



Compression Deflection Hardness Chart

Cellular Materials

Approximate Hardness Value
(Reference ASTM D2240)

Type	Super Soft (Slice of Bread)	Soft (Pillow)	Soft Medium (Mattress)	Medium (Tennis Ball)	Medium Firm (Styrofoam Cup)	Firm (Life Preserver)
Shore OO Density	<20	20 - 55	35 - 65	60 - 80	65 - 85	65 - 90

Type	Super Soft (Slice of Bread)	Soft (Pillow)	Soft Medium (Mattress)	Medium (Tennis Ball)	Medium Firm (Styrofoam Cup)	Firm (Life Preserver)
Compression Deflection	0.5 - 2 PSI 0 - 14 kPa	2 - 5 PSI 14 - 35 kPa	5 - 9 PSI 35 - 63 kPa	9 - 13 PSI 63 - 91 kPa	13 - 17 PSI 91 - 119 kPa	17 - 25 PSI 119 - 177 kPa

ASTM D6576 / ASTM D 1056 Grade Number (Open Cell)

Class A Non-Oil Resistant	1A0	1A1	1A2	1A3	1A4	1A5
Class B Oil Resistant, Low Swell	1B0	1B1	1B2	1B3	1B4	1B5
Class C Oil Resistant, Med. Swell	1C0	1C1	1C2	1C3	1C4	1C5

ASTM D6576 / ASTM D 1056 Grade Number (Closed Cell)

Class A Non-Oil Resistant	---	2A1	2A2	2A3	2A4	2A5
Class B Oil Resistant, Low Swell	---	2B1	2B2	2B3	2B4	2B5
Class C Oil Resistant, Med. Swell	---	2C1	2C2	2C3	2C4	2C5

*Compression Deflection is the force required to compress a standard test sample 25%