

Classification of Flexible Cellular Materials According to ASTM

ASTM D 1056-00

American Society For Testing Materials D 1056 test method. The last two digits refer to the year of the test method issued. For example, ASTM D 1056-68 means ASTM D1056 test method issued in 1968. If there is no year mentioned that means the most recent version of ASTM D 1056 is being referred to.

Foam products are identified by a three-character Grade Number (example: 2A2). The three characters represent type, class and grade, and are defined as follows:

Type

Type 1 = Open cell

Type 2 = Closed cell

Class

Class A = Non-oil resistant (example: EPDM)

Class B = Oil resistant, low swell (example: Nitrile)

Class C = Oil resistant, medium swell (example: Neoprene)

Class D = Extreme temperature resistance (example: Silicone)

Grade

Grade ratings represent compression deflection, or the amount of force in pounds per square inch to deflect the sample 25% of its height. They are as follows:

Grade 0 = less than 2 psi

Grade 1 = 2-5 psi

Grade 2 = 5-9 psi

Grade 3 = 9-13 psi (for classes A, B, C) 9-15 psi (for class D)

Grade 4 = 13-17 psi (for classes A, B, C) 22-30 psi (for class D)

Grade 5 = 17-25 psi (for classes A, B, C) 22-30 psi (for class D)

Suffix Letter Test Required

A Heat resistance

B Compression set

C Ozone or weather resistance

D Compression deflection resistance

E Fluid resistance (Fuel B)

F Low temperature resistance

G Tear resistance

J Abrasion resistance

K Adhesion resistance

L Water absorption

M Flammability resistance

N Impact resistance

P Staining resistance

R Resilience

T Tensile Strength & Elongation

W Density

Z Any special requirements

Suffix Numbers

Suffix numbers that follow the suffix letter denote different testing parameters or conditions for that suffix. Once testing is complete, a Line Call Out is assigned to the compound according to the basic and Suffix Requirements the compound has met.

Example Line Call Out for Sponge

ASTM D-1056 2C2 A1 B2 E1 Z (Z = material passes FMVSS 302) Closed Cell, Medium Oil Swell, C.D (25% Compression) 5 to 9psi, Change in C.D. after aging for 22h at 100°C to be +/- 30% from Original C.D., Compression Set at 23°C for 22h (50% compression) and after 24h recovery to be max. of 25%, Change in weight after 7 days at 23°C in ASTM Reference Fuel B to be max. of 150% and Z states special requirement as stated.



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