



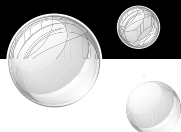
Battery Application: Reducing weight and enhancing thermal management in battery potting resin

3M™ Glass Bubbles can replace organic content in potting resin material to help enable lower thermal conductivity and can contribute to the overall lightweighting of battery pack components.

Key Customer Challenge

A heavier battery can have a significant impact on the performance of electric vehicles. Lightweighting battery potting resin can help OEMs increase the vehicle's range.

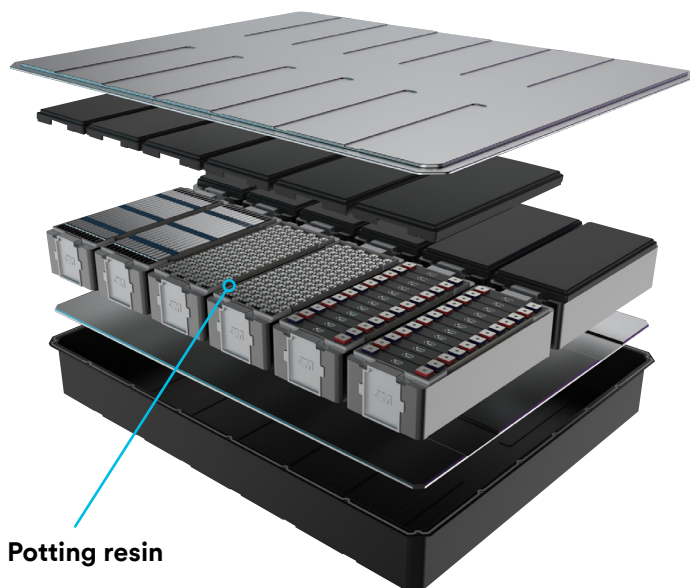
3M Solution



3M Glass Bubbles

- Can achieve **up to 40% weight reduction** in potting resin
- Help achieve lower thermal conductivity and modulate external temperature swings, **helping improve the thermal performance** of battery pack components
- Help maintain low viscosity of highly filled resin, making it **pourable and easy to dispense**
- Can replace organic content, **helping reduce the flammable content** in the potting material
- Enable the creation of syntactic foam with **controlled density** for consistent performance

EV Battery Assembly



Recommended Products		Density (g/cc)	(psi)	Strength (MPa)		(bar)	Survival	Particle size (µm)			Top size d95
d10	d50	d90									
New!	3M™ Glass Bubbles K15HSN	0.15	600	4.1	41	80%	25	40	65	80	
	3M™ Glass Bubbles K20HS	0.20	750	5.2	52	90%	20	60	80	100	
	3M™ Glass Bubbles K25	0.25	750	5.2	52	80%	25	55	95	105	

Not for specification purposes. These products are globally available through multiple regional supply channels.

Consult a 3M Expert.
3M.com/autoglassbubbles



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