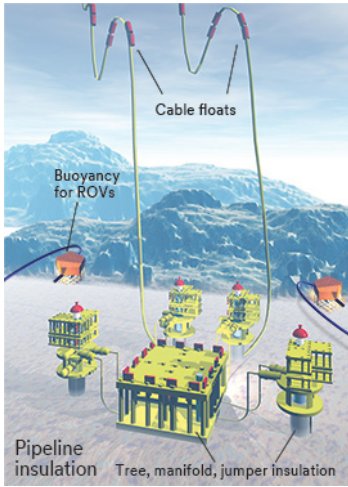


3M™ Glass Bubbles for coating and syntactic foams used in offshore buoyancy applications

Keep your profits flowing



3M Glass Bubbles are high-strength, low-density hollow glass microspheres used in many kinds of syntactic foam compositions for thermal insulation and buoyancy. Because of their insulation and buoyancy properties, adding 3M glass bubbles to your foams can help you improve your equipment reliability in deep-water applications to help you keep your production and profits flowing.

For syntactic foams used in buoyancy modules for drill risers, distributed buoyancy modules (DBMs) or buoyancy blocks for undersea vehicles.

- Provide high net buoyancy and lift, helping enable production of some of the highest pressure-resistant syntactic foam
- Can be used to help you formulate foams that can achieve maximum buoyancy in some of the deepest waters

3M™ Glass Bubbles Typical Physical Properties (Not for specification purposes.)

Product	Density (g/cc)	Crush Strength		Calculated Density of Syntactic Foam* (g/cc)
		Test Pressure (psi)	Survival by Volume (%)	
K15	0.15	300	80%	0.65
K20	0.20	500	80%	0.67
K20HS	0.20	750	90%	0.67
K25	0.25	750	80%	0.70
S28HS	0.28	3,000	90%	0.71
XLD3000	0.23	3,000	90%	0.68
iM16K	0.46	16,000	90%	0.71
iM30K	0.60	27,000	90%	0.87

*Assumptions for calculated density: 50% by volume loading of 3M glass bubbles in a resin system with a cured density of 1.14 g/cc, assuming no air entrainment in the final foam and no glass bubble volume losses during processing.

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