BROTHER Strong Adhesive Tape – Technical Data Sheet

BROTHER INDUSTRIES LTD.

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Contents

1. General

Printing Technology:	Thermal Transfer
Label Type:	Strong adhesive
Application:	General identification for textured surfaces

2. Regulatory/Agency Approvals

The Strong Adhesive Tape is UL-Recognized to the UL969 Labeling and Marking Standard. For more information, see the UL file MH21016.

The Strong Adhesive Tape complies with the regulations for hazardous chemicals described in the EU RoHS directive. For more information, see “BROTHER GROUP GREEN PROCUREMENT STANDARD” at http://global.brother.

3. Colors and Sizes

Model Number	Print Color	Tape Color	Width
TZe-S121	Black	Clear	9 mm (0.35 in)
TZe-S131	Black	Clear	12 mm (0.47 in)
TZe-S135	White	Clear	36 mm (1.4 in)
TZe-S141	Black	Clear	18 mm (0.7 in)
TZe-S151	Black	Clear	24 mm (0.94 in)
TZe-S211	Black	White	9 mm (0.35 in)
TZe-S221	Black	White	12 mm (0.47 in)
TZe-S231	Black	White	12 mm (0.47 in)
TZe-S241	Black	White	18 mm (0.7 in)
TZe-S251	Black	White	24 mm (0.94 in)
TZe-S261	Black	White	6 mm (0.23 in)
TZe-S621	Black	Yellow	36 mm (1.4 in)
TZe-S631	Black	Yellow	9 mm (0.35 in)
TZe-S641	Black	Yellow	12 mm (0.47 in)
TZe-S651	Black	Yellow	18 mm (0.7 in)
TZe-S661	Black	Yellow	24 mm (0.94 in)
TZe-SM941	Black	Matte Silver	36 mm (1.4 in)
TZe-SM951	Black	Matte Silver	18 mm (0.7 in)
TZe-SM961	Black	Matte Silver	24 mm (0.94 in)

4. Physical Properties

- Thickness (Including the backing paper): approximately 140 μm
- Thickness (Excluding the backing paper): approximately 80 μm

  Adhesive type: Acrylic adhesive

5. Test Results

5.1 Flat Surface Adhesion – Textured Surface

Test Method

In accordance with "10. Adhesive property" in *JIS Z 0237 (2009): Testing methods of pressure-sensitive adhesive tapes and sheets*.

Test Conditions

Peeling angle	180°
Temperature and humidity	23°C ±2°C, 50% ±5% RH
Load cell capacity	50 N
Crimping roller mass	2 kg
Test speed	300 mm/min
Adhesive strength calculation range	Average load by the test device in the stroke range from 50 mm to 100 mm
Standing conditions	Room temperature (23°C ±2°C, 50% ±5% RH)
Standing time	• 30 minutes • 14 days • 30 days
Test equipment	Autograph AG-10kNX plus (Shimadzu Corporation)

Test Results

Adherend	Average Adhesive Strength [N / 12 mm]		
	After 30 Minutes	After 14 Days	After 30 Days
SUS	6.90	8.31	9.30
PE Textured Board	1.54	2.43	1.29
PP Textured Board	2.79	2.63	2.69
Ac Textured Board	2.97	3.19	3.46
PET Textured Board	3.26	3.98	4.31
PA Textured Board	3.98	4.64	4.62

Test data sources: Allion Japan Inc

5.2 Flat Surface Adhesion – Temperature Ratings (based on the UL969 test results)

○ Readable and not peeling off

Model Number	Application Surface	Max Temp (°C)	Min Temp (°C)	Indoor Use	Outdoor Use
TZe-S121 TZe-S131 TZe-S141 TZe-S151	Acrylonitrile butadiene styrene	100	-30	○	○
	Alkyd paint	100	-30	○	○
	Aluminum	100	-30	○	○
	Galvanized steel	100	-30	○	○
	Phenolic - Phenol Formaldehyde	100	-30	○	○
	Polycarbonate	100	-30	○	○
	Polyester	100	-30	○	○
	Polyester paint	100	-30	○	○
	Polyphenylene oxide/ether	100	-30	○	○
	Polyvinyl chloride	100	-30	○	○
	Stainless steel	100	-30	○	○

Model Number	Application Surface	Max Temp (°C)	Min Temp (°C)	Indoor Use	Outdoor Use
TZe-S135	Acrylonitrile butadiene styrene	100	-30	○	○
	Alkyd paint	100	-30	○	○
	Aluminum	100	-30	○	○
	Galvanized steel	100	-30	○	○
	Phenolic - Phenol Formaldehyde	100	-30	○	○
	Polycarbonate	100	-30	○	○
	Polyester	100	-30	○	○
	Polyester paint	100	-30	○	○
	Polyphenylene oxide/ether	100	-30	○	○
	Polyvinyl chloride	100	-30	○	○
	Stainless steel	100	-30	○	○

Model Number	Application Surface	Max Temp (°C)	Min Temp (°C)	Indoor Use	Outdoor Use
TZe-S211 TZe-S221 TZe-S231 TZe-S241 TZe-S251 TZe-S261	Acrylonitrile butadiene styrene	100	-30	○	○
	Alkyd paint	100	-30	○	○
	Aluminum	100	-30	○	○
	Galvanized steel	100	-30	○	○
	Nylon - Polyamide	100	-30	○	○
	Phenolic - Phenol Formaldehyde	100	-30	○	○
	Polycarbonate	100	-30	○	○
	Polyester	100	-30	○	○
	Polyester paint	100	-30	○	○
	Polyphenylene oxide/ether	100	-30	○	○
	Polyvinyl chloride	100	-30	○	○
	Stainless steel	100	-30	○	○

Model Number	Application Surface	Max Temp (°C)	Min Temp (°C)	Indoor Use	Outdoor Use
TZe-S621 TZe-S631 TZe-S641 TZe-S651 TZe-S661	Acrylonitrile butadiene styrene	100	-30	○	○
	Alkyd paint	100	-30	○	○
	Aluminum	100	-30	○	○
	Galvanized steel	100	-30	○	○
	Nylon - Polyamide	100	-30	○	○
	Phenolic - Phenol Formaldehyde	100	-30	○	○
	Polycarbonate	100	-30	○	○
	Polyester	100	-30	○	○
	Polyester paint	100	-30	○	○
	Polyphenylene oxide/ether	100	-30	○	○
	Polyvinyl chloride	100	-30	○	○
	Stainless steel	100	-30	○	○

Model Number	Application Surface	Max Temp (°C)	Min Temp (°C)	Indoor Use	Outdoor Use
TZe-SM941 TZe-SM951 TZe-SM961	Acrylonitrile butadiene styrene	100	-30	○	○
	Alkyd paint	100	-30	○	○
	Aluminum	100	-30	○	○
	Galvanized steel	100	-30	○	○
	Nylon - Polyamide	100	-30	○	○
	Phenolic - Phenol Formaldehyde	100	-30	○	○
	Polycarbonate	100	-30	○	○
	Polyester	100	-30	○	○
	Polyester paint	100	-30	○	○
	Polyphenylene oxide/ether	100	-30	○	○
	Polypropylene	100	-30	○	○
	Polyvinyl chloride	100	-30	○	○
	Stainless steel	100	-30	○	○

5.3 Tack

Test Method

Probe Tack Test

Test Conditions

Contact speed	1 cm/s
Hold time	1 s
Peeling speed	1 cm/s
Probe size	φ5.05 ≒ 0.2[cm^2]
Testing equipment	TESTER SANGYO CO,. LTD. /TE-6001 Probe Tack Tester

Test Results

Model Number	Tack Strength
TZe-S121 TZe-S131 TZe-S135 TZe-S141 TZe-S151 TZe-S211 TZe-S221 TZe-S231 TZe-S241 TZe-S251 TZe-S261 TZe-S621 TZe-S631 TZe-S641 TZe-S651 TZe-S661 TZe-SM941 TZe-SM951 TZe-SM961	2.23 N

5.4 Chemical/Solvent Resistance (Wiping)

Test Method

1. Place a 12 mm-wide label on a glass plate.
2. Dampen a piece of cloth with a chemical/solvent, and then wipe the tape with the cloth. Observe the surface for changes.

Test Conditions

- Label size: 12 mm (width) × 24 mm (length)
- Cassette condition: Two weeks after production, stored at room temperature (23℃ ±2℃)
- Environmental conditions during application: Room temperature and humidity (23℃ ±2℃, 50% ±10%)
- Application conditions: Pressing down with a roller one way and back at a pressure of approximately 2 kg.

○ Readable and not peeling off

Chemical/Solvent	Result
Water	○
0.1N HCL	○
0.1N NaOH	○
Toluene	○
Hexane	○
Ethyl Alcohol	○
Ethyl Acetate	○
Acetone	○
Mineral Spirits	○

6. Notes

1. From among the many different types of available tapes, a random sample was selected and used to perform these tests. Accordingly, the results of these tests may differ slightly, depending on the type of tape used.
2. The test results were acquired under specific conditions arranged by Brother. Brother does not guarantee the strength, safety, or accuracy of the numerical data presented in this report.
3. The tape adherence performance can be affected by the material that the tape is attached to, the material's surface condition (whether it is greasy, dusty, rough or curved), the material's shape, and the environmental conditions. Users should confirm the adherence performance under their actual usage conditions after purchasing this product and use the product under their own responsibility.
4. We assume no responsibility for any damage, injuries, or lost profit arising from the use of labels created according to the information contained in this document.