



TAPE SEALER, BUTYL COVERED, POLYURETHANE OPEN CELL FOAM CORE

WSB-M3G143-B1

1. SCOPE

The material defined by this specification is a sealing tape which has a soft, open cell polyurethane foam core covered completely by a butyl sealer. This material has release liner on one side only.

2. APPLICATION

This specification was originally released for materials used in conjunction with mechanical retention, to seal quarter window modules to the painted sheet metal. The tape should be under proper compression, as specified by the Sealing Engineering Department, for effective sealing. The materials should be conditioned at 23 +/- 2 °C for 24 hours prior to application.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.4 BUTYL PROPERTIES

3.4.1	Color	Black
3.4.2	Solids, min (ASTM D 2834, except heat at 102 +/- 3 °C for 3 hours in a mechanical convection oven. Save sample for next test, para 3.4.3)	97%
3.4.3	Ash, max (Based on solids weight) (ISO 3541, Method A)	30%
3.4.4	Specific Gravity (ASTM D 297)	

The specific gravity tolerance for any one supplier shall be +/- 0.03 based on the recorded specific gravity of the original approved production sample, reference para 5.1.

3.5 FOAM CORE PROPERTIES

3.5.1	Tensile Strength, min (ASTM D 1564)	100 kPa
3.5.2	Elongation, min (ASTM D 1564)	100%

Date	Action	Revisions
2005 10 31	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.9, 3.10, 3.11, 4
1995 03 11	Released	NB00E10431115000 W. Curtiss E. Rezendes

**3.6 PERFORMANCE REQUIREMENT ON THE COMPOSITE**

All testing to be performed on tape having a cross-section of 8 mm x 8 mm square.

3.6.1 Force to Compress 15 - 75 N
(FLTM BU 114-01, except 50% compression)

3.6.2 Recovery, min
(FLTM BU 114-01, except 50% compression)

3.6.2.1 After 5 minutes 75%

3.6.2.2 After 2 hours 80%

3.6.3 Heat Resistance

No flow, blistering, or degradation of butyl skin or foam core.

Test Method: Place an 8 mm x 8 mm x 100 mm long tape strip on a 100 x 300 mm painted panel, identified per para 5.2. Pass a 2 kg roller over the release paper side of tape in one forward and reverse direction. Remove a release paper and hang one panel vertically in an air circulating oven at 121 +/- 3 °C for 30 minutes.

3.6.4 Low Temperature Flexibility No cracking

Test Method: Condition three 8 mm x 8 mm x 225 mm long tapes at - 30 +/- 2 °C for 4 hours. Bend each sample 180° around a temperature conditioned mandrel 25 mm in diameter.

3.6.5 Yield Strength, min

3.6.5.1 24 hours at 23 +/- 2 °C 20 kPa

3.6.5.2 2 weeks at 90 +/- 2 °C 35 kPa

3.6.5.3 500 hours at 38 +/- 2 °C and 95 - 100% relative humidity 20 kPa

Test Method: Yield cells are prepared using two 75 x 75 mm electrocoated panels identified per para 5.3 and two 75 mm lengths of tape. See FLTM BU 114-01 for illustration. To assemble, press the cells for 1 minute at 50% compression. Condition the cells as specified above. Determine the yield strength of the bonded assemblies in tension by pulling in a tensile machine with a jaw separation rate of 25 mm/minute. Report peak load and failure mode. Condition the aged assemblies for 24 hours at 23 +/- 2 °C after exposure, prior to pull test.

3.6.6 FOGGING
(FLTM BO 116-03)

Fog Number, min 60

Formation of a clear film, droplets or crystals is cause for rejection.