Geotextile Seaming Cylinder Spray Adhesive

Tech Data Sheet **April, 2013**

Product Description

Construction grade, versatile cylinder spray adhesive formulated for a wide variety of Geotextiles.

Application

Surface Preparation:
For best results, geotextiles should be clean, dry, and free from dirt and debris.

Application Temperature:
For best results 3M™ Geotextile Seaming Cylinder Spray Adhesive should be stored between 60°-80°F (16°-27°C) until time of application. Outdoor application temperatures outside this range may affect bonding time and sprayability. Colder temperatures may require longer dry times.

Equipment Setup:
Attach the larger flare fitting end to the spray applicator and tighten the nut securely. Check to see that the applicator gun trigger stop/adjusting nut is fully locked against the trigger. Attach the other end of the hose, a smaller flare fitting, to the cylinder valve and tighten securely.

Application Steps:

1. Slowly open the cylinder valve and inspect the connections for any leaks. Tighten if necessary.
2. Fully open the valve.
3. Unscrew the trigger stop/adjusting nut away from the trigger 3-4 turns and spray a test pattern. The spray adhesive forms an elliptical pattern and should be applied at the patterns widest point. The trigger stop/adjusting nut should be opened until the spray pattern is at least 6 inches at the widest point.
4. Lay the adjacent panels of fabric next to each other and overlap at least 6 inches.
5. Roll the top panel of fabric over, exposing the side to be bonded.
6. Apply a single coat of adhesive, at least 6 inches wide, at a pace of about 1 ft./second to each panel of geotextile to be bonded.

Application
(continued)

7. Fold the panel of fabric back on top of the adjacent panel to create the bonded seam. Ensure that at least 6 inches of fabric is overlapped.
8. Apply adequate pressure to the seam to ensure full contact of both panels. Pressure may be applied by walking the length of the seam, heal to toe.

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3M™ Geotextile Seaming Cylinder Spray Adhesive

Key Features

- Eliminates the need for expensive sewing machines.
- No power required to operate equipment.
- Fast drying formula to help speed assembly.
- Saves fabric costs by eliminating large overlap.
- Eliminates delays due to equipment maintenance.

Typical Physical Properties

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

Product	Base	Solids Content of Adhesive (by wt.)	Color	Hazardous Air Pollutants % wt. (calculated)	Dry Time (minutes)	Open Time (minutes)
3M™ Geotextile Seaming Cylinder Spray Adhesive	Synthetic Rubber	20.9%	Dries Clear	0%	1-4	1-60

Seam Test Data

Table 1 – Summary of ASTM D-4632 Test Results

Product Tested	Test Description	Grab Breaking Load of Geotextile (MARV) ASTM D4632	Typical Industry Seam Efficiency Requirement	Result
PP Slit Tape Woven	ASTM D4632 – 08 Grab Breaking Load and Elongation of Geotextiles	200 lbs	90% per AASHTO M288-06**	116%
PP Needle Punch Nonwoven	ASTM D4632 – 08 Grab Breaking Load and Elongation of Geotextiles	205 lbs.	90% per AASHTO M288-06**	112%

*Data based on testing completed by independent testing laboratory.
**Check with local and state specifications for seam efficiency requirements.

Table 2 – Summary of ASTM D-4884 Test Results

Product Tested	Test Description	Seam Efficiency Requirement	Result
PP High Strength Multifilament Nonwoven	ASTM D4884 – 09 Strength of Sewn or Thermally Bonded Seams of Geotextiles	Per Project Design Engineer**	105 lbs/in
Polyester High Strength Woven	ASTM D4884 – 09 Strength of Sewn or Thermally Bonded Seams of Geotextiles	Per Project Design Engineer**	38 lbs/in

*Data based on testing completed by independent testing laboratory.
**Contact 3M for specific applications and to determine if seam efficiency requirements can be achieved.

Table 3 – Summary of Soak Testing Results in Water at Various pH Levels on Seam Efficiency

Product Tested	Test Description	Result
PP Slit Tape Woven	28 day Soak Test In Acidic (pH-5) and Basic (pH-9) Solutions	No Effect
PP Needle Punch Nonwoven	28 day Soak Test In Acidic (pH-5) and Basic (pH-9) Solutions	No Effect
PP High Strength Multifilament Nonwoven	28 day Soak Test In Acidic (pH-5) and Basic (pH-9) Solutions	No Effect
Polyester High Strength Woven	28 day Soak Test In Acidic (pH-5) and Basic (pH-9) Solutions	No Effect

*Data based on testing completed by independent testing laboratory.

Adhesive and Application Equipment

Description	UPC	3M ID Number
3M™ Geotextile Seaming Cylinder Spray Adhesive - Large	0-00-51115-64187-9	62-4983-8033-6
3M™ Geotextile Seaming Cylinder Spray Adhesive - Intermediate	0-00-51115-64198-5	62-4983-8153-2
3M™ Scotch-Weld™ Cylinder Adhesive Applicator (includes 9501 tip)	00-48011-61706-0	62-9880-9930-5
3M™ Scotch-Weld™ Cylinder Adhesive Applicator EX w/ 18 inch extension (includes 9501 tip)	00-51115-25779-7	62-9880-9940-4
3M™ Scotch-Weld™ Cylinder Adhesive 6 Foot Hose	00-51115-25036-1	62-9880-0006-3
3M™ Scotch-Weld™ Cylinder Adhesive 12 Foot Hose	00-48011-61988-0	62-9880-0012-1
3M™ Scotch-Weld™ Cylinder Adhesive 25 Foot Hose	00-48011-61989-7	62-9880-0025-3
3M™ Scotch-Weld™ Cylinder Adhesive 50 Foot Hose	00-51115-25782-7	62-9880-0050-1
3M™ Scotch-Weld™ Cylinder Adhesive QSS Spray Tip	00-48011-61993-4	62-9880-8148-5

Sizes and Expected Coverage

Product	Cylinder Sizes Available	Cylinder Adhesive Net. Wt. (lbs.):	Lineal ft. Coverage @ 1.5 gm./sq.ft. (dry wt.) @ 12 inch width pattern:*
3M™ Geotextile Seaming Cylinder Spray Adhesive	Large – Recyclable Intermediate – Returnable	27.3 139	1,727 8,797

*Adhesive coverage is calculated based on cylinder content and coverage amount, and may vary with spray pattern width.

Cold Weather Warning

How Cold Weather Affects Cylinders:

1.) The bulk adhesive in the cylinder will thicken as temperatures get colder.
2.) The propellants used will decrease in pressure and, therefore, effectiveness:
   a. Liquefied hydrocarbon propellants will condense and reduce the effective amount of available pressure on the cylinder. This will adversely affect the spray pattern and, consequently, the overall performance of the adhesive.
   b. Compressed gas propellants will shrink dramatically in cold weather causing the system to have much less available force to push a thicker bulk adhesive out. The effect will be improper, less controlled spray properties with longer dry times needed.

How to Eliminate Cold Weather Problems:

1.) Store the cylinders in a controlled environment with temperatures between 60°-80°F (16°-27°C).
2.) Keep cylinders off of cold concrete floors and away from outside walls.
3.) Use heat belts or blankets, approved for use with flammable adhesives to control the temperature of the cylinders.
4.) Allow additional time for solvents and propellants to flash off, when temperatures are below 60°F (16°C).

If Cylinders Get Too Cold:

If cylinders arrive cold or have been exposed to temperatures that are causing poor spray properties, move to an area that is heated above 70°F (21°C). The larger the cylinder, the longer it will take for the temperature to equilibrate. Mini (~11 lb.) and Large (~30 lb.) cylinders can be shaken or submerged in hot water to accelerate the warming process. Once the cylinders equilibrate back to at least 60°F (16°C), the products will perform as normal.

Trouble Shooting

If the system sprays poorly or won't spray at all: The sequence below runs through a complete clog into the cylinder valve. If at any time during the sequence the problem is resolved, stop, clean the needed parts, put the system back together, and you are finished.

1. Make sure the cylinder is not empty.
2. Make sure the cylinder valve is open.
3. Close the applicator trigger stop adjusting nut and clean the nozzle tip. (Does it spray now?)
4. Take off the nozzle and try spraying. (Does it spray now?) Clean the nozzle.
5. Shut off the cylinder valve, CAREFULLY and SLOWLY – loosen the applicator gun/hose connection and look for adhesive to squirt out. If adhesive starts to leak out, allow it to slowly continue to do so until it stops. (This will be a little messy, but you will need to bleed off the pressurized adhesive to clean the applicator gun.) The applicator gun has a clog at the valve, stem or inlet area and needs to be cleaned.**
   ****Note:** Put a QSS nozzle on the applicator for optimum spray.
6. If nothing leaks out after fully loosening the applicator gun, CAREFULLY remove applicator gun, realizing that the hose may be clogged but could be full of adhesive and pressure depending on where the clog is. (Secure the open end of the hose into a bucket in case the clog releases and the system flushes.)
7. CAREFULLY and SLOWLY loosen the hose connection at the cylinder valve. Look for adhesive to squirt out. If adhesive starts to leak out, allow it to slowly continue to do so until it stops. (This will be a little messy, but you will need to bleed off the pressurized adhesive in the hose). Clean or replace the hose.
8. With everything now isolated from the cylinder, place a bucket in front of the cylinder valve and slowly open it to see if any adhesive comes out. If it does, put the cleaned system parts back together. If it does not, there is something wrong with the cylinder or cylinder valve and it should be returned.

Solvents that can be used for cleaning nozzle, applicator gun and inside of hose:
3M™ Adhesive Remover, Cyclohexane, Toluene, MEK.*

***Note:** When using solvents, extinguish all ignition sources, including pilot lights, and follow the manufacturer's precautions and directions for use.

Storage

Store product at 60°-80°F (16°-27°C) for maximum storage life. Higher temperatures reduce normal storage life. Lower temperatures may cause increased viscosity of a temporary nature. Rotate stock on a "first in-first out" basis.

Shelf Life

When stored at the recommended conditions in the original, unopened container, this product has a shelf life of 15 months from date of shipment.

Precautionary Information

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.

Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

Product Use

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

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