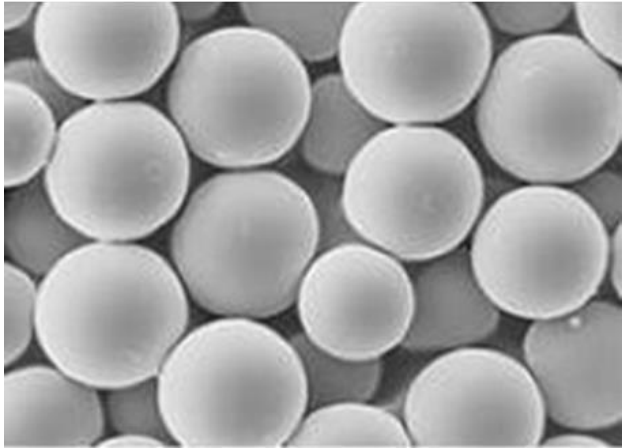


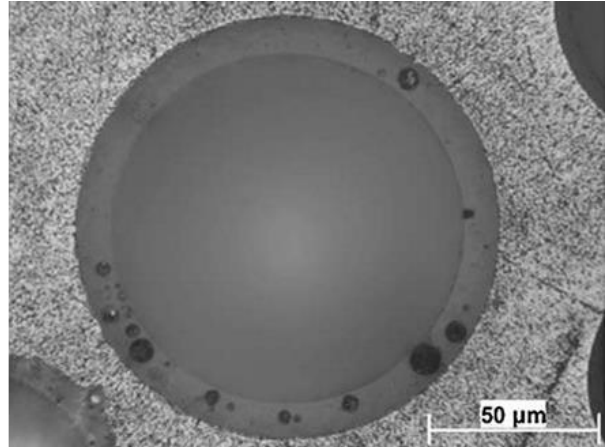
E-SPHERES[®] SL

Product Description

E-SPHERES[®] SL are high-quality ceramic hollow microspheres, ideal for a wide range of uses. **E-SPHERES[®] SL** are characterized by very high thermal and mechanical stability.



SEM micrograph of **E-SPHERES[®]**



Cross section of **E-SPHERES[®]** in a metallic syntactic foam

Features

- white and pure
- extreme heat resistance
- chemically stable
- low thermal conductivity
- minimum surface area-to-volume ratio
- high impact strength and thermal-shock resistance
- non-combustible
- high compressive strength
- low density
- ability to lower resin / binder usage
- spherical shape
- low oil absorption

Benefits

With a melting point between 1600 and 1800 °C, **E-SPHERES[®] SL** can operate at the highest service temperatures. This extreme temperature resilience is achieved through unique refractory properties.

E-SPHERES[®] SL have an unusually high compressive strength and can handle pressures of up to 69 MPa with minimal rates of breakage. This phenomenal strength extends their versatility by providing increased breakage resistance during mixing, processing and application.

E-SPHERES[®] SL' white colour consistency always gives you the result you expect.

Application Advice

E-SPHERES[®] SL should be incorporated into the system at the end of processing. Only a short blending time is necessary to attain a homogenous dispersion.

We recommend the use of a ribbon blender or a ploughshare mixer for dry blends.

E-SPHERES® SL

Technical Data¹ and Types

Physical Properties	SL75	SL125	SL150	SLG	SL300
Colour	white	white	white	white	white
pH-Value (10% dispersion)	6 - 8	6 - 8	6 - 8	6 - 8	6 - 8
Shell Thickness (%)	approx. 10	approx. 10	approx. 10	approx. 10	approx. 10
Melting Point (°C)	1600 - 1800	1600 - 1800	1600 - 1800	1600 - 1800	1600 - 1800
Hardness Mohs	6	6	6	6	6
Compression Strength (MPa)	57 ± 12	57 ± 12	57 ± 12	57 ± 12	57 ± 12
Bulk Density (g/L)	typical: 400	typical: 400	max. 450	max. 450	max. 450
Density (g/cm ³)	typical: 0.75	typical: 0.77	max. 0.85	max. 0.85	max. 0.85
Particle Size (µm) d ₅₀ Range	45 12 - 75	80 12 - 125	100 20 - 150	130 20 - 300	150 150 - 300
Floaters (vol. %)	min. 92	min. 96	min. 96	min. 96	min. 96

Typical Chemical Composition

E-SPHERES® SL

SiO ₂ (wt.%)	55 - 60
Al ₂ O ₃ (wt.%)	36 - 40
Fe ₂ O ₃ (wt.%)	0.4 - 0.5
TiO ₂ (wt.%)	1.4 - 1.6

¹ Typical values, not intended for specification purposes (does not include any assurance of specific properties).
The data sheet is intended as initial information only.