



Scotch-Grip™

High Performance Contact Adhesive

1357 • 1357 Neutral • 1357-L

Technical Data

August, 2005

Product Description 3M™ Scotch-Grip™ High Performance Contact Adhesive 1357 can be used to bond most rubber, cloth, metal, wood, foamed glass, paper honeycomb, decorative plastic laminates and many other substrates.

- Features**
- Long bonding range.
 - Excellent initial strength.
 - High heat resistance.
 - Meets specification requirements of MMM-A-121 and MIL-A-21366.

Special Note When bonding wood veneers, success is dependent on many variables such as environmental conditions, bonding process, type of base material, type of veneer, adhesive type and top coat finishing systems to name a few. It is the user's responsibility to thoroughly test any adhesive for its suitability in bonding wood veneers. It is also recommended to follow the veneer manufacturers recommendation and industry guidelines.

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	3M™ Scotch-Grip™ 1357	3M™ Scotch-Grip™ 1357 Neutral	3M™ Scotch-Grip™ 1357-L
Viscosity (approx.):	200-450 cps	200-450 cps	35-65 cps
Brookfield Viscometer:	RVF #2 Sp. @ 20 rpm @ 80°F (27°C)	RVF #2 Sp. @ 20 rpm @ 80°F (27°C)	RVF #1 Sp. @ 20 rpm @ 80°F (27°C)
Solids content (by wt.):	23 - 27%	23 - 27%	17 - 19%
Base:	Polychloroprene	Polychloroprene	Polychloroprene
Color:	Gray/Green	Yellow	Gray/Green
Net weight (approx.):	6.6 - 7.0 lbs./gal.	6.6 - 7.0 lbs./gal.	6.6 - 6.8 lbs./gal.
Flash point (T.C.C.):	-14°F (-26°C)	-14°F (-26°C)	-14°F (-26°C)
Solvent:	petroleum distillate, acetone, MEK, toluene, n-hexane	petroleum distillate, acetone, MEK, toluene, n-hexane	petroleum distillate, acetone, MEK, toluene, n-hexane
Coverage (approx.) @ 2.5 gms (dry wt.)/ft.²:	308 ft.²/gal.	308 ft.²/gal.	219 ft.²/gal.
Suggested Application Method(s):	Spray, brush, roll or flow	Spray, brush, roll or flow	Automatic spray

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Handling/Application Information

Directions For Use:

1. **Surface Preparation:** Remove all dust, dirt, oil, grease, wax, loose paint, etc. Wiping with solvent such as 3M™ Scotch-Grip™ Solvent No. 3 or Methyl Ethyl Ketone (MEK) will aid in preparing the surface for bonding.*
2. **Application Temperature:** For best results the temperature of the adhesive and surfaces to be bonded should be at least 65°F (18°C). If stored below 30°F (-1°C), warm-up to room temperature in a warm room only (do not exceed 120°F (49°C) followed by thorough agitation).
3. **Application:** Stir or agitate well before using for optimum results. Apply 2.5 gms to 3.5 gms/ft.² dry weight to each surface. Unusually porous surfaces will require more adhesive.
4. **Drying Time:** The adhesive dries in about 10 minutes. High humidity will slow drying-high temperatures speed the drying. This adhesive has a bonding range of approximately 30 minutes when applied to both bond surfaces under conditions of 70°F (21°C) and 35% R.H. If the adhesive becomes too dry, apply another thin coat of adhesive to one surface, allow to become slightly tacky, and bond.

Relative humidities above 50% can cause blushing (condensation of moisture on surface) and a false bond. To avoid this, we recommend a force drying temperature of 180-220°F (82-104°C). Force drying will also help remove the solvent more rapidly.

5. **Assembly:** Spacers, such as dowels or strips of laminate, may be used to help prevent premature adhesive/adhesive contact and bonding prior to positioning. Slide out of the spacers and apply uniform pressure, working toward the edges. A 3 in. roller used with maximum body pressure should be used to help ensure adequate contact and bonding, especially on edges. The use of a pinch roll is preferred for optimum performance. Bonded assemblies may be machined, trimmed, etc. immediately after bonding.
6. **Cleanup:** Adhesive residue of 3M™ Scotch-Grip™ High Performance Contact Adhesive 1357, 1357 Neutral and 1357-L may be removed from exposed surfaces with solvents such as 3M™ Scotch-Grip™ Solvent No. 3, Methyl Ethyl Ketone (MEK), or 3M™ Citrus Base Industrial Cleaner.* For flushing fluid lines use Scotch-Grip Solvent No. 3, or MEK.

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

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Application Equipment Suggestions

Appropriate application equipment can enhance adhesive performance. We suggest the following application equipment for the user's evaluation in light of the user's particular purpose and method of application.

1. **Pumping:** A 2:1 divorced design pump is suggested. All material hoses should be nylon or PVA lined. Packings and glands in contact with the adhesive should be Teflon®.

2. **Spray:**

Spray Applicator	Air Cap	Fluid Tip	Air Pressure	Approximate Air Requirement*	Fluid Flow**
DeVilbiss JGA, MSA	777	FX (.042")	80 psi	18½ CFM	6 fl. oz./min.
Binks No. 95 or 2001	63PH	63BSS (.046")	80 psi	23 CFM	6 fl. oz./min.

These adhesives are not recommended for Airless Spraying.

*5 H.P. Compressor for continuous use.

**To Measure Fluid Flow: Pressurize fluid source only; pull trigger, flow material into measuring device for 60 seconds, increase or decrease fluid source pressure to obtain desired fluid flow.

3. **Brush/Roller:** Typical brushes/rollers designed for oil-based paint may be used.

Typical Adhesive Performance Characteristics

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180° Peel Strength—Canvas/Steel			Overlap Shear Strength—1/8" Birch/Birch		
Time @ 75°F (24°C)	Test Temp.	Value (lbs./in. width)	Time @ 75°F (24°C)	Test Temp.	Value (lbs./sq.in.)
1 day	75°F (24°C)	16	after 2 wk.	75°F (24°C)	452
3 days	75°F (24°C)	31	after 3 wk.	75°F (24°C)	536
5 days	75°F (24°C)	42	after 3 wk.	-30°F (-34°C)	964
7 days	75°F (24°C)	26	after 3 wk.	180°F (82°C)	199
2 wk.	75°F (24°C)	24	after 3 wk.	225°F (107°C)	158
3 wk.	75°F (24°C)	23			
after 3 wk.	-30°F (-34°C)	13			
after 3 wk.	150°F (66°C)	18.5			
after 3 wk.	180°F (82°C)	12			

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Storage Store product at 60-80°F (16-27°C) for maximum storage life. Higher temperatures can reduce normal storage life. Lower temperatures can 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, 3M™ Scotch-Grip™ High Performance Contact Adhesive 1357, 1357 Neutral and 1357-L have a shelf life of 15 months.

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.

Product Use All statements, technical information and recommendations contained in this document are based upon tests or experience that 3M believes are reliable. However, many factors beyond 3M's control can affect the use and performance of a 3M product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for the user's method of application.

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