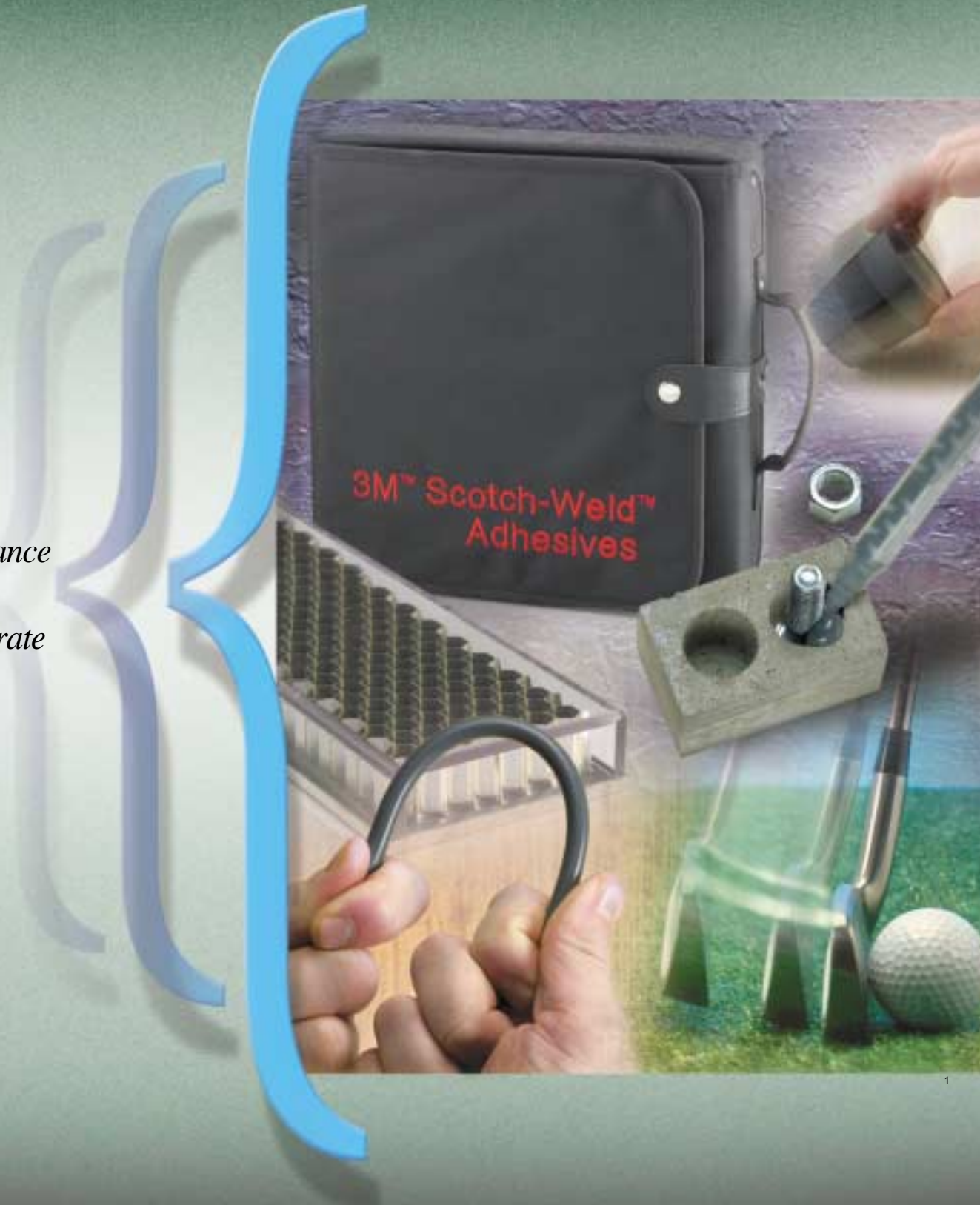




Scotch-Weld™

Structural Adhesives Demonstration Guide

*Proven
performance
you can
demonstrate*





See, feel, and hear the power of 3M™ Scotch-Weld™ Structural Adhesives

Demonstrated versatility and bonding strength is what's behind the brand name "Scotch-Weld". The name is based on aircraft company conclusions made in the early 1950's that this class of 3M load-bearing adhesive exhibited assembly strength comparable to welding. Today, industries worldwide take advantage of the reliability and wide selection

of 3M™ Scotch-Weld™ Structural Adhesives for a variety of challenging applications.

The tools in the Demonstration Kit provide tangible evidence of the history of Scotch-Weld high performance on a wide variety of substrates. To better understand performance on different substrates, the

following information presents characteristics and benefits of representative adhesives.

When used with the 3M™ Scotch-Weld™ Structural Adhesives Selection Guide, this kit can help an engineer or product designer gain confidence in 3M structural adhesives and choose products for evaluation.

3M™ Scotch-Weld™ Structural Plastic Adhesive DP-8010

- 2-part acrylic adhesive bonds to polyethylene and polypropylene with no surface preparation
- Tough bond strength to resist vibration and impact
- Bonds most difficult-to-bond LSE (low surface energy) plastics



Feel the strength

Polyethylene pipe bonded to polypropylene pipe in a straight butt joint for non-potable water and liquids. This type of joint would generally not be used because of a high potential to fail under stress. But for purposes of demonstration, this tool demonstrates the adhesives ability to not only hold the joint but also permanently bond dissimilar difficult-to-bond plastics. Try bending and torquing the assembly by hand.

3M™ Scotch-Weld™ Structural Adhesive DP-420

- 2-part epoxy adhesive bonds most substrates
- Room cures to over 4000 PSI in overlap shear strength
- Unique toughened formula for impact resistance



See the impact resistance

Stainless steel shaft bonded into stainless steel club head. Try bending and torquing the assembly by hand.

3M™ Scotch-Weld™ Instant Adhesive CA-40

- Cyanoacrylate adhesive for gaskets and quick repairs
- Quickly bond most rubber, including difficult-to-bond EPDM
- Fast set increases productivity



Note the gasket-tearing strength



Bond EPDM to aluminum disk. CA-40 also bonds EPDM to other bare or painted metal with strength greater than the EPDM. This means that with enough peel stress at the edge of the bond, the EPDM itself will tear apart. Rather than demonstrate this and destroy the tool, the photo here shows delamination.

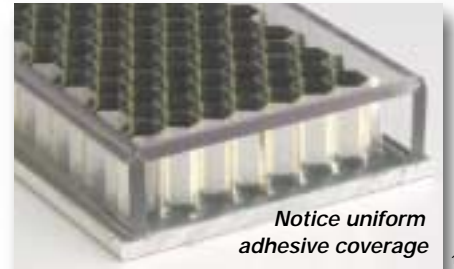


3M™ Scotch-Weld™ Structural Adhesive EC-2216 Gray

- Two-part flexible epoxy adhesive now in Duo-Pak cartridges
- 40-year track record – one of the most used and trusted two-part adhesives for metal, plastic, and honeycomb
- Long worklife for large area bonding
- Meets MIL-A-82720 and DOD-A-82720



Bond honeycomb to aluminum. This is a common application for aerospace and transportation. Note the large bonding area and how the honeycomb is firmly seated in the adhesive. Ultimate strength is 2,000 PSI overlap shear in room temperature use. The adhesive also bonds the polycarbonate protective lid to the aluminum as evidence of versatility.



Notice uniform adhesive coverage



Flexibility. The cured adhesive remains flexible for impact and vibration resistance, and to compensate for different coefficients of thermal expansion between dissimilar materials. Simply bend the sticks to prove the point.



Feel the flexibility

3M™ Concrete Repair DP-600 Self-Leveling

3M™ Scotch-Seal™ Polyurethane Sealant DP-5001

3M™ Scotch-Seal™ Polyurethane Sealant DP-5006 Self-Leveling

- Two-part urethanes for sealing, patching, anchoring, and custom threading
- Flexible for long-life performance
- Fast-setting and self-leveling for deep cracks, spalls and other voids.



Observe self-leveling and high strength



Anchoring bolts with DP-600. Try to remove the bolt by hand. Also note how the adhesive has leveled and cured to the full depth without contraction and cracking.



Flexibility selection. The cone is made of three flexible adhesives. DP-5006 at the wide end is the softest and would be used to seal control joints requiring high flexibility. DP-600 at the narrow end is the hardest and fastest setting of the three and is intended to repair cracks and spalls and prevent crack migration. DP-5001 in the center is a general purpose sealant that exhibits a degree of flexibility and hardness between the other two. Tap the ends of the cone to hear the difference in hardness.



Hear the difference

3M™ Scotch-Weld™ Potting Compound Adhesive DP-270

- 2-part rigid epoxy potting compound
- Low viscosity fills cavities and self levels
- Meets UL-94 HB Flammability Test



*Note
self-leveling
and non-corrosiveness to copper*

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Stabilize and rigidize wires inside copper electronic sub-component. Try pulling out the encapsulated wires by hand. Note that the adhesive is non-corrosive to copper.

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3M™ EPX Plus Applicator

- Applies two-part adhesives with a squeeze of the trigger
- Nozzle simultaneously meters, mixes, and dispenses adhesive
- Lightweight yet rugged industrial construction



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Easy to use. Hold up the plunger release above the handle and slide the plunger into the slot. The end with the round hole goes in and through the applicator. Place the adhesive cartridge into the retainer slots and close the cartridge collar. Slip a nozzle into the retainer slots on front of the cartridge and rotate the nozzle to lock into place.



*Demonstrate
ease of
use*

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Industrial Adhesives and Tapes Division

3M Center Bldg. 21-1W-10
900 Bush Ave.
St. Paul, MN 55144
1-800-362-3550
www.3M.com/adhesives

Printed in U.S.A.
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78-9236-7113-1