

Typical Physical Properties of Gallagher Cast Urethanes

Compound	ASTM Test Method	GC 855	GC 965	GC 970	GC 980	GC 480	GC 1085	GC 1090	GC 1095	GC 1560	GC 1575
Hardness											
Durometer A	D 2240	55	65	73	80	85	85	90	95	—	—
Durometer D	D 2240	—	—	25	30	35	35	40	50	60	73
Tensile Modulus, psi (MPa)											
at 50% extension	D 412	125 (0.9)	130 (0.9)	150 (1.0)	225 (1.6)	575 (4.0)	300 (2.1)	500 (3.5)	900 (6.2)	1200 (8.3)	2000 (13.8)
at 100% extension	D 412	270 (1.9)	280 (1.9)	300 (2.1)	530 (3.7)	1100 (7.6)	700 (4.8)	1100 (7.6)	1800 (12.4)	2400 (16.6)	4000 (27.6)
at 300% extension	D 412	520 (3.6)	390 (2.7)	1600 (11.0)	1000 (6.9)	1600 (11.0)	1200 (8.3)	2100 (14.5)	3400 (23.5)	8000 (55.2)	—
Ultimate Tensile Strength, psi (MPa)	D 412	3800 (26.2)	3500 (24.2)	5000 (34.5)	6000 (41.4)	7500 (51.8)	4400 (30.4)	4500 (31.1)	5000 (34.5)	8500 (58.7)	8500 (58.7)
Ultimate Elongation, %	D 412	450	530	700	625	550	580	450	400	320	250
Tear Strength, pli (kN/m)											
Die C	D 624	190 (33.3)	180 (31.5)	240 (42.0)	370 (64.8)	430 (75.3)	400 (70.0)	240 (42.0)	500 (87.5)	465 (81.4)	1000 (175.0)
Split Tear	D 470	15 (2.6)	25 (4.4)	110 (19.3)	225 (39.4)	235 (41.1)	85 (14.9)	75 (13.1)	150 (26.3)	135 (23.6)	145 (25.4)
Compression Set, %											
after 22 hours at 158°F (70°C)											
Method B, 25% deflection	D 395	5	8	30	30	27	35	30	40	40	—
Method A, 1350 psi (9,3 MPa)	D 395	—	—	—	—	—	—	—	10	20	30
Resilience (rebound), %	D 2632	33	30	30	30	40	50	45	40	42	50
NBS Abrasion Index, %	D 1630	100	120	140	150	250	160	175	300	370	500
Specific Gravity	D 792	1.22	1.16	1.25	1.25	1.24	1.08	1.11	1.13	1.16	1.19
Young's Modulus, psi (MPa)		750 (5.2)	750 (5.2)	1800 (12.4)	4000 (27.6)	4700 (32.4)	4900 (33.8)	5100 (35.2)	10000 (69.0)	30000(207.0)	63000(434.7)
Brittleness Temperature, °F (°C)	D 2137	-34 (-37)	-70 (-57)	-42 (-41)	-34 (-37)	-31 (-35)	<-94 (<-70)	<-94 (<-70)	<-94 (<-70)	-65 (-55)	-65 (-55)
Coefficient of Thermal Expansion, in./in./°F		10x10 ⁻⁵	10x10 ⁻⁵	9.3x10 ⁻⁵	9.0x10 ⁻⁵	11.0x10 ⁻⁵	11.0x10 ⁻⁵	9.5x10 ⁻⁵	8.9x10 ⁻⁵	8.7x10 ⁻⁵	8.3x10 ⁻⁵
DC Volume Resistivity, ohm-cm	D 257	—	—	—	1.5x10 ¹⁰	2.0x10 ¹¹	—	4.8x10 ¹¹	3.7x10 ¹²	2.7x10 ¹³	2.0x10 ¹⁴