

Polymer Works, Hope Street,  
Dudley, West Midlands DY2 8RS

t: 01384 252555

f: 01384 252373

e: info@advancedseals.co.uk



<http://www.advancedseals.co.uk>

## Classification of Flexible Cellular Materials According to ASTM

ASTM D 1056-00

American society for testing materials D1056 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 Flow 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	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 9 psi, change in C.D. after aging for 22h at 100<sup>o</sup> C to be +/- 30% from original C.D., Compression set at 23<sup>o</sup> C for 22h (50% compression) and after 24h recovery to be max. of 25%, change in weight after 7 days at 23<sup>o</sup> C in ASTM reference Fuel B to be max of 150% and Z states special requirements as stated.