



SPHERIGLASS®

SOLID GLASS SPHERES

Use of SPHERIGLASS® Solid Glass Spheres in Epoxy Castings

- Viscosity of sphere-resin mix remains pumpable, even at 50% loadings.
- Tensile, compression and elongation properties maintained at higher loadings.
- Spheres improve hardness and impact resistance.
- Glass spheres provide smoother surface finish and higher gloss.
- Higher loadings allow significant cost savings

<i>Filler Loading:</i>	Neat Resin*	CaCO ₃			SPHERIGLASS 3000 CP-02	
	0%	10%	25%	50%	25%	50%
Formulation Viscosity , centipoise	2,560	3,250	4,400	15,280	1,920	5,120
Physical Properties:						
Tensile Strength , x 10 ³ lbs.	8.00	4.27	4.26	1.69	4.31	5.35
Tensile Modulus , x 10 ⁵ psi	1.69	1.71	3.11	2.11	2.03	2.32
Tensile Elongation , %	4.94	3.07	1.37	0.78	2.15	2.33
Flexural Strength , x 10 ³ psi	14.8	6.3	5.4	9.8	9.2	13.7
Flexural Modulus , x 10 ⁵ psi	2.33	2.44	2.51	1.91	3.52	5.67
Compressive Strength , x 10 ³ psi	6.72	6.97	7.86	7.06	8.51	7.98
IZOD Impact, Notched , (Avg ft-lb/in)	1.09	1.15	1.3	1.01	1.06	1.31
IZOD Impact, Un-notched	4.58	2.05	1.87	1.76	2.75	2.67
Barcol Hardness	25	28	31	36	39	44
Gloss, 45°	21.0	8.2	7.4	7.8	14.8	13.6
Cost, \$/lb.	\$1.73	\$1.56	\$1.31	\$0.89	\$1.40	\$1.07
Cost, ¢/in⁵	6.76	4.88	3.70	2.07	4.00	2.55

* Shell EPON 828 with Heloxy modifier 505, Epi-cure 3046, Epi-cure 3234

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