

**SOUND ABSORBER, OPEN CELL, POLYETHER
POLYURETHANE FOAM****ESE-M99G133-A2****1. SCOPE**

The material defined by this specification is a polyether polyurethane foam faced with polyethylene terephthalate film and backed with a polyethylene terephthalate pressure sensitive adhesive. Both facing and backing substrates shall be bonded to the foam without an adhesive during the casting of the foam.

2. APPLICATION

This specification was released originally for material used on the air induction system to reduce exterior noise levels to comply with Federal regulations.

3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

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 FACING MATERIAL

The facing material shall be biaxially oriented polyethylene terephthalate film with foam side coated with aluminum. Aluminum coating shall be continuous with no visible defects, 0.01 micrometre minimum thickness. The facing material shall be bonded to the foam without an adhesive during the casting of the foam.

3.4.1	Thickness, mm (ASTM D 1777)	0.024 +/- 0.012
3.4.2	Bond Strength (Film to foam, 180° pull. Pressure Sensitive Tape Council Test Method 1)	0.35 N/mm width

3.5 FOAM REQUIREMENTS

Foam shall be polyether polyurethane type.

3.5.1	Thickness, mm (ASTM D 3574)	23 - 28
-------	--------------------------------	---------

Date	Action	Revisions
2006 09 21	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.12, 3.13 & 4
1998 12 17	Revised	Inactivated A; Revised A2
1979 12 17	Released	CHJ2RD8274001292



3.5.2	Density, kg/m ³ (ASTM D 3574)	29 - 39
3.5.3	Tensile Strength, kPa, min (ASTM D 3574)	96.5
	Elongation, %	200
3.5.4	Permeability, 25 mm thick (ASTM C 522)	6 - 18 cgs Rayles/cm
	The lateral air flow resistivity shall be measured from a ring shaped specimen in accordance with ASTM C 522 (specimen mounting assembly and mounting plate). Samples shall be tested from random locations on production parts without inclusion of edge seal.	
	O.D.	101.6 mm
	I.D.	28.6 mm

3.6 BACKING MATERIAL

The backing material is to be polyethylene terephthalate film bonded without adhesive to the foam and coated with an acrylate based pressure sensitive adhesive.

3.6.1	Adhesion to Foam, min	0.35 N/mm width
-------	-----------------------	-----------------

The backing film shall adhere to the foam with the specified strength when peeled at an angle of 180° and at a rate of 305 mm/minute.

3.6.2	Film Carrier Thickness, min (ASTM D 1777 foam and adhesive removed with chloroform)	0.0112 mm
-------	--	-----------

3.6.3	Adhesive Release Liner Requirements
-------	-------------------------------------

36 kg tan Kraft paper polyethylene coated one side, silicone coated on the side towards the adhesive.

3.7 PRESSURE SENSITIVE ADHESIVE

Adhesive shall be an acrylate based material.

3.7.1	Thickness, min (ASTM D 1777)	0.063 mm
-------	---------------------------------	----------

Difference between backing thickness with and without adhesive shall be considered adhesive thickness.