

Solid Glass Spheres



Solid Glass Spheres 0-63 Microns

Solid Glass Spheres are produced from a standard grade of soda-lime 'A' glass.

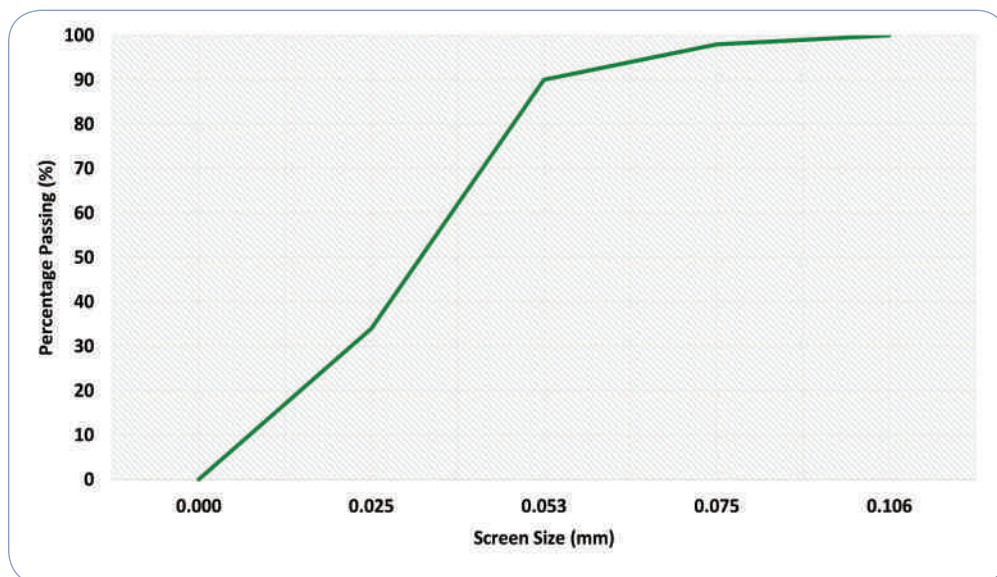
Chemical Analysis

	%
SiO ₂	73.2
Na ₂ O	13.2
CaO	9.3
MgO	1.9
Al ₂ O ₃	1.4
Fe ₂ O ₃	0.1
K ₂ O	0.6
TiO ₂	0.3

Commodity Code

7018 200000

Particle Size Distribution



Physical Data

Refractive Index	-1.50
Specific Gravity	2.5g/cm ³
pH @ 25°C	11-12
% wt. loss [1hr boil in water]	11

Mechanical Data

Youngs Modulus	6.89*10 ⁴ N/mm ²
Rigidity Modulus	2.96*10 ⁴ N/mm ²
Poissons Ratio	0.21

Electrical Data

Dielectric Constant [22°C, 106Hz]	6.9
Loss Tangent [22°C, 106Hz]	0.0085

Thermal Data

Softening Point	-730°C
Expansion Coeff.	90*10 ⁻⁷

Packing

25 kilo bags on pallets of 1000 kilos
Not all grades may be available from stock.

Issue 5 May 2018

All information is given in good faith but is indicative only and does not constitute a specification.

Boud Minerals Limited

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Solid Glass Spheres

Bonding, at the glass bead and polymer interface, can be improved by the use of chemical coupling agents. Coupling agents, polymer specific, can be applied to the glass beads at the time of manufacture for optimum performance.

Recommended coupling agents – Thermoplastic polymers

Polymer	Coating Designation	Polymer	Coating Designation
Acrylics	AGC1	Polyethylene	AGC1
Acetal	AGC2	Polyimide	AGC3
ABS	AGC3	Polymethylmethacrylate	AGC1
Cellulosic	AGC2	Polyphenylene Oxide	AGC3
Fluroplastic	None recommended	Polypropylene	AGC3/AGC1
Ionomer	AGC2	Polystyrene	AGC1
PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
Alkyd	AGC1	Polyester	AGC1
Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		

Solid Glass Spheres 53-106 Microns

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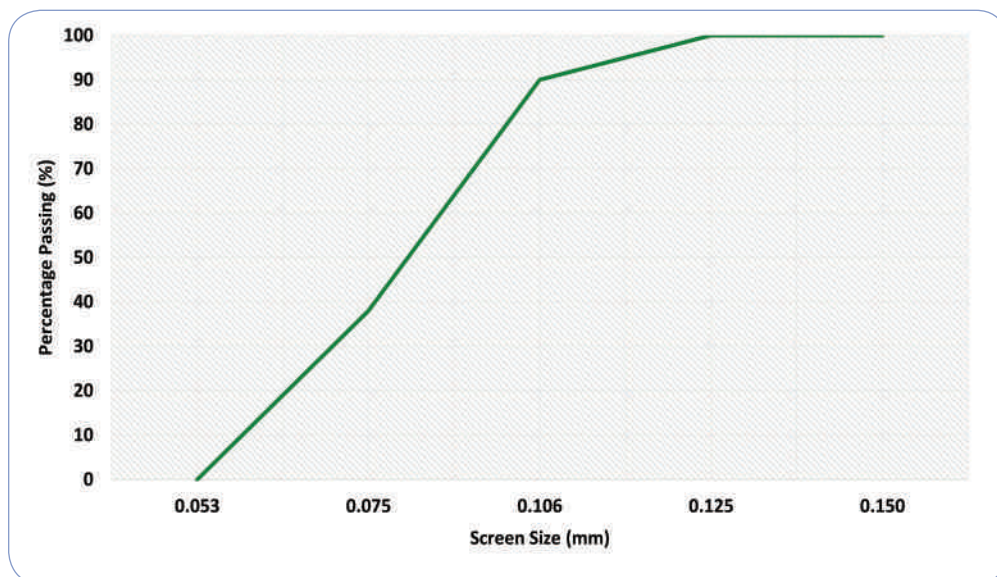
Chemical Analysis

	%
SiO ₂	73.2
Na ₂ O	13.2
CaO	9.3
MgO	1.9
Al ₂ O ₃	1.4
Fe ₂ O ₃	0.1
K ₂ O	0.6
TiO ₂	0.3

Commodity Code

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Particle Size Distribution



Physical Data

Refractive Index	-1.50
Specific Gravity	2.5g/cm ³
pH @ 25°C	11-12
% wt. loss [1hr boil in water]	11

Mechanical Data

Youngs Modulus	6.89*10 ⁴ N/mm ²
Rigidity Modulus	2.96*10 ⁴ N/mm ²
Poissons Ratio	0.21

Electrical Data

Dielectric Constant [22°C, 106Hz]	6.9
Loss Tangent [22°C, 106Hz]	0.0085

Thermal Data

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Recommended coupling agents – Thermoplastic polymers

Polymer	Coating Designation	Polymer	Coating Designation
Acrylics	AGC1	Polyethylene	AGC1
Acetal	AGC2	Polyimide	AGC3
ABS	AGC3	Polymethylmethacrylate	AGC1
Cellulosic	AGC2	Polyphenylene Oxide	AGC3
Fluroplastic	None recommended	Polypropylene	AGC3/AGC1
Ionomer	AGC2	Polystyrene	AGC1
PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
Alkyd	AGC1	Polyester	AGC1
Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		

Solid Glass Spheres 75-150 Microns

Solid Glass Spheres are produced from a standard grade of soda-lime 'A' glass.

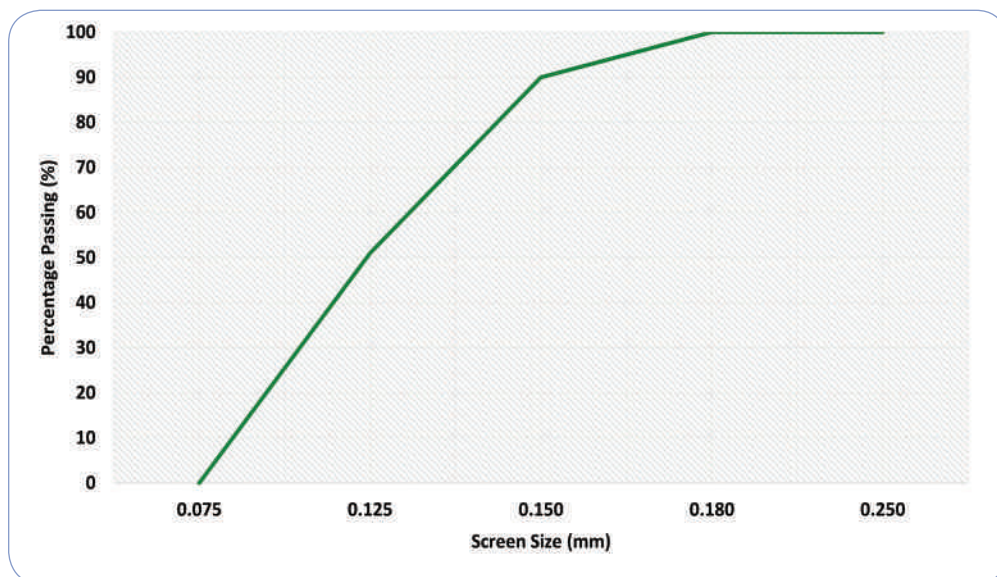
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Particle Size Distribution



Physical Data

Refractive Index	-1.50
Specific Gravity	2.5g/cm ³
pH @ 25°C	11-12
% wt. loss [1hr boil in water]	11

Mechanical Data

Youngs Modulus	6.89*10 ⁴ N/mm ²
Rigidity Modulus	2.96*10 ⁴ N/mm ²
Poissons Ratio	0.21

Electrical Data

Dielectric Constant [22°C, 106Hz]	6.9
Loss Tangent [22°C, 106Hz]	0.0085

Thermal Data

Softening Point	-730°C
Expansion Coeff.	90*10 ⁻⁷

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Solid Glass Spheres

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Recommended coupling agents – Thermoplastic polymers

Polymer	Coating Designation	Polymer	Coating Designation
Acrylics	AGC1	Polyethylene	AGC1
Acetal	AGC2	Polyimide	AGC3
ABS	AGC3	Polymethylmethacrylate	AGC1
Cellulosic	AGC2	Polyphenylene Oxide	AGC3
Fluoroplastic	None recommended	Polypropylene	AGC3/AGC1
Ionomer	AGC2	Polystyrene	AGC1
PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
Alkyd	AGC1	Polyester	AGC1
Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		

Solid Glass Spheres 106-212 Microns

Solid Glass Spheres are produced from a standard grade of soda-lime 'A' glass.

Chemical Analysis

	%
SiO ₂	73.2
Na ₂ O	13.2
CaO	9.3
MgO	1.9
Al ₂ O ₃	1.4
Fe ₂ O ₃	0.1
K ₂ O	0.6
TiO ₂	0.3

Physical Data

Refractive Index	-1.50
Specific Gravity	2.5g/cm ³
pH @ 25°C	11-12
% wt. loss [1hr boil in water]	11

Mechanical Data

Youngs Modulus	6.89*10 ⁴ N/mm ²
Rigidity Modulus	2.96*10 ⁴ N/mm ²
Poissons Ratio	0.21

Electrical Data

Dielectric Constant [22°C, 106Hz]	6.9
Loss Tangent [22°C, 106Hz]	0.0085

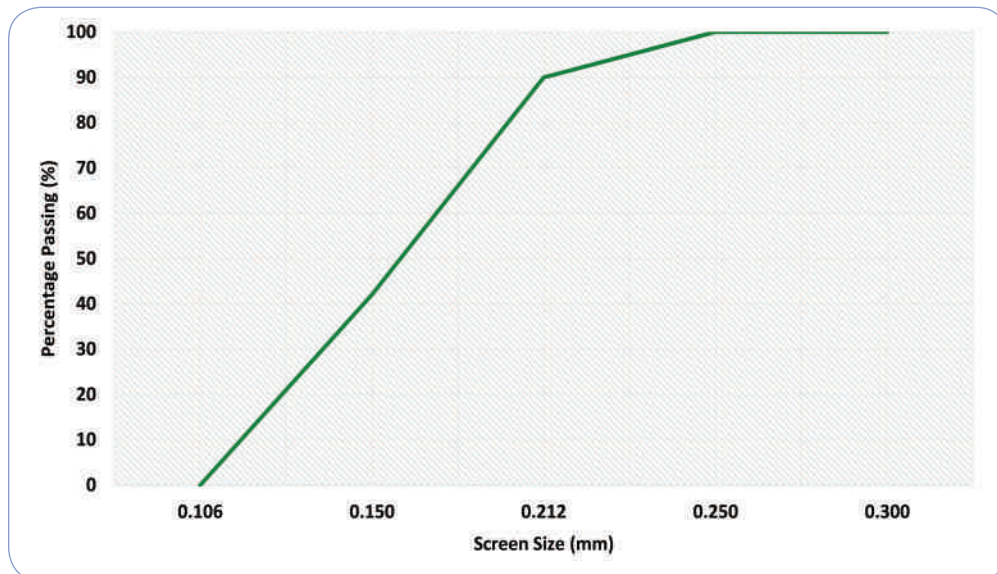
Thermal Data

Softening Point	-730°C
Expansion Coeff.	90*10 ⁻⁷

Commodity Code

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Particle Size Distribution



Packing

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Solid Glass Spheres

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Recommended coupling agents – Thermoplastic polymers

Polymer	Coating Designation	Polymer	Coating Designation
Acrylics	AGC1	Polyethylene	AGC1
Acetal	AGC2	Polyimide	AGC3
ABS	AGC3	Polymethylmethacrylate	AGC1
Cellulosic	AGC2	Polyphenylene Oxide	AGC3
Fluroplastic	None recommended	Polypropylene	AGC3/AGC1
Ionomer	AGC2	Polystyrene	AGC1
PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
Alkyd	AGC1	Polyester	AGC1
Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		

Solid Glass Spheres 150-250 Microns

Solid Glass Spheres are produced from a standard grade of soda-lime 'A' glass.

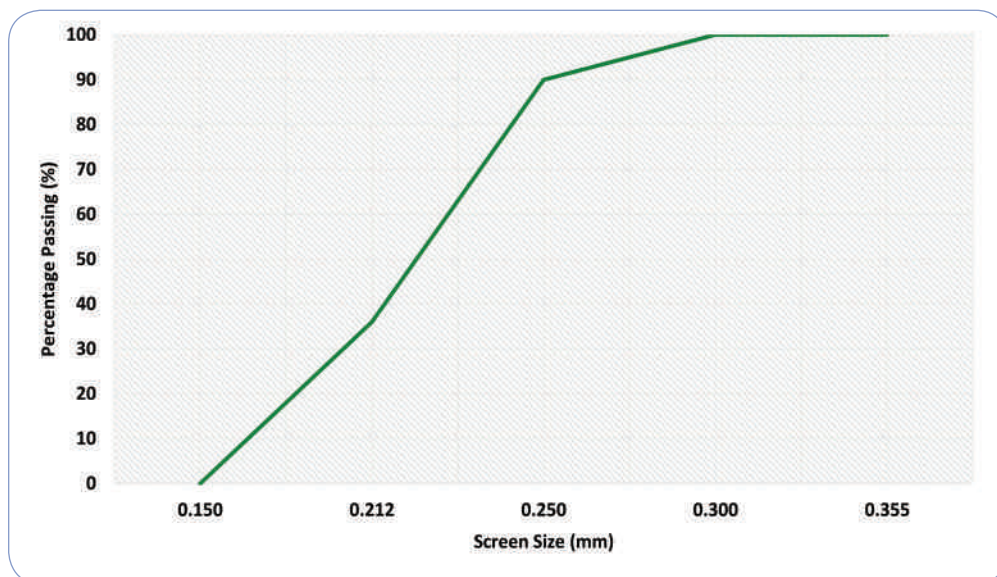
Chemical Analysis

	%
SiO ₂	73.2
Na ₂ O	13.2
CaO	9.3
MgO	1.9
Al ₂ O ₃	1.4
Fe ₂ O ₃	0.1
K ₂ O	0.6
TiO ₂	0.3

Commodity Code

7018 200000

Particle Size Distribution



Physical Data

Refractive Index	-1.50
Specific Gravity	2.5g/cm ³
pH @ 25°C	11-12
% wt. loss [1hr boil in water]	11

Mechanical Data

Youngs Modulus	6.89*10 ⁴ N/mm ²
Rigidity Modulus	2.96*10 ⁴ N/mm ²
Poissons Ratio	0.21

Electrical Data

Dielectric Constant [22°C, 106Hz]	6.9
Loss Tangent [22°C, 106Hz]	0.0085

Thermal Data

Softening Point	-730°C
Expansion Coeff.	90*10 ⁻⁷

Packing

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Recommended coupling agents – Thermoplastic polymers

Polymer	Coating Designation	Polymer	Coating Designation
Acrylics	AGC1	Polyethylene	AGC1
Acetal	AGC2	Polyimide	AGC3
ABS	AGC3	Polymethylmethacrylate	AGC1
Cellulosic	AGC2	Polyphenylene Oxide	AGC3
Fluoroplastic	None recommended	Polypropylene	AGC3/AGC1
Ionomer	AGC2	Polystyrene	AGC1
PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
Alkyd	AGC1	Polyester	AGC1
Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		

Solid Glass Spheres 180-300 Microns

Solid Glass Spheres are produced from a standard grade of soda-lime 'A' glass.

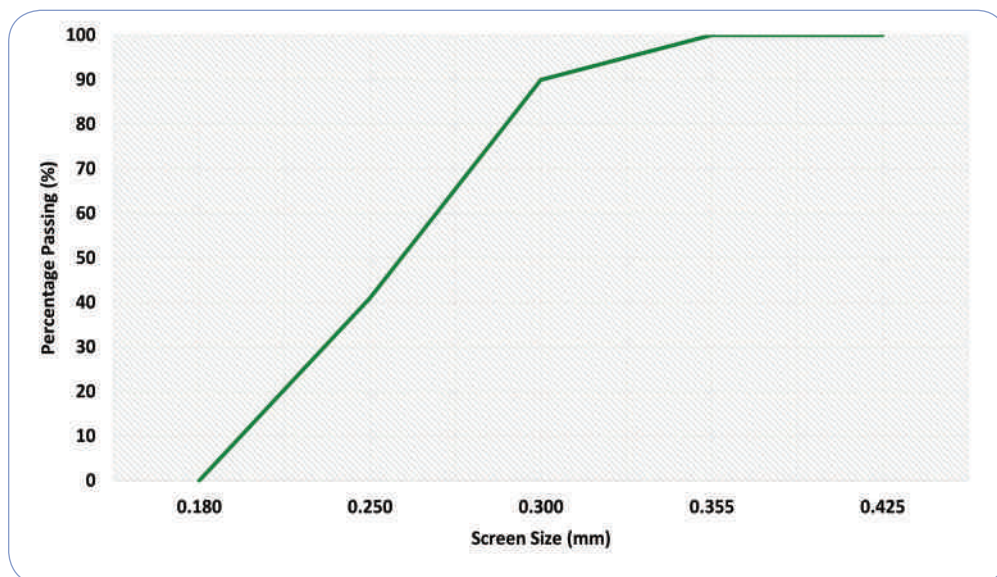
Chemical Analysis

	%
SiO ₂	73.2
Na ₂ O	13.2
CaO	9.3
MgO	1.9
Al ₂ O ₃	1.4
Fe ₂ O ₃	0.1
K ₂ O	0.6
TiO ₂	0.3

Commodity Code

7018 200000

Particle Size Distribution



Physical Data

Refractive Index	-1.50
Specific Gravity	2.5g/cm ³
pH @ 25°C	11-12
% wt. loss [1hr boil in water]	11

Mechanical Data

Youngs Modulus	6.89*10 ⁴ N/mm ²
Rigidity Modulus	2.96*10 ⁴ N/mm ²
Poissons Ratio	0.21

Electrical Data

Dielectric Constant [22°C, 106Hz]	6.9
Loss Tangent [22°C, 106Hz]	0.0085

Thermal Data

Softening Point	-730°C
Expansion Coeff.	90*10 ⁻⁷

Packing

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Recommended coupling agents – Thermoplastic polymers

Polymer	Coating Designation	Polymer	Coating Designation
Acrylics	AGC1	Polyethylene	AGC1
Acetal	AGC2	Polyimide	AGC3
ABS	AGC3	Polymethylmethacrylate	AGC1
Cellulosic	AGC2	Polyphenylene Oxide	AGC3
Fluroplastic	None recommended	Polypropylene	AGC3/AGC1
Ionomer	AGC2	Polystyrene	AGC1
PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
Alkyd	AGC1	Polyester	AGC1
Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		

Solid Glass Spheres 250-425 Microns

Solid Glass Spheres are produced from a standard grade of soda-lime 'A' glass.

Chemical Analysis

	%
SiO ₂	73.2
Na ₂ O	13.2
CaO	9.3
MgO	1.9
Al ₂ O ₃	1.4
Fe ₂ O ₃	0.1
K ₂ O	0.6
TiO ₂	0.3

Physical Data

Refractive Index	-1.50
Specific Gravity	2.5g/cm ³
pH @ 25°C	11-12
% wt. loss [1hr boil in water]	11

Mechanical Data

Youngs Modulus	6.89*10 ⁴ N/mm ²
Rigidity Modulus	2.96*10 ⁴ N/mm ²
Poissons Ratio	0.21

Electrical Data

Dielectric Constant [22°C, 106Hz]	6.9
Loss Tangent [22°C, 106Hz]	0.0085

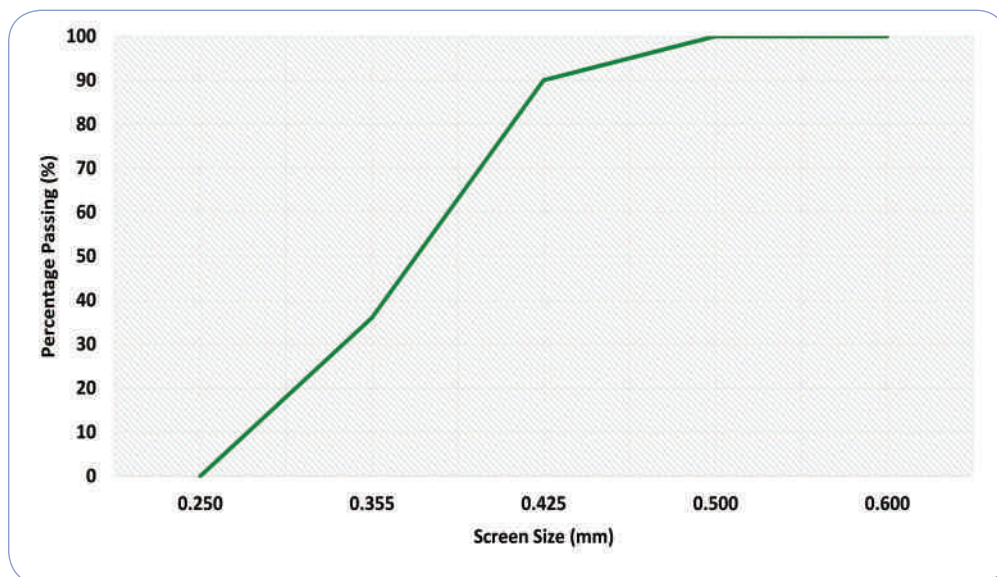
Thermal Data

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Particle Size Distribution



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ABS	AGC3	Polymethylmethacrylate	AGC1
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Fluoroplastic	None recommended	Polypropylene	AGC3/AGC1
Ionomer	AGC2	Polystyrene	AGC1
PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
Alkyd	AGC1	Polyester	AGC1
Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		

Solid Glass Spheres 425-850 Microns

Solid Glass Spheres are produced from a standard grade of soda-lime 'A' glass.

Chemical Analysis

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Electrical Data

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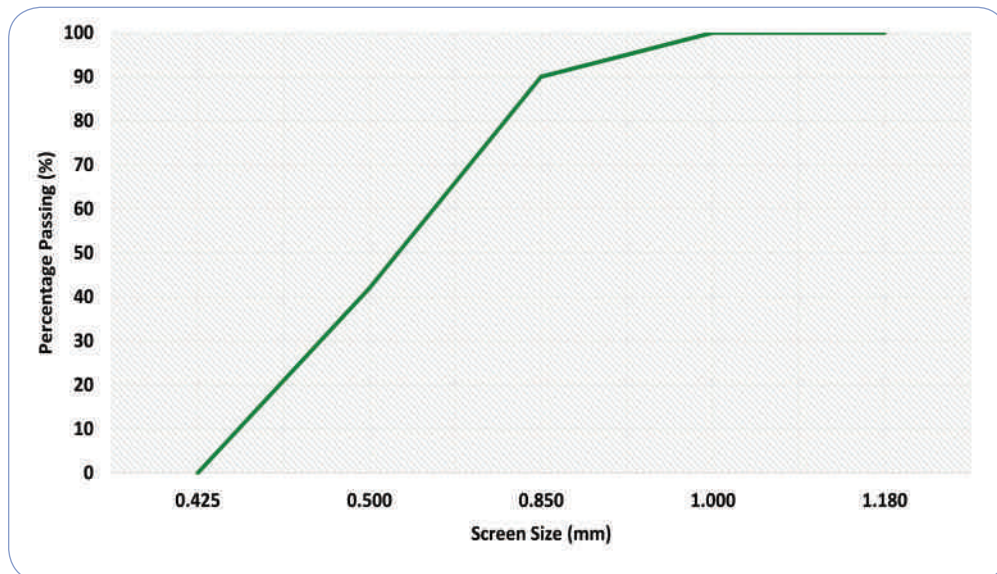
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PBT	AGC2	Polysulphone	AGC3
Nylon	AGC3	Polyvinyl Chloride [PVC]	AGC3
Polycarbonate	AGC3	Styrene Acrylonitrile	AGC2

Recommended coupling agents – Thermoset polymers

Polymer	Coating Designation	Polymer	Coating Designation
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Epoxy	AGC3	Silicones	AGC1
Melamine	AGC3	Urea Formaldehyde	AGC3
Phenol Formaldehyde	AGC3	Urethanes	AGC3
Phenolic	AGC3		