

Solid Rigid Polyurethane Foam

Solid rigid polyurethane foam provides a uniform structure with only +/-10% variation in density. Material properties cover a broad range of human bone qualities allowing you to select an appropriate density for your study. This closed cell foam

conforms to ASTM F-1839-08 "Standard Specification for Rigid Polyurethane Foam for Use as a Standard Material for Testing Orthopaedic Devices and Instruments" and has the largest density range available from 0.08g/cc up to 0.80g/cc (5pcf to 50pcf).

For more information see our Biomechanical Validation Studies page.

DENSITY			COMPRESSION		TENSION		SHEAR		Shore D Hardness
ASTM D1622 (pcf)	Volume Fraction (g/cc)		ASTM D1621 Strength (MPa)	Modulus (MPa)	ASTM D1623 Strength (MPa)	Modulus (MPa)	ASTM C273 Strength (MPa)	Modulus (MPa)	
5*	0.08	0.07	0.6	16	1.0	32	.59	7.1	10
8	0.13	0.11	1.5	38	1.3	56	1.2	14	14
10*	0.16	0.14	2.2	58	2.1	86	1.6	19	15
12*	0.19	0.16	3.2	81	2.5	112	2.1	24	21
15*	0.24	0.20	4.9	123	3.7	173	2.8	33	25
17**	0.27	0.23	6.2	155	4.6	205	3.4	39	29
20*	0.32	0.27	8.4	210	5.6	284	4.3	49	35
25*	0.40	0.34	13	317	8.8	399	5.9	68	43
30*	0.48	0.41	18	445	12	592	7.6	87	55
35*	0.56	0.47	24	592	16	713	9.4	108	59
40*	0.64	0.54	31	759	19	1000	11	130	65
50*	0.80	0.68	48	1148	27	1469	16	178	85

*Solid rigid polyurethane foam meets ASTM F1839-08 material specification

**standard cancellous foam used in absolute™ bones

Our foam is available in sizes up to 24" x 24" x 4" thick.

SOLID FOAM BLOCK TOLERANCES:	
Foam density	± 10%
Block dimensions	± 2mm
Sheet thickness	± 0.3mm

