



Q-Cel® Hollow Microspheres Typical Properties

Q-Cel® Lightweight hollow microspheres offer latitude in manufacturing low density products. These single cell hollow microspheres appear as a white free flowing powder. The spheres are hydrophobic in nature. As filler, the primary function is to reduce density but can enhance other properties as well.

Q-Cel® Lightweight products have a density approximately one-fifth of most thermoset resins. On equal weight basis, the Q-Cel hollow microspheres occupy five times more volume than an equivalent weight resin. They can displace heavy fillers thus lowering the weight of composites materials. Spheres have the lowest surface area, thus the lowest resin demand. Lower viscosities are common allowing less resin to be used, increase the volume produced, usually resulting in cost savings in many applications.

Typical Properties of Q-Cel® Ultra-Ligh Hollow Microspheres								
Product Name	Density (g/cm ³)		Particle Size (µm) (Malvern Laser Analyser)			Maximum Working Pressure (Isostatic)		
	Bulk**	Effective	Mean	Range (µm)		Psi	Bar	Mpa
6014	0.08	0.14	85	5	200	250	17.24	1.72
6019	0.11	0.19	75	5	175	500	34.47	3.45
7019	0.11	0.19	80	5	150	500	34.47	3.45
6019S	0.11	0.19	70	5	150	500	34.47	3.45
5020	0.11	0.2	60	5	115	500	34.47	3.45
5020FPS	0.11	0.2	45	5	90	500	34.47	3.45
7023	0.13	0.22	65	5	160	1000	68.95	6.89
7028	0.27	0.27	75	5	120	1000	68.95	6.89
5028	0.16	0.28	65	5	115	750	51.71	5.17
6036	0.21	0.36	60	5	125	1000	68.95	6.89
7037	0.24	0.37	65	5	115	1500	103.42	10.34
7040S	0.26	0.4	54	5	100	2000	137.90	13.79
6042S	0.26	0.42	50	5	90	2000	137.90	13.79
6048	0.27	0.48	50	5	100	3000	206.84	20.68
5070S	0.42	0.7	35	10	100	3500	241.32	24.13

- Q-Cel® 6014 is recommended for any resin system where low viscosity and low shear processing conditions are used.
- Q-Cel® 6019S and 5020FPS are characterised by a low density and reduced particle size. They are particularly suited in applications where surface finishing and aesthetic properties are critical.
- **Q-Cel® High Strength products:** As the density of Q-Cel products increases, spheres size decreases and maximum working pressure increases. The Q-Cel® 7037 – 7040S – 6042S – 6048 and 5070S allow the formulator to choose the minimum density product that will survive mixing, pumping and moderate shear.
- **Q-Cel® Reduced Alkalinity products:** the Q-Cel® “7000” series have reduced alkalinity compared to the “6000” series. They are intended for use in alkaline sensitive thermoset resins and in some formulations have provided improved stability and viscosity.

Packaging

Q-Cel® hollow microspheres are supplied in a variety of packaging to meet customer’s requirements. Products are available in cartons, large boxes and bulk bags.

Safety Information

When using this product for prolonged exposure in dusty environments, inhalation may irritate the respiratory tract. NIOSH-approved mask or respirators are recommended when handling this product. Material Safety Data Sheets (MSDS) will be supplied on request.

* Effective Density is the particle density as measured by liquid displacement
 ** Bulk Density is the weight as measured in a container (bin, silo, bag...) and includes the interstitial air

For further information about our range of Hollow Glass Microspheres, please do not hesitate to contact us:

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