



PERFORMANCE, ENERGY ABSORBING FOAM, INTERIOR

WSS-M99P29-B

1. SCOPE

This specification defines the material performance requirements for energy absorbing foam used in interior applications.

2. APPLICATION

This specification covers materials used in energy absorbing bolsters and other interior trim components.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

Additionally, approval to this specification assumes that the finished article meets all applicable SDS, CETP, ES, and Functional Trial requirements.

3.2 TEST SAMPLES

The following tests are to be conducted on test blocks fabricated using a production representative process, for molded parts the test specimens should be 254 x 254 x 63.5 mm with an optional 5° draft angle to facilitate removal from the mold. For non-molded materials, a 100 x 100 x 100 mm specimen is required. Unless specified, evaluate 6 samples for each requirement.

3.2.1 Dynamic Energy Absorption
(FLTM BO 111-04, ETS Bendix machine or equivalent, 18 samples total, 6 samples from 3 material lots)

A Load Deflection Curve shall be plotted for 0 to 70% deflection, results shall be reviewed and approved by the sponsoring technical specialist and be presented as part of the functional approval.

3.2.2 Dimensional Stability, % Volume Change, maximum 15%
(Expose for 30 days at 90 °C, report dimensional changes in length, Width, and thickness.)

3.2.3 Water Absorption, maximum 30%
(SAE J315, 240 h, 23 +/- 2 °C water, molded blocks to have skin)

3.2.4 Compressive Strength Change maximum, Water Immersion 30%
(Condition test samples from 3.2.3 for 1 hr at 23 +/- 2 °C, and 50% relative humidity prior to evaluation. Use ASTM D 1621, Procedure A for compressive strength testing.)

Date	Action	Revisions
2007 08 03	Activated	



Documents

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- 3.2.5 Compressive Strength Change, maximum Environmental Aging, (ASTM D 1621, Procedure A, report change for 15 and 50% compression tests) 15%
- Expose test block to the following environmental cycle prior to performing compression test.
- 5 h at -40 +/- 2 °C
30 min at 23 +/- 2 °C and 50% R.H.
5 h at 90 +/- 2 °C
30 min at 23 +/- 2 °C, and 50% R.H.
16 h at 50 +/- 2 °C and 95 +/- 5% R.H.
30 min at 23 +/- 2 °C and 50% R.H.
5 h at -40 +/- 2 °C
30 min at 23 +/- 2 °C and 50% R.H.
5 h at 90 +/- 2 °C
- No cracking, splitting of the material is allowed.
- 3.2.6 Compressive Strength Change, maximum Heat Aged (ASTM D 1621, Procedure A, report change for 15 and 50% compression tests) 25%
- Expose test block 30 days at 90 +/- 2 °C prior to performing compression test.
- 3.2.7 Fogging (SAE J1756, 3 h at 100 °C heating, 21 °C cooling plate, post test conditioning 1 and 16 h)
- Fog Number, min 70
- No formation of clear film, droplets or crystals.
- 3.2.8 Flammability, burn rate max. (ISO 3795) 100mm/min
- 3.2.9 Odor, max (SAE J1351) Rating 3
- or
- (FLTM BO 131-01) Rating 2

3.3 FUNCTIONAL APPROVAL

Materials being evaluated for approval to this specification shall be subjected to a production trial and have functional signoff from the applicable technical specialist. Functional trial results must be approved by the affected Design & Release engineer or technical specialist. Results shall be made available to Materials Engineering prior to material approval.

