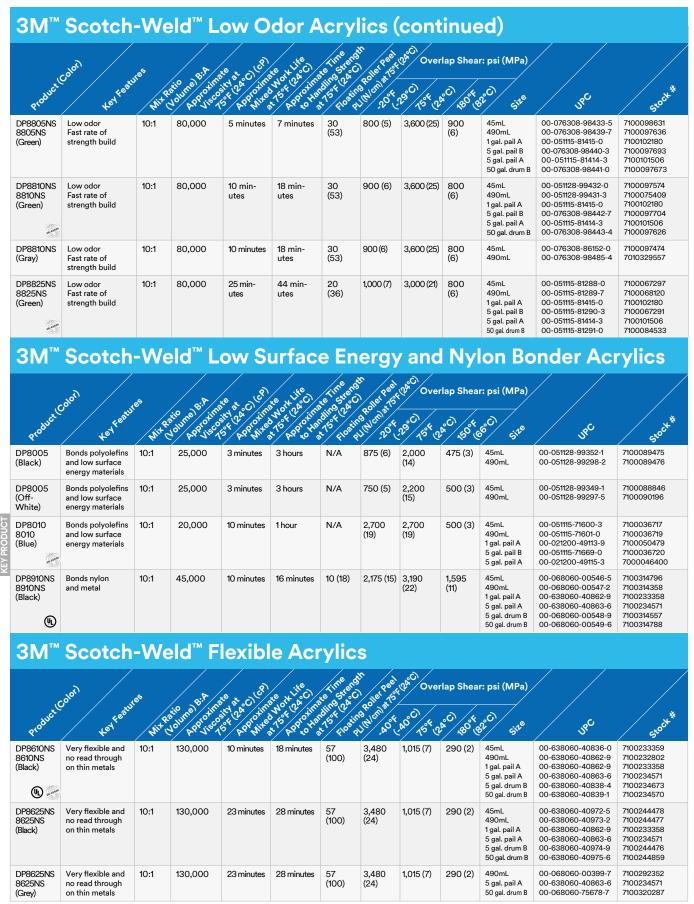
00-021200-49085-9













#### 3M™ Scotch-Weld™ Semi-Rigid Urethanes Overlap Shear: psi (MPa) UPC Size 7100148740 DP600 Concrete repair 1:1 6,000 4 minutes 20 (36) 3,200 (22) 2,300 (16) 700 (5) 48.5ml 00-638060-08962-0 8.4 fl. oz. 00-021200-96596-8 7000046375 600 Self-leveling 7010130543 (Gray) 5 gal. pail A 00-021200-96575-3 5 gal. pail B 00-021200-96574-6 7010170293 DP600NS 1:1 8 (14) 2,700 (19) 2.300 (16) 700 (5) 48.5mL 00-638060-08964-4 Concrete repair Paste 1minute 4 minutes Non-sag 5 gal. pail A 00-068060-00005-7 7100249024 00-068060-00004-0 7100249169 (Gray) 5 gal. pail B DP605NS 48.5mL 00-638060-08997-2 7100148767 Semi-rigid 150,000 40 (71) 4.000 (28) 2.000 (14) 600 (4) 1:1 5 minutes 20 minutes 605NS Non-sag (Off-White) DP6301NS 00-068060-00068-2 7100255381 **Delivers** 1:1 Non-sag 1 minute 3 minutes 36 (64) 2,018 (14) 1,653 (11) 224 (1) 400mL 50 gal. drum A 00-068060-00070-5 7100255361 strength and (Green) paste 50 gal. drum B 00-068060-00069-9 7100255362 48.5ml 7100109829 **DP6310NS** Multi-purpose 1:1 Non-sag 10 minutes 45 minutes 20 (36) 3,500 (24) 3,600 (25) 900 (6) 00-076308-86407-1 00-076308-86398-2 7100109830 400mL Energy absorbing (Green) paste 5 gal. pail A 00-076308-86782-9 7100143960 5 gal, pail B 00-076308-86748-5 7100143915 00-076308-86783-6 7010415316 50 gal. drum A 50 gal. drum B 00-076308-86749-2 7010412199 Non-sag DP6330NS 48.5mL 00-076308-86431-6 7100109828 Multi-purpose 1:1 30 minutes 2 hours 20 (36) 3,600 (25) 3,600 (25) 1,000 (7) 400mL 00-076308-86433-0 7100109827 (Green) Energy absorbpaste 5 gal. pail A 00-076308-86780-5 7100143961 7100143701 5 gal, pail B 00-076308-86701-0 00-076308-86781-2 7010409611 50 gal. drum A 50 gal. drum B 00-076308-86727-0 7010366145 Scotch-Weld™ Flexible Urethanes 7100148738 DP604NS Flexible 1:1 Paste 4 minutes 20 minutes 30 (53) 1,400 (10) 600 (4) 300 (2) 48.5mL 00-638060-08961-3 604NS Non-sag 00-051111-98301-0 (Black) 5 gal. pail A 00-021200-96462-6 7010365926 00-021200-96461-9 7010367265 5 gal. pail B 50 gal. drum A 00-076308-14205-6 7010329538 50 gal. drum B 00-076308-87087-4 7010412243 DP620NS 48.5mL 00-638060-08960-6 7100148737 1:1 20 minutes 40 (71) 3.000(21) 2.500(17) 500(3) Semi-flexible Paste 4 hours 620NS Non-sag 400mL 00-048011-57287-1 7000046372 (Black) 5 gal. pail A 00-076308-14144-8 7101329537 5 gal. pail B 00-076308-14135-6 7010367262 50 gal. drum A 00-076308-14135-5 7010301034 50 gal, drum B 00-076308-14146-3 7010309744 DP640 Tough flexible 1:1 25,000 60 minutes 8 hours 60 3,000 (21) 2,000 (14) 400 (3) 00-638060-08991-0 7100148761 (Brown) (107)00-021200-20802-4 7000046485 3549 Tough flexible 1:1 25,000 60 minutes 8 hours 3,000 (21) 2,000 (14) 400 (3) Quart kit (107)(Brown) bonds DP5001 Flexible 1:1 100,000 1minute 15 minutes N/A N/A 600 (4) N/A 400mL 00-051111-98296-9 7100028818 Conveyor belt (Black) repair

#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Low Surface Energy (LSE) Plastic Bonding Adhesives

3M's low surface energy structural acrylic adhesives bond to low surface energy plastics such as Polypropylene (PP), Polyethylene (HDPE) and most Thermoplastic Polyolefins (TPOs), providing structural adhesive bond strength that causes the plastic material to fail before the adhesive bond.



#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Epoxy Adhesive DP125

3M Scotch-Weld Epoxy
Adhesive DP125 is a low odor,
two-part epoxy that creates
strong structural and flexible
bonds on metal, ceramics,
wood and many plastics. It
provides the reliability and
strength you need to maintain
productive, dost effective
results.





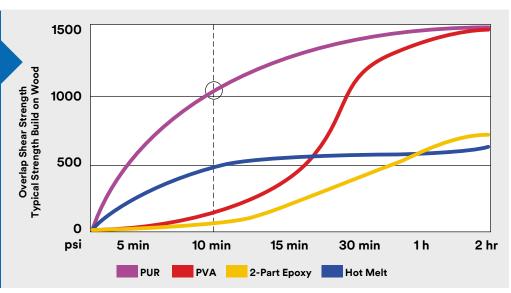
3M <sup>™</sup>	Scotch-V	Veld™					od Bon	ders	
Product	Color) Key Feature	s Viscos	ry Rapician	e Oper pacci Approxima	stine of the standard	ght Dinore O El	angation % size	Ifc	Scott.**
EZ250015 (Off-White)	Fast set time UV tracer	7,000	1.5 minutes	15 seconds	65	750	1/10 gal. 5 gal.	00-051115-23545-0 00-051115-23546-7	7000046529 7010310232
EZ250060 (Off-White)	Medium set time UV tracer	7,000	2 minutes	60 seconds	60	675	1/10 gal. 5 gal.	00-051115-23550-4 00-051115-23551-1	7000046531 7010329734
EZ250120 (Off-White)	Medium set time Low viscosity UV tracer	3,000	4 minutes	120 seconds	60	625	1/10 gal.	00-051115-23554-2	7000046532
TE030 (Off-White)	Fast set time High viscosity No UV tracer	16,000	1 minute	30 seconds	60	725	1/10 gal. 5 gal.	00-051115-25157-3 00-021200-82484-5	7000046536 7010310236
TE100 (Off-White)	Medium set time UV tracer	7,000	2 minutes	60 seconds	61	675	1/10 gal. 5 gal.	00-051115-25161-0 00-021200-87244-0	7000028590 7010295326
TE200 (Off-White)	Medium set time Low viscosity UV tracer	3,000	4 minutes	120 seconds	60	625	1/10 gal. 2 kilo	00-051115-25164-1 00-048011-53272-1	700000905 7000046540





#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> PUR Adhesives

PUR Adhesives enhance productivity with fast green strength. Shorter clamp times and reduced need for third-hand mechanical fasteners help speed up your production process without sacrificing ultimate strength.









	. do			روم	Obst. C	Timend	ir /			
Product	Corp	Key Features	Viscosi	A transcription	at to the hope of	ding 24°C	ore O Flor	igation %	JIPC .	Stock**
EZ250030 (Off-White)		bonds a wide variety UV tracer	13,000	2 minutes	30 seconds	50	725	1/10 gal. 5 gal.	00-051115-23541-2 00-051115-23542-9	7000046530 7000121357
EZ250150 (Off-White)	Long open ti to metal, gla tracer	me, bonds plastics ss, wood, no UV	9,000	4 minutes	150 seconds	45	700	1/10 gal. 2 kilo 5 gal.	00-051115-23559-7 00-051115-23562-7 00-051115-23560-3	7000046533 7010295325 7010367590
EZ250200 (Off-White)	bonds plastic	me, low viscosity, cs, wood, and many al combinations,	2,750	3 minutes	120 seconds	30	400	1/10 gal. 2 kilo	00-048011-57402-8 00-048011-57401-1	7000046538 7010367604
TE031 (Black)		, bonds a wide astics, no UV tracer	13,000	2 minutes	30 seconds	50	725	1/10 gal. 5 gal.	00-051115-25159-7 00-021200-89573-9	700000903 7100031123
TE031 (Off-White)		, bonds a wide astics, no UV tracer	13,000	2 minutes	30 seconds	50	725	1/10 gal. 2 kilo	00-051115-25158-0 00-048011-53355-1	700000902 7000028589
TE040 (Black)	bonds to pla	e, strong flexible istic, wood, llass, no UV tracer	7,000	2 minutes	40 seconds	35	860	1/10 gal. 5 gal. 55 gal. drum	00-051115-64536-5 00-638060-14494-7 00-638060-14321-6	7100003450 7100172685 7100160468
TE040 (Off-White)	bonds to pla	e, strong flexible astic, wood, alumi- no UV tracer	7,000	2 minutes	41 seconds	35	860	1/10 gal. 5 gal. 55 gal. drum	00-051115-25160-3 00-021200-25343-0 00-638060-14498-5	7000021292 7000136628 7100170133
TS230 (Black)	time, bonds p	prayable, long open plastics to metal, pod, no UV tracer	9,000	4 minutes	150 seconds	45	700	1/10 gal. 2 kilo 5 gal. 55 gal. drum	00-051115-25166-5 00-048011-53273-8 00-021200-89583-8 00-638060-14675-0	700000906 7000046541 7000121361 7100179521
TS230 (Off-White)	time, bonds	prayable long open plastics to metal, pod, no UV tracer	9,000	4 minutes	150 seconds	45	700	1/10 gal. 2 kilo 5 gal. 55 gal. drum	00-051115-25165-8 00-048011-53271-4 00-021200-83640-4 00-021200-83639-8	700000898 7000046534 7100024959 7100104259
TS230 (Gray)		rayable long open time, to metal, glass, and racer	9,000	4 minutes	150 seconds	45	700	55 gal. drum	00-638060-40191-0	7100191940
Purge Material 3756	Purge PUR addispensing ed	dhesives from bulk quipment	8250	N/A	N/A	N/A	N/A	5 gal.	00-021200-56522-9	7000121333
	Scoto	ch-Weld		R Appl	icator.	/Pre	hea	ter/H	ardware / .gc	grod
Applicator Preheater		PUR Easy 250 App						00-051115-		700000958 7000121608
System Acc for hands-fre		Applicator Bench N	Лount Bracke	t Assembly (br	acket only)	JU, 120 V, 1	Jaar Terri	00-021200- 00-021200-	30086-8	7000121614 7000121596
cor nands-fre Cartridge No		High Temperature				e, 5/bag)		50-638060-		7100218849
Repair Kits a Replacemer		Adhesive Applicate Applicator Nozzle Benchmount Quicl Applicator Air Cou Applicator Air Valv Applicator Swivel (Applicator Find Cal Applicator Heat Tu Applicator On/Off Applicator Power Capplicator Power Cappli	Shroud Exhaust Ass pler Filter Kit bly Line Kit e Kit Connector be Assembly be (240V) Switch Kit	embly Replace (120V) Kit	•			00-051115- 00-048011- 00-021200- 00-021200- 00-048011- 00-021200- 00-021200- 00-021200- 00-021200- 00-021200- 00-021200- 00-021200-	58320-4 31357-8 89475-6 89479-4 57410-3 58228-6 89476-3 89486-2 25303-4 89482-4	7000028623 7000148288 7010366711 7000046665 7000046668 7000046652 7000046663 7000046666 7010329969 7000046673 7100079509 7010366708 7010329970

For lead times on bulk adhesives, please contact your 3M representative.

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KEY PRODUCT Denotes product to consider first in this category

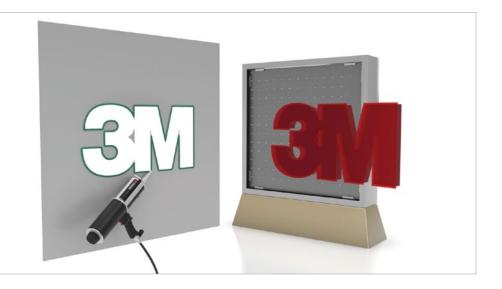
\* After Key Products, consider these.



#### 3M™ Scotch-Weld™ PUR Applicator/Preheater/Hardware (cont.) 00-021200-89514-2 7000027561 Alternate Nozzle Applicator Main Nozzle Assembly (includes nozzle, tip, tip cap and valve) 7000046672 00-021200-89515-9 System (not for use with Applicator Main Nozzle Applicator Extension Tip, .072 in orifice 7000046669 00-021200-89471-8 disposable nozzles) 00-021200-89473-2 7000046671 Applicator Tip, .125 in orifice 00-021200-89472-5 7000046670 Applicator Tip. .063 in orifice 00-021200-87194-8 7100005819 Applicator Tip Cap 7000046650 Applicator Valve Assembly 3M™ Scotch-Weld™ Instant Adhesives - Plastic and Rubber PR Gel Fast cure, gel viscosity for max -65° to 180°F < 25 sec. 24 20 gram tube 00-051115-25265-5 7100039255 (Clear) gap filling (-54° to 82°C) 300 gram cart 00-051115-25282-2 7100039257 PR40 -65° to 180°F 00-051115-25204-4 7010330469 Low viscosity for close fitting 40 24 20 gram bottle < 20 sec. (Clear) plastic/rubber parts (-54° to 82°C) -65° to 180°F PR100 General purpose, low viscosity 100 < 35 sec. 24 20 gram bottle 00-051115-25214-3 7100039259 00-051115-25213-6 (Clear) plastic bonder (-54° to 82°C) 500 gram bottle 7100039200 PR600 -65° to 180°F 50 gram bottle 00-051115-25241-9 Medium viscosity with some 600 < 45 sec. 24 (Clear) gap filling for plastic/rubbers (-54° to 82°C) 500 gram bottle 00-051115-25240-2 7100039246 PR1500 00-051115-25222-8 7100039201 -65° to 180°F 20 gram bottle General purpose, high 1.500 < 45 sec. (-54° to 82°C) 500 gram bottle 00-051115-25221-1 7100039203 (Clear) viscosity for gap filling Scotch-Weld<sup>™</sup> 3М Instant Adhesives – urtace Insensitive SI Gel Fast cure, gel viscosity for Gel -65° to 180°F < 30 sec. 24 20 gram bottle 00-051115-25266-2 7100039258 7101330472 (Clear) maximum gap filling (-54° to 82°C) 300 gram cart. 00-051115-25284-6 SI1500 High viscosity for gap filling 1,500 -65° to 180°F < 30 sec. 24 50 gram bottle 00-048011-61662-9 7010330477 500 gram bottle 00-051115-25245-7 7100039243 Scotch-Weld™ Instant Adhesives -3M" .ow Odor LO1000 -65° to 180°F < 30 sec. 20 gram bottle 00-051111-91664-3 7100039269 General purpose, high (-54° to 82°C) (Clear) viscosity with reduced odor and blooming, suitable for minor gap filling

#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Low Odor and MMA Acrylic Adhesives

3M's Low Odor and MMA Acrylic Adhesives are designed for all of your sign application needs. They provide excellent impact strength, high peel strength and greatly extended shelf life compared to ordinary structural adhesives. With high structural strenth, fast cure and environmental resistance, they are the first choice for the sign industry.





Product	Color	Typical Control	sirt (cP) Tompostur	time to h	andling	Cure thousa		
Product	Keykear	Typical	Zemperc Zemperc	Time to	Full	Cure	JPC	5toct*
SF20 (Clear)	Fast cure Optimum performance on wide range of rubbers and plastics	20	-65° to 180°F (-54° to 82°C)	< 10 sec.	24	20 gram bottle	00-051111-91667-4	7100049744
SF100 (Clear)	Fast cure, high strength with EPDM and other elastomers	100	-65° to 180°F (-54° to 82°C)	< 10 sec.	24	3 gram tube 20 gram bottle 500 gram bottle	00-048011-62630-7 00-048011-62631-4 00-048011-62629-1	7100039207 7100039206 7100039208
3M <sup>1</sup>	<sup>™</sup> Scotch-We	eld™ In	stant A	dhesiv	es –	Rubber	<b>Toughene</b>	d
RT5000B (Black)	Rubber toughened for impact resistance High viscosity for minor gap filling	5,000	-65° to 180°F (-54° to 82°C)	< 40 sec.	24	20 gram bottle 500 gram bottle	00-051111-91665-0 00-051115-25200-6	7100039251 7100039252
3M'	<sup>™</sup> Scotch-We	eld™ In	stant A	dhesiv	es –	Engine	ered Grade	e
CA4	Fast setting for a variety of plastics and rubbers	150	-65° to 180°F (-54° to 82°C)	5-40 sec.	24	2 gram tube 1 oz. bottle 1 lb. bottle	00-021200-96601-9 00-021200-96600-2 00-021200-96597-5	7010366320 7000028586 7000028587
CA5	Higher viscosity, slower setting version of CA4 for filling gaps Meets CID A-A-3097, Type II,Class 3	2,000	-65° to 180°F (-54° to 82°C)	12-60 sec.	24	1 oz. bottle 1 lb. bottle	00-021200-74289-7 00-021200-74288-0	7000046524 7010367474
CA8	Rapid setting Excellent adhesion to metals, plastics and rubbers Meets CID A-A-3097, Type II, Class 2	70-130	-65° to 180°F (-54° to 82°C)	5-40 sec.	24	2 gram tube 1 oz. bottle 1 lb. bottle	00-021200-21065-5 00-021200-21066-2 00-021200-21067-9	7000121354 7000046526 7000046527
CA40	Very fast setting Excellent adhesion to many substrates including flexible vinyl and EPDM rubber	20	-65° to 180°F (-54° to 82°C)	3-20 sec.	24	1 oz. bottle 1 lb. bottle	00-021200-74290-3 00-021200-74291-0	7000000893 7000000894
CA40H	Higher viscosity version of CA40 Better void filling capabilities	400-600	-65° to 212°F (-54° to 100°C)	5-40 sec.	24	1 oz. bottle 1 lb. bottle	00-021200-21073-0 00-021200-21074-7	7000000895 7000000896
CA50 Gel	High-viscosity, non-sag gel Less sensitive to acidic surfaces	20,000- 50,000	-65° to 212°F (-54° to 100°C)	60-120 sec.	24	20 gram tube	00-021200-82332-9	7100002517
CA100	High peel and impact strength High thermal shock and heat resistance	2,500- 4,500	-65° to 212°F (-54° to 100°C)	20-70 sec.	24	1 oz. bottle 1 lb. bottle	00-021200-82334-3 00-021200-82335-0	700000900 700000901

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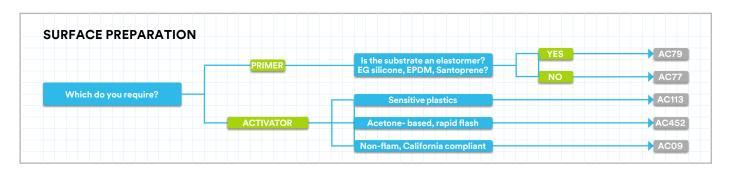
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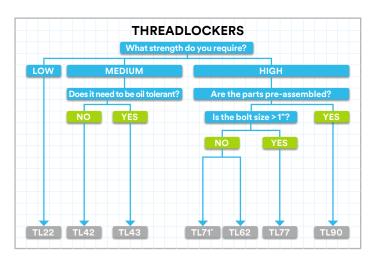
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Produ	(Ley Features	Typical	Delty (CP) Time to	Handling Ful	Cure thousa	ige <sup>c</sup>	spool.*
AC77	Instant adhesive primer for bonding of difficult-to-bond plastics such as polyethylene, polypropylene and polyacetal	<3	1-5 sec.	24	2 fl. oz. bottle 1 gallon can	00-048011-62728-1 00-638060-40067-8	7100039260 7100190206
AC79	Instant adhesive primer for bonding of difficult-to-bond elastomers such as silicone, fluoroelastomer and EPDM VOC compliant	2	1-5 sec.	24	2 fl. oz. bottle 8 fl. oz. bottle 4 liter can	00-051115-31388-2 00-051115-31389-9 00-051115-31390-5	7100039262 7100039264 7100039265
AC113	Instant adhesive general purpose accelerator Will not attack plastics	<3	1-5 sec.	24	8 fl. oz bottle	00-048011-62682-6	7100079891
Surface Activator	Clear, colorless organic-based liquid helps speed curing and prime surfaces Comes with brush and spray pump	<10	1-5 sec.	24	2 fl. oz. bottle	00-021200-87937-1	7000046525





#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Anaerobic Adhesives (cont.)

3M <sup>™</sup> Scotch-Weld <sup>™</sup> Anaerobic Adhesives – Threadlockers								
Product	(Codor) Key Features	Typical	obity CP1 Temperatu	e Range Time to	, tanding	ine thous	ikc	g <sub>t</sub> ook**
TL22 (Purple)	Screwlock - low removal torque fasteners less than a 1/4" (6mm)	1,200	-65° to 300°F (-54° to 149°C)	< 30 minutes	24	50mL bottle	00-048011-62602-4	7100039159
TL42 (Blue)	Nutlock - medium strength, general purpose	1,200	-65° to 300°F (-54° to 149°C)	< 30 minutes	24	1mL pipette 10mL bottle 50mL bottle 250mL bottle 1 liter bottle	00-048011-62604-8 00-048011-62605-5 00-048011-62606-2 00-048011-62607-9 00-051115-25124-5	7100064043 7100039190 7100039193 7100039192 7010310189
TL43 (Blue)	Oil tolerant, medium strength, general purpose	10,000- 18,000	-65° to 300°F (-54° to 149°C)	< 30 minutes	24	10mL bottle 50mL bottle 250mL bottle	00-051115-25138-2 00-051115-25139-9 00-051115-25140-5	7100039219 7100039222 7100039221
TL71 (Red)	Permanent studlock for bolts and studs up to 1" (25mm)	500	-65° to 400°F (-54° to 204°C)	< 30 minutes	24	10mL bottle 50mL bottle 250mL bottle	00-048011-62612-3 00-048011-62613-0 00-048011-62614-7	7100039197 7100039231 7100039230
TL90 (Green)	Penetrating adhesive for pre-assembled fasteners and porosity sealing of welds	20	-65° to 300°F (-54° to 149°C)	< 30 minutes	24	10mL bottle 50mL bottle 250mL bottle	00-048011-62615-4 00-048011-62616-1 00-048011-62617-8	7100039234 7100039236 7100039235
3M	<sup>™</sup> Scotch-We	ld™ A	naerobi	c Adhe	sive	s – Act	ivators	
AC649 (Green)	Acetone-based green primer for inactive or very cold surfaces 30-day part life for pre-application California compliant	<3	N/A	<5 minutes	24	8 fl. oz. bottle	00-048011-62709-0	7010367620

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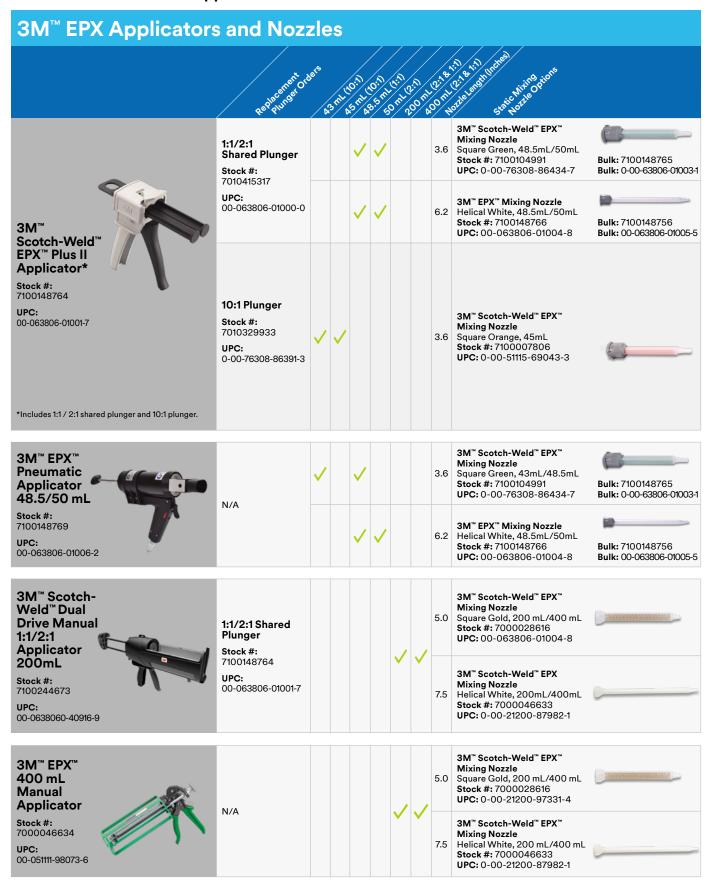
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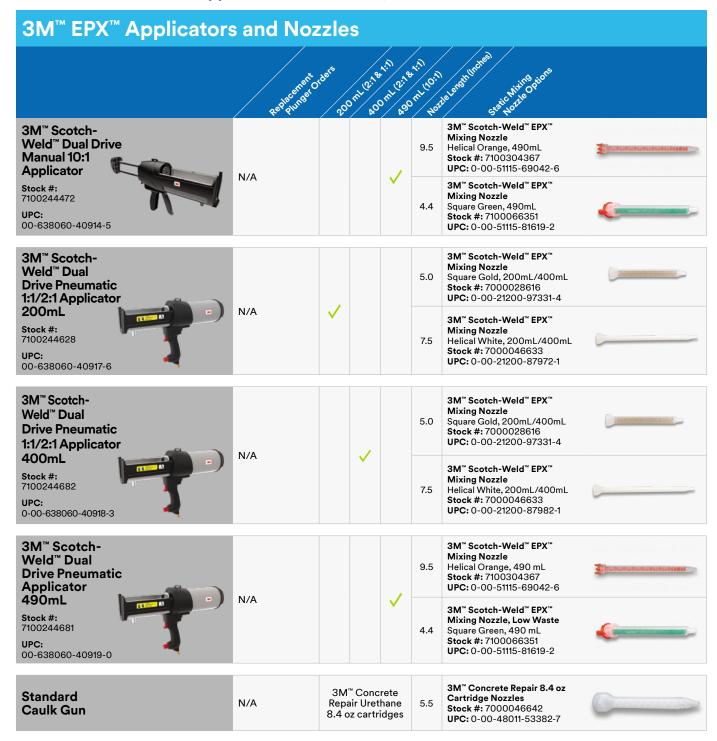
#### 3M<sup>™</sup> Scotch-Weld<sup>™</sup> 3M<sup>™</sup> Scotch-Weld<sup>™</sup> **Multi-Material Composite Plastic and Rubber Instant Urethane Adhesive Adhesives DP6310NS** The PR (Plastic & Rubber) series of products bonds to 3M™ Scotch-Weld™ Multimost plastics and rubbers with Material Composite Urethane Adhesive DP6310NS is a green, a range of viscosities that will fit all your application needs. non-sag, two-component Just a single drop per square urethane for bonding a variety of inch bonds several thousand composites, plastics, metals and pounts of holding power. wood. This flexible adhesive has excellent elongation and stress They provide proven, world strain properties for durable record strength with a hold bonding of composite parts and of 8 metric tons. multi-material assemblies.

<sup>\*</sup>For permanent attachment.

#### **3M<sup>™</sup> Scotch-Weld<sup>™</sup> EPX Applicators and Nozzles**



#### 3M™ Scotch-Weld™ EPX Applicators and Nozzles (cont.)



For low volume applications and take-it-to-the-job convenience, the 3M<sup>™</sup> EPX Plus II and EPX metal manual applicators comfortably dispense any of the 3M<sup>™</sup> Scotch-Weld<sup>™</sup> Duo-Pak Structural Adhesives. For higher volume applications, select the 200mL manual dispenser, or the 200mL or 400mL pneumatic dispenser. For concrete repair, there are both manual or pneumatic options.

3M<sup>™</sup> Scotch-Weld<sup>™</sup> One-Part Heat Cured Epoxies require a unique manual or pneumatic dispenser, such as Semco<sup>®</sup> 250, 350, 850, 950, or equivalent.

# **5 Structural Adhesives Myths Disproved**

For more information about some of the most common myths and misconceptions around structural adhesives and how 3M can help disprove these myths, visit **3M.com/bondwithus**.



#### Structural Adhesives Don't Hold DISPROVED

Consider the evidence – 3M Structural Adhesives can outperform "traditional" attachment methods like screws, rivets and spot welds.



#### Holding Pieces Together is All That Matters DISPROVED

Proper planning can improve performance. Evaluating your entire process could influence the bonding solution you should choose for maximum benefit.



#### "I've Tried One So I've Tried Them All" DISPROVED

Different adhesives offer different properties. The bonding continuum offers different adhesive options, strengths, viscosities, open times, resistance properties, and flexibility and rigidity levels.



#### All Structural Adhesives are Epoxies DISPROVED

Not all structural adhesives are made the same. Beyond just epoxies, 3M Structural Adhesives offer a variety of product families, chemistries, sizes and configurations.



#### "I'm On My Own To Figure This Out" DISPROVED

3M is Here to Help. Adhesives are core to some of our most iconic brands, so we have the technical expertise and global resources to cost-effectively help you bring your concept to life.

## **Surface Preparation Tips**

The following surface preparation steps are generally recommended for most substrates and structural adhesives. See Technical Data Sheets for more specific recommendations.

#### **METALS**

- 1. Safely wipe surface with acetone or methyl ethyl ketone (MEK) using a clean cloth. A heavier degreaser may be needed if the substrate contains a layer of processing oil.
- 2. Lightly abrade surface with sandblasting, fine grit sandpaper or 3M<sup>™</sup> Scotch-Brite<sup>™</sup> 7447 maroon pads.
- Wipe surface with acetone or MEK to remove debris.
- **4.** Allow surface to dry before applying adhesive.

#### **PLASTICS AND RUBBERS**

- Lightly abrade surface with sandblasting, fine grit sandpaper or 3M<sup>™</sup> Scotch-Brite<sup>™</sup> 7447 maroon pads.
- 2. Wipe surface with isopropyl (IPA) alcohol using a clean cloth to remove debris.
- **3.** Allow solvent to evaporate before applying adhesive.

#### **GLASS**

- Wipe surface using a clean cloth with solvent containing 0.5 wt% silane adhesion promoter or wipe with 3M™ Scotch-Weld™ Metal Primer 3901.
- 2. Allow solvent to evaporate before applying adhesive.

**3**M

# Industrial Adhesives & Tapes Division

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