Structural Bonding Tape 9263

Technical Data Sheet **August 1998**

General Description

3M™ Automotive Structural Bonding Tape 9263 is formulated for bonding of rear view mirror buttons to windshield glass. It is applied as a pressure-sensitive tape, and then heat-cured to develop structural strength.

Key Features

Proven field durability
- higher holding power for today's heavier mirrors
- resistant to hot, humid environments that overcome conventional adhesives

Superior image stability
- reduces mirror distortion due to road vibrations

Ease of handling
- pre-applied to the buttons
- convenient reel packaging
- applied with firm pressure to warm glass; no squeeze-out
- self-fixturing
- cures in the windshield autoclaving process
- color changes from black to matte gray, indicating degree of cure

Physical Properties (uncured tape)

Color	Black
Thickness	0.63 mm (25 mils or 0.025 inch)
Forms	Die-cuts or rolls
Release Liner	Polyethylene film, polyester film or paper

Shelf Life

3 months at 27°C (81°F)
6 months at 5°C (40°F)

Application Procedure

1. Buttons should be removed from the protective liner just prior to application, in order to prevent any contamination of the tape surface. Normally, the liner should be peeled away from the button (180° peel back) rather than plucking the button straight up from the liner.

2. Buttons should be at or above room temperature during application. Warming of the buttons to 27-32°C (80-90°F) is ideal since it will make the tape softer and promote wet-out.

3. Avoid any contact between the tape and equipment surfaces, since that can potentially contaminate the tape surface. However, it may be necessary to place the buttons on clean, plasma-coated rollers to position the buttons for robotic pick-up, and this is acceptable as long as proper care is taken to minimize any contaminants in the air.

4. The glass surface should be free of any surface contamination.

5. The glass should be warm during button application, since higher glass temperatures help to soften the tape and improve wet-out. Optimal glass temperature is 82-93°C (180-200°F), although temperatures above 65°C (150°F) are often adequate to achieve

a consistent wet-out. Buttons can even be successfully applied to room temperature glass, as long as the button surface matches up well with the glass contours, and adequate pressure is used to achieve wet-out.

6. Avoid entrapping air between the tape and the glass. This can be accomplished by applying a vacuum cup over the application head and pulling enough vacuum to preclude much of the air. Buttons should be applied to the glass with a rolling action to help "squeeze out" any air between the tape and the glass.

7. Firm pressure should be used to apply the buttons, since higher application pressures help to wet-out the tape. Optimal pressure is 5.5-7.0 kg/cm^2 (80-100 psi) directly on the button. The pressure should be applied evenly to the button surface to achieve full wet-out of the tape.

Cure Conditions

15 minutes hold at 150°C (300°F)
25 minutes hold at 140°C (285°F)

Health and Safety Information

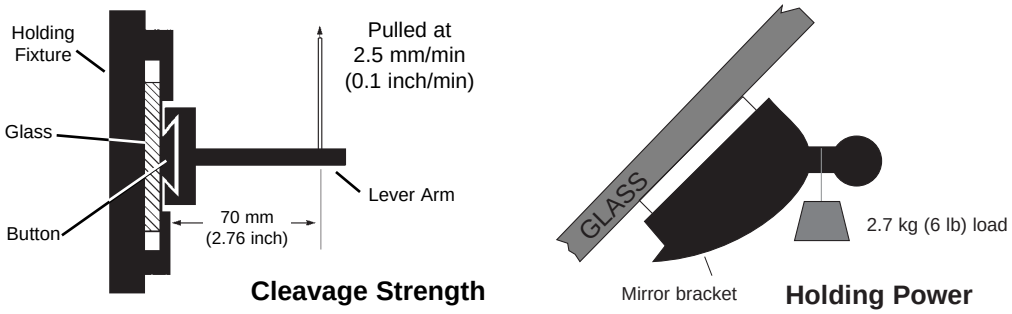
Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet and/or product label prior to handling or use.

Performance Properties (cured tape)

Color: Matte gray

Test*	**Condition/Exposure**	**Result**
Cleavage Strength	Initial (room temperature)	45$^+$ N-m (400$^+$ in-lbs)
	2 wk. 50°C, 95% RH	43 N-m (380 in-lbs)
	2 wk. 50°C water immersion	36 N-m (315 in-lbs)
Holding Power	50°C/95% RH, 2.7 kg (6 lb) load	1500+ hours

*Using sintered stainless steel buttons with 5.5 cm^2 (0.85 in^2) tape area



Note: These properties are representative of the product's performance and are supported by laboratory test data. However, they are not intended to be used as specification values.

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Structural Bonding Tape 9270

Technical Data Sheet **August 1998**

General Description

3M™ Automotive Structural Bonding Tape 9270 is formulated for bonding of rear view mirror buttons and other hardware to automotive glass. It is applied as a pressure-sensitive tape, and then heat-cured to develop structural strength.

Key Features

Proven field durability
- higher holding power for today's heavier mirrors
- resistant to hot, humid environments that overcome conventional adhesives

Superior image stability
- reduces mirror distortion due to road vibrations

Ease of handling
- pre-applied to the buttons
- convenient reel packaging
- applied with firm pressure to warm glass; no squeeze-out
- self-fixturing
- cures in the windshield autoclaving process
- color changes from black to matte gray, indicating degree of cure

Physical Properties (uncured tape)

Color	Black
Thickness	0.63 mm (25 mils or 0.025 inch)
Forms	Die-cuts or rolls
Release Liner	Polyester film

Shelf Life

2 months at 27°C (81°F)
6 months at 5°C (40°F)

Application Procedure

1. Buttons should be removed from the protective liner just prior to application, in order to prevent any contamination of the tape surface. Normally, the liner should be peeled away from the button (180° peel back) rather than plucking the button straight up from the liner.

2. Buttons should be at or above room temperature during application. Warming of the buttons to 27-32°C (80-90°F) is ideal since it will make the tape softer and promote wet-out.

3. Avoid any contact between the tape and equipment surfaces, since that can potentially contaminate the tape surface. However, it may be necessary to place the buttons on clean, plasma-coated rollers to position the buttons for robotic pick-up, and this is acceptable as long as proper care is taken to minimize any contaminants in the air.

4. The glass surface should be free of any surface contamination.

5. The glass should be warm during button application, since higher glass temperatures help to soften the tape and improve wet-out. Optimal glass temperature is 82-93°C (180-200°F), although temperatures above 65°C (150°F) are often adequate to achieve

a consistent wet-out. Buttons can even be successfully applied to room temperature glass, as long as the button surface matches up well with the glass contours, and adequate pressure is used to achieve wet-out.

6. Avoid entrapping air between the tape and the glass. This can be accomplished by applying a vacuum cup over the application head and pulling enough vacuum to preclude much of the air. Buttons should be applied to the glass with a rolling action to help "squeeze out" any air between the tape and the glass.

7. Firm pressure should be used to apply the buttons, since higher application pressures help to wet-out the tape. Optimal pressure is 5.5-7.0 kg/cm^2 (80-100 psi) directly on the button. The pressure should be applied evenly to the button surface to achieve full wet-out of the tape.

Cure Conditions

20 minutes hold at 140°C (284°F)
25 minutes hold at 130°C (266°F)

Health and Safety Information

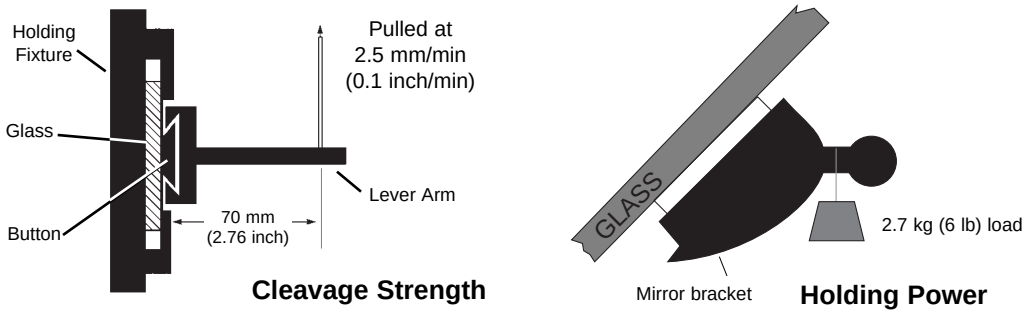
Read all health hazard, precautionary and first aid statements found in the Material Safety Data Sheet and/or product label prior to handling or use.

Performance Properties (cured tape)

Color: Matte gray

Test*	Condition/Exposure	Result
Cleavage Strength	Initial (room temperature)	45$^+$ N-m (400$^+$ in-lbs)
	2 wk. 50°C, 95% RH	45$^+$ N-m (400$^+$ in-lbs)
	2 wk. 50°C water immersion	43 N-m (380 in-lbs)
Holding Power	50°C/95% RH, 2.7 kg (6 lb) load	2000+ hours

*Using sintered stainless steel buttons with 5.5 cm^2 (0.85 in^2) tape area



Note: These properties are representative of the product's performance and are supported by laboratory test data. However, they are not intended to be used as specification values.

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