



Technical Data Sheet

3M™ Scotch-Weld™ Polyurethane Sealant
DP5001, Black



[Regulatory Info/SDS](#)

Product Description

3M™ Scotch-Weld™ Polyurethane Sealant DP-5001 is a black, fast-setting, two component polyurethane. It is packaged as 1:1 ratio liquids in duo-pak cartridges. With the squeeze of the trigger, the components are automatically mixed through a mixing tip and easily dispensed.

Product Features

- Fast-setting to reduce downtime
- Abrasion resistant
- Remains flexible at low temperature
- Automatic one-step mixing and dispensing decreases waste
- Balanced, low-viscosity, liquid components form an easy-to-use paste
- Withstands a wide range of temperatures
- 100% urethane
- Odorless application

Technical Information Note

The following technical information and data should be considered representative or typical only and should not be used for specification purposes.

Typical Uncured Physical Properties

Temperature: 20 °C (68 °F)

Attribute Name	Value
Viscosity	100,000 cP ¹

¹ Brookfield HBDVI* CP

Typical Mixed Physical Properties

Temperature: 25 °C (77 °F)

Test Condition: 10 g, 4 mm (1/6 in) thick

Test Method: PEC

Attribute Name	Value
Worklife	60 s
Tack Free Time	15 min
Time to Full Cure	12 h

Typical Cured Characteristics

Attribute Name	Test Method	Temperature	Test Condition	Value
Temperature Range			Continuous	51 — 121 °C (-60 — 250 °F)
Shore A Hardness	ASTM D2240	23 °C (73 °F)		72

Typical Performance Characteristics

Attribute Name	Value
Long Term Temperature Resistance	121 °C (250 °F) ¹
Minimum Long Term Temperature Resistance	-51 °C (-60 °F) ¹

¹ Long Term (day, weeks)

Handling/Application Information

Application Examples

- Repairing tears and worn spots
- Protection of belt fasteners to prevent wear of splices
- Repair of conveyor belts in mines

Conveyor Belt Repair

Section 1:Preparation

General Preparation of the Dual Cartridge/Dispenser/Mixer Tip Assembly:

1. Select the desired dispenser (manual or pneumatic) and the mix tip.
2. Cut the blind-end off of the cartridge orifice, or remove the cap.
3. Place the cartridge in the dispenser.
4. Dispense just enough material so that both components dispense equally.
5. Assemble the mix tip onto the cartridge.

Preparation of Repair Area

Note:3M™ Scotch-Weld™ Polyurethane Sealant DP-5001 is a primerless system which cures at room temperature. For optimum results, it is recommended that cure be accelerated with heat.

Preparation of Repair Area For Splicing

1. Clean repair area thoroughly with acetone* at least 6 inches beyond the repair area to remove any contaminants from the area to be repaired. Allow to dry.
2. After cutting the belt for the splice, use normal skiving procedures to skive the belt 5-6 inches on both sides of the cut.
3. Use a template to mark holes for the clips.
4. Punch the holes out manually or use an impact wrench.
5. Bevel both sides of the splice.
6. Use a coarse sanding disk to grind 2-3 inches beyond the repair.
7. Remove all grinding debris with compressed air. Make sure air lines are dry.
8. Clean thoroughly about 2 inches beyond the ground area with acetone.* Allow to dry 20-30 minutes at room temperature.
9. Attach clips to all holes.
10. Use duct tape to keep Scotch-Weld sealant DP-5001 off of the clip hinges.
11. Use duct tape to dam both sides of the belt area to be filled.

***Note:**When using solvents, be sure to extinguish all ignition sources and follow the manufacturer's precautions and directions for use.

Section 2:Application

1. Fill the cut out section and be sure to apply material to ground sections on the surface. Use a spreader to spread 3M™ Scotch-Weld™ Polyurethane Sealant DP-5001 into ground areas. Do not apply or spread beyond the scuffed areas. Use masking tape to keep Scotch-Weld sealant DP-5001 off of the non-scuffed areas. **Note:**When applying Scotch-Weld sealant DP-5001 on a tilted or nonhorizontal surface, use a spreader to keep working the Scotch-Weld sealant DP-5001 into the void.

2. Allow to cure at room temperature for 2 hours or use heat cure to accelerate the cure.

Heat Cure

1. Apply heat (heat gun or preferably a heat tunnel) to the area of belt that was repaired, including the 2-3 inches ground on both sides. In a heat tunnel, temperature should be 170°F (76°C) for 20 minutes or 250°F (121°C) for 5 minutes. (A heat tunnel can be easily made with air conditioning duct.) If a heat gun is used, heat on HIGH for 20 minutes. Hold the gun 6-8 inches above the belt and use a constant back-and forth motion to distribute the heat evenly.
2. Let the repair cool to room temperature and remove all damming duct tape.

Preparation of Repair Area For Gouges And Holes

Note:Repairing gouges and holes are done in the same manner with the exception that repairing holes requires the extra step of damming the bottom of the belt as stated in Step 4 below. When repairing gouges, skip the following Step 4.

1. Clean with acetone* to remove any contaminants from the area to be repaired. Thoroughly dry the surface.
2. Bevel all around the gouge or hole. Use a coarse grinding disk to grind 2-3 inches beyond the edges of the gouge or hole. Use compressed air to remove all grinding debris. Make sure air lines are completely free of moisture.
3. Clean thoroughly about 2 inches beyond the ground area with acetone* to remove any contaminants from the area to be repaired. Allow to dry 20-30 minutes at room temperature.
4. When Scotch-Weld sealant DP-5001 is to be used on a hole in a belt, bevel both the top and bottom of the hole and use duct tape to dam the bottom of the belt.

***Note:**When using solvents, be sure to extinguish all ignition sources and follow the manufacturer's precautions and

directions for use.

Application To Gouge/Hole Repair Area

1. Fill the gouge or hole with Scotch-Weld sealant DP-5001 and also apply Scotch-Weld sealant DP-5001 to the ground edges.
2. Use a spreader to spread the Scotch-Weld sealant DP-5001 into the ground edges. Use masking tape to keep Scotch-Weld sealant DP-5001 off of the non-ground areas of the belt.
3. Allow to cure at room temperature for two hours or use the heat-cure method previously described to accelerate the cure.
4. Let the repair cool to room temperature and remove all damming duct tape.

Maintenance

No maintenance is required

Storage and Shelf Life

Store under normal conditions of 16° to 27°C (60° to 80°F) and 40 to 60% relative humidity in the original packaging, out of direct sunlight. For best performance, use this product within 18 months from date of manufacture.

Precautionary Information

Refer to Product Label and Material Safety Data Sheet (MSDS) for health and safety information before using this product. For environmental information, refer to MSDS. Always wear gloves, eye protection, appropriate respiratory protection, and work in a well-ventilated area. For additional health and safety information, call 1-800-364-3577 or (651) 737-6501.

Automotive Disclaimer

Select Automotive Applications:

This product is an industrial product and has not been designed or tested for use in certain automotive applications, such as automotive electric powertrain battery or high voltage applications, which may require the product to be manufactured in a IATF certified facility, meet a Ppk of 1.33 for all properties, undergo an automotive production part approval process (PPAP), or fully adhere to automotive design or quality system requirements (e.g., IATF 16949 or VDA 6.3). Customer assumes all responsibility and risk if customer chooses to use this product in these applications.

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ISO Statement

This product was manufactured under a 3M quality system registered to ISO 9001 standards.

3M™ Industrial Adhesives and Tapes Division
3M Center, St. Paul, MN 55144-1000
3M.com/iatd

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