3M™ Electronic Double Sided Tape 86220B

Product Description

3M™ Electronic Double Sided Tape 86220B with 3M™ Polyamide Core (PAC) and 3M™ Low Surface Energy (LSE) Adhesive provides high bond strength to most surfaces, including many low surface energy plastics such as polypropylene and powder coated paints. The 3M™ PAC provides a heat de-bondable adhesive with a stretch releasable mechanism designed to release cleanly from most substrates.

Product Construction

Product Number	Faceside[1] Adhesive Type Thickness	Carrier Type Thickness	Backside[2] Adhesive Type Thickness	Faceside Thickness	Total Tape Thickness w/o Liner
3M™ Electronic Double Sided Tape 86220B	LSE Acrylic 0.05 mm (2 mil)	Black Polyamide 0.10 mm (4 mil)	LSE Acrylic 0.05 mm (2 mil)	White, 3M Electronics Polycoated Kraft 0.11 mm (4.2 mil)	0.20 mm (8 mil)

Note 1: Faceside (FS) adhesive is on the interior of the roll, exposed when unwound.
Note 2: Backside (BS) adhesive is on the exterior of the roll, exposed when the liner is removed.

Features and Benefits

- This tape has a flexible carrier which can add dimensional stability which makes it easier to handle the tape during slitting and die-cutting.
- Heat de-bondable adhesive with a stretch releasable mechanism designed to release cleanly from most substrates.

Applications

- Lens Bonding
- LCM Attach

Typical Physical Properties and Performance Characteristics

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

Properties of 3M™ Electronic Double Sided Tape 86220B

Product Number	3M™ Electronic Double Sided Tape 86220B			
Adhesive	LSE Acrylic			
Tape Thickness	0.20 mm			
Breakdown Voltage	N/A			
Dielectric Strength	N/A			
Adhesion 15 min dwell @RT Modified ASTM D-3330 90 degree peel 2 mil AL foil backing		**oz/in**	**N/cm**	**kg/25.4mm**
	SS	90	9.9	2.6
	PC	130	14.2	3.7
	ABS	95	10.4	2.7
	Glass	125	13.7	3.6
	PP	80	8.8	2.3
Adhesion 72 hr dwell Modified ASTM D-3330 90 degree peel 2 mil AL foil backing		**oz/in**	**N/cm**	**kg/25.4mm**
	SS	160	17.5	4.6
	PC	180	19.7	5.1
	ABS	120	13.1	3.4
	Glass	155	17.0	4.4
	PP	80	8.8	2.3
Shear Strength at RT Modified ASTM D-3330 1000 grams	10,000 Minutes			
Shear Strength at 158ºF (70ºC) Modified ASTM D-3654 500 grams	10,000 Minutes			
Temperature Resistance: Long Term (days, weeks): Short Term (days, weeks):	 200ºF (93ºC) 300ºF (149ºC)			
Humidity Resistance:	No adverse effect on the bond after exposed to 100% relative humidity at 100ºF (38ºC).			
Resistance:	Adhesive is resistant to oxidation and ozone when exposed to air or ultraviolet light.			

Application Techniques

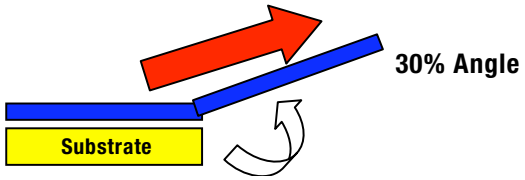
Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure helps develop better adhesive contact and improve bond strength. To obtain optimum adhesion, the bonding surfaces must be clean, dry and well unified. Some typical surface cleaning solvents are isopropyl alcohol or heptanes.*

***Note:** Carefully read and follow the manufacturer's precautions and directions for use when using solvents. Ideal tape application temperature range is 70ºF to 100ºF (21ºC to 38ºC). Initial tape application to surfaces at temperatures below 50ºF (10ºC) is not recommended because the adhesive becomes to firm to adhere readily. However, once properly applied, low temperature holding is generally satisfactory.

Re-workability:

- **Heat activated de-bondable adhesive:** Heat adhesive bond area to 85°C for de-bonding parts. Use a plastic mechanical tool (or automated equipment) to separate the parts.
- **Removal by stretch release:** Remove adhesive off the remaining substrate by stretch releasing the adhesive at a 30 degree angle. **(See below illustration)** If the adhesive is peeled at the correct angle the adhesive should remove >90% residue free from the substrates.

Starting and stopping the peel motion can cause adhesive residue to remain on the surface.



Environmental Performance

Humidity Resistance: High humidity has minimal effect on adhesive performance. No significant reduction in bond strength is observed after exposure for seven days at 90°F (32°C) and 90% relative humidity.

UV Resistance: When properly applied, nameplates and decorative trim parts are not adversely affected by exposure to direct sunlight.

Water Resistance: Immersion in water has no appreciable effect on the bond strength. After 100 hours at room temperature, the high bond strength is maintained.

Temperature Cycling Resistance: High bond strength is maintained after cycling four times through:

4 hours at 158°F (70°C)
4 hours at -20°F (-29°C)
4 hours at 70°F (22°C)

Chemical Resistance: When properly applied, nameplate and decorative trim parts will hold securely after exposure to numerous chemicals including oil, mild acids and alkalis.

Storage

Store in original cartons at 70ºF (21ºC) and 50% relative humidity.

Shelf Life

If stored under proper conditions, these products retain their performance and properties for two years from the date of manufacture.

Regulatory

For regulatory information about this product, refer to our website at 3M.com.

For Additional Information

To request additional product information or to arrange for sales assistance, call toll free 1-800-251-8634. Address correspondence to: 3M, Electronics Markets Materials Division, 3M Center, Building 225-3S-06, St. Paul, MN 55144-1000. Our fax number is 651-778-4244 or 1-877-369-2923. In Canada, phone: 1-800-364-3577. In Puerto Rico, phone: 1-787-750-3000. In Mexico, phone: 52-70-04-00.

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.

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Electronics Markets Materials Division
3M Center, Building 225-3S-06
St. Paul, MN 55144-1000
1-800-251-8634 phone
651-778-4244 fax
www.3M.com/electronics

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