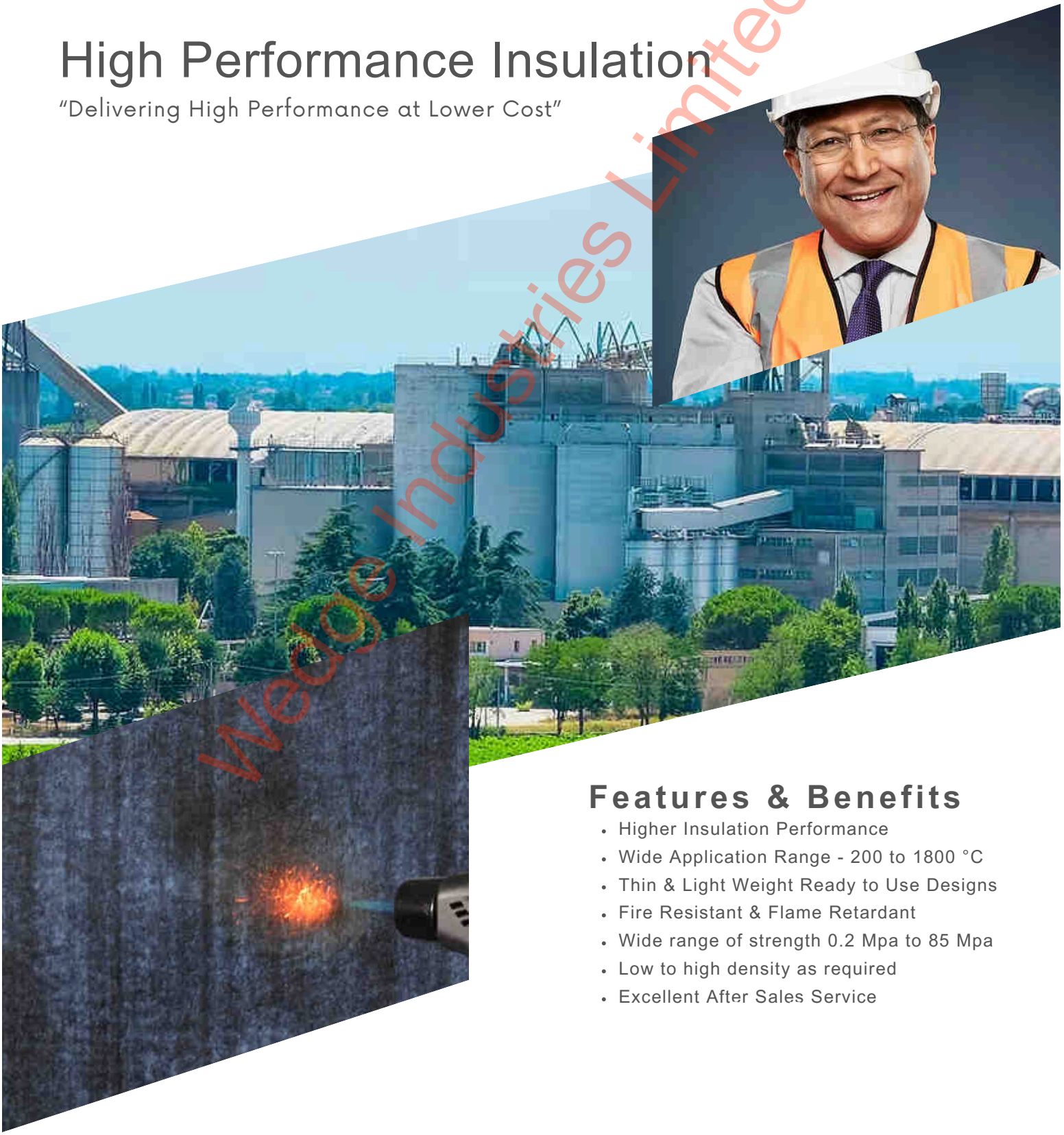
Wedge Group

High Performance Insulation

"Delivering High Performance at Lower Cost"

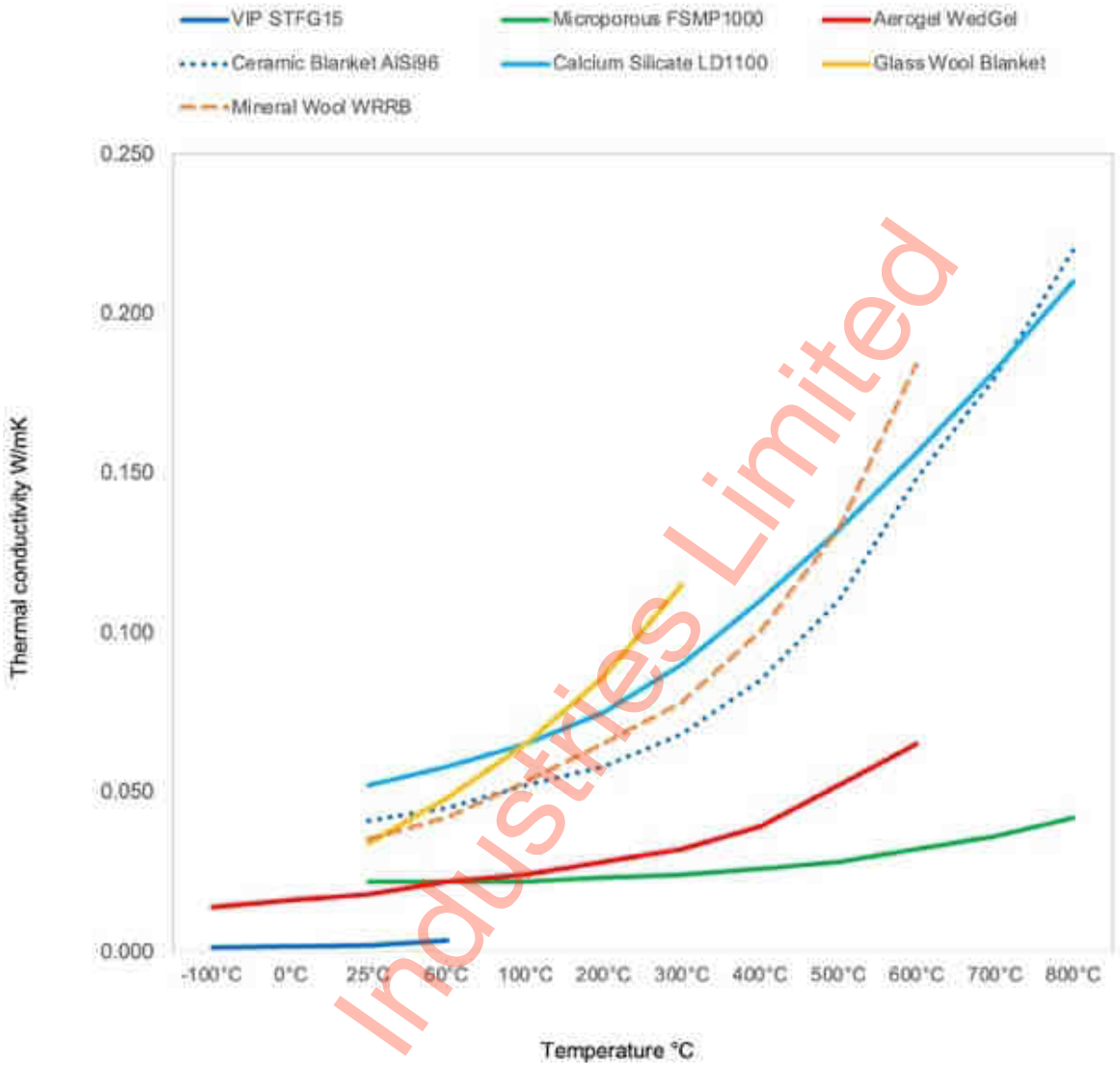


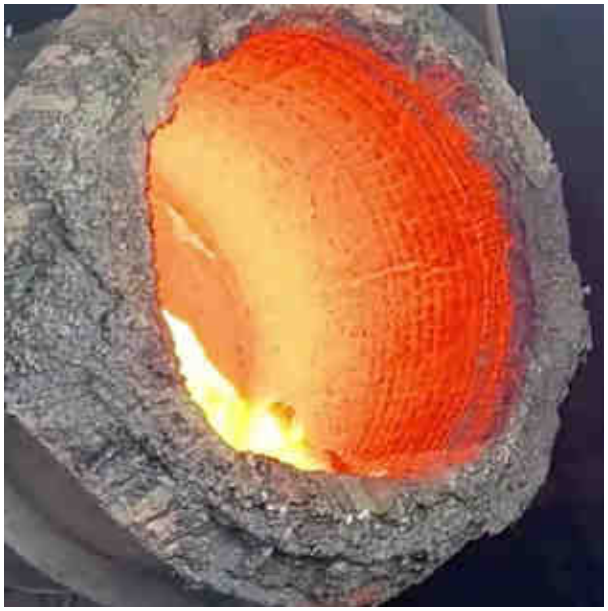
Features & Benefits

- Higher Insulation Performance
- Wide Application Range - 200 to 1800 °C
- Thin & Light Weight Ready to Use Designs
- Fire Resistant & Flame Retardant
- Wide range of strength 0.2 Mpa to 85 Mpa
- Low to high density as required
- Excellent After Sales Service

Wedge Insulation | Product Selection Table

Product / Category	Application, Brand Name, Quality, and Grade Summary	Page
WedGel Aerogel Insulation	Thermal insulation with aerogel; ultra-low conductivity; blankets, panels, powders, coatings.	3
WedGel Cold & Cryogenic Aerogel	Products: 125A, 125LD, 125B, 150AL, 200, 200HP, VIP STFG15; Temps -200 °C → 200 °C.	4
WedGel High Temp Aerogel	Products: WAG 400, WAG 650, 650HP, ECO; service temps -50 °C → 650 °C.	5
WedGel BL20 / BL50 Aerogel	BL20: cold insulation -170 °C → 100 °C; BL50: heat/fire insulation 25 °C → 1200 °C.	6
WedGel CAC350 Carbon Composite	EV battery/fire protection; service temp 350 °C; short-term resistance up to 1200 °C.	7
WedGel Powder	Nanoporous silica aerogel granules; ultra-low conductivity (<0.018 W/mK); coatings, fillers.	8
WedGel WJ120 / WJ400 Coatings	WJ120: -40 °C → 120 °C; WJ400: -40 °C → 400 °C; thermal/fire/moisture resistant coatings.	9
WETON Refractory Bricks	Lightweight refractory bricks; up to 1600 °C; used in furnaces, kilns, combustion chambers.	10
W-LD CaSi Boards (Low Density)	Service temps 650–1100 °C; insulation for steel, ceramic, glass, chemical industries.	11
HD CaSi Boards (High Density)	For high compressive strength; 1000 °C; pipe supports, furnace, machine construction.	12
HD CaSi Boards for Molten Al	Non-wettable boards (HD900, HD1000, Z140, etc.); aluminum in launders, spouts, floats.	13
Graphite Reinforced CaSi Boards	High load capacity, low shrinkage; non-wetting; used in ladles, bushings, hot top rings.	14
HSI 1200 Wollastonite CaSi Board	Classification temp 1200 °C; furnace backup, gasketing, electrical insulation.	15
HSI 1100 Wollastonite CaSi Board	Classification temp 1000 °C; backup insulation, fire protection, appliances.	16
RIMB Millboards & Gaskets	Temp resistance 1000–1200 °C; for gaskets, seals, fire-resistant doors.	17
FP1000 / SP1150 Fire Boards	Fire-resistant boards; used for structural steel, ceilings, fire doors.	18
HDSP450 Sandwich Panel	Asbestos-free, mineral; classification temp 450 °C; fire/thermal insulation.	19
ALESI Boards	Alkaline earth silicate; classification temp 1100–1450 °C; furnace linings, gaskets.	20
Alumina Ceramic Insulating Board	High purity alumina; extreme temp 1800–1900 °C; used in kilns, refractory.	21
High Alumina Fibre Blanket	Continuous service up to 1600 °C; industrial furnace linings, sealing gaskets.	22
AlSi Flexible Insulation	Fibre blankets; service up to 1450 °C; furnace linings, fire doors, high-temp pipes.	23
CaSi Fibre Ceramic Blanket	Classification temp up to 1260 °C; refractory back linings, insulation.	24
AlSi Ceramic Felt	Temp range 1050–1430 °C; used in ingot mould liners, gaskets.	25
AlSi Flex-P Paper	High-performance alumina silicate paper; furnace linings, exhaust liners.	26
AlSi HTI Tapes	Ceramic felt-based; fire sealing, pipe insulation.	27
HD-AISI Blanket	Alumina silicate; continuous up to 1600 °C; used in steel furnaces.	28
HD AISI Board	High stability ceramic fiber boards; furnace, heat treatment.	29
HDAISIZ Blanket	High-density ceramic fiber; high strength, low conductivity; furnace lining, pipe insulation.	30
AISI-M Modules	Alumina silicate modules; furnace lining, fire-resistant walls.	31
AlSi Ceramic Wool Bulk	High purity composite fibers; used as fillers, blankets, boards.	32
AlSi Textile & Rope	Ceramic fiber textiles, ropes; sealing, wrapping insulation.	33
EV Battery Insulation Pads	Aerogel pads; fire/thermal barrier; prevent thermal runaway.	34
EV Battery Technical Data	WedGel 650EV, AISI 250EV, FSMP 1000EV, WedGel OXF; temps -50 °C → 1300 °C.	35
AlSi1000 Fabrics	Molten metal splash protection; short-term 1000 °C, long-term 550–650 °C.	36
Wedge FG Foam Glass	Service temp -268 °C → 480 °C; non-combustible, moisture-resistant.	37
HTAL1600 Glue	High alumina refractory cement; service 1600–1700 °C.	38
HTAL1000 Glue	Inorganic adhesive; withstands ~1000 °C.	39
FSMP Overstitched Blanket	Microporous flexible blankets; classification up to 1200 °C.	40
FSMP Quilted Blanket	Microporous quilted insulation; classification up to 1200 °C.	41
FSMP Slated Blanket	Pipe insulation; very high insulation; classification up to 1200 °C.	42
FSMP 1000S HD Board	Fumed silica microporous board; furnace back-up insulation.	43
FSMP 900/1000S/1100T Boards	Standard microporous boards; for glass, cement, petrochem.	44
FSMP-HEC 1100 Panel	Microporous board with ceramic cloth; furnace, turbine, pipes.	45
FSMP-HY1100 Hydrophobic Board	Water-repellent microporous board; classification up to 1200 °C.	46
Slim MicroSilica Boards	High density microporous boards; furnace back-up insulation.	47
Pearl Perlite Boards	Expanded perlite; cryogenic (-190 °C) to 650 °C; waterproof, fireproof.	48
WedgePIR Boards	PIR insulation boards; service -196 °C → 120 °C; used in tanks, cold storage.	49
W-PUF50 PU Foam	PU foam board; cryogenic -80 °C → 100 °C; strong, low absorption.	50
Mineral Wool Insulation	Service up to 650 °C; high fire resistance; thermal + acoustic insulation.	51
HDRW 850 Mineral Wool Boards	High-density boards; resistance up to 850 °C.	52
LMW Loose Mineral Wool	Loose fill; fire resistant; melting >750 °C.	53
Syndanio Cement Silicate	Boards (H91, L21, HD280); induction furnaces, oven cladding.	54
VC Vermiculite Boards	Fireproof, low conductivity; used in furnaces, fireplaces.	55
MagSil Vermiculite Boards	Fire resistant up to 1200 °C; rated 60–240 min fire protection.	56
WedgeVac VIP Panels	Vacuum insulated panels; conductivity <0.004 W/mK; refrigeration, packaging.	57
CCXP Foam Board	Application temp -30 °C → 80 °C; moisture & chemical resistant.	58
SPP1650 PET Acoustic Panels	Made from recycled PET bottles; sound absorption; moisture/mold resistant.	59
AISI1200CT Cloth	Alumina silica fiber cloth; durable; up to 1200 °C; welding blankets, aerospace.	60
WSC600 E-Glass / Silica Cloth	Pure silica cloth; continuous 982 °C; welding blankets, thermal barriers.	61





WedGel | Aerogel Insulation Features & Benefits

WedGel Aerogel insulation is a type of thermal insulation material that utilizes Aerogel to provide excellent insulation properties. WedGel Aerogel is well-known for its extremely low thermal conductivity, making it one of the most effective insulating materials available. WedGel Aerogel insulation is typically used in applications where high-performance insulation is required, such as in buildings, industrial processes, and transportation systems. It offers superior thermal insulation compared to traditional insulation materials like fiberglass, foam, or mineral wool. The use of WedGel Aerogel insulation can significantly reduce heat transfer through walls, roofs, pipes, and other surfaces, resulting in improved energy efficiency and reduced heating or cooling costs. Its high insulating capacity allows for thinner insulation layers while achieving the same or better insulation performance, which can be beneficial in space-constrained environments.

WedGel Aerogel insulation comes in various forms, including blankets, panels, powders, and coatings. These forms can be tailored to suit specific applications and installation requirements. The flexibility of WedGel Aerogel insulation allows it to be used in both retrofitting existing structures and in new construction projects. One of the advantages of WedGel Aerogel insulation is its hydrophobic nature, meaning it repels water. This property prevents moisture absorption and helps maintain the insulation's performance over time. WedGel Aerogel insulation is also fire-resistant and can provide an additional level of safety in buildings and other structures. However, it's worth noting that WedGel Aerogel insulation can be more expensive compared to traditional insulation materials. The cost can vary depending on factors such as the specific type of WedGel Aerogel used, the form it comes in, and the thickness or coverage required. Overall, WedGel Aerogel insulation offers exceptional thermal insulation performance, energy efficiency, and other desirable properties. Its use can contribute to reducing energy consumption, improving comfort, and enhancing the overall sustainability of buildings and various industrial processes.

Key benefits of WedGel Aerogel insulation include:

- Excellent thermal insulation: WedGel Aerogel insulation has an incredibly low thermal conductivity, often up to 2-4 times lower than traditional insulation materials like fiberglass or foam. This means it can effectively reduce heat transfer and minimize energy losses.
- Thin and lightweight: WedGel Aerogel insulation can provide equivalent or better insulation performance compared to other materials but at a fraction of the thickness.
- Hydrophobic properties: WedGel Aerogel is naturally resistant to moisture, preventing water absorption and maintaining its insulation performance even in damp or humid environments.
- Fire resistance: WedGel Aerogel insulation is inherently fire-resistant, making it a safer choice for insulation applications. It can help slow down the spread of flames and provide additional protection in case of fire.

WedGel | Technical Data Sheet

Cold & Cryogenic Aerogel Insulation | ASTM C1728 Type 1, Grade 1B

Quality ASTM C1728	WedGel 125A	WedGel 125LD	WedGel 125B	WedGel 150AL	WedGel 200	WedGel 200HP	WedGel VIP
Service Temperature, ºC ASTM C411, C447	-200 +125	-200 +125	-180 +125	-195 +150	-200 +200	-200 +200	-100 +80
Colour	White	White	Grey	White	Grey	White	Silver
Thickness, mm	10	8 - 25	5 - 20	5 - 20	10 - 20	5, 10	20 - 50
Short Term Temperature Resistance, ºC	1000	300	650	1200	400	1000	1000
Density, ASTM C303, kg/m3	160 ± 30	70	185	160 - 200	170	160	200 ± 30
Compression Strength 10%, Kpa, ASTM C165	60	60	35	60	60	35	
Thermal Conductivity, ASTM C177							
W/m.K at -129°C	0.014	0.013	0.015	0.015	NA	0.014	NA
W/m.K at -73°C	0.016	NA	0.018	0.017	NA	0.015	0.002
W/m.K at -17°C	0.017	0.019	0.020	0.018	NA	0.016	0.004
W/m.K at 24°C	0.018	0.023	0.021	0.021	NA	0.017	0.005
W/m.K at 25°C	0.019	NA	NA	NA	0.018	NA	NA
W/m.K at 37.8°C	NA	0.025	0.022	NA	0.021	0.018	NA
W/m.K at 93.3°C	NA	0.032	0.023	NA	0.022	0.019	NA
W/m.K at 100°C	0.021	0.032	0.023	NA	0.022	0.019	NA
Hydrophobicity %	99	99	99	99	99	99	100
Stress Corrosion, ASTM C795	Pass	Pass	Pass	Pass	Pass	Pass	NA
Corrosiveness of steel, ASTM C1617, ppm CL	<5	<5	<5	<5	<5	<5	NA
Flame Spread Index ASTM E84, FSI	≤ 25	≤ 25	≤ 25	≤ 25	≤ 25	≤ 25	NA
Smoke Developed Index ASTM E84 SDI	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	NA
Classification, Fire Proofing	A	A	A	A	A	A	NA
Linear Shrinkage 24h, ASTM C356, max %	<2	<2	<2	<2	<2	<2	NA
Water vapour sorption ASTM C1104, max %	<3	<5	<5	<5	<5	<5	NA

WedGel | Technical Data Sheet

High Temperature Aerogel Insulation | ASTM C1728 Type III Grade 1A

Quality ASTM C1728	WedGel WAG 400	WedGel WAG 650	WedGel 650HP	WedGel ECO
Service Temperature ASTM C411/C447, ºC	-50 to 400	-50 to 650	-10 to 650	650
Colour	White / Grey	Light Brown / White	Grey	Light Grey
Thickness, mm	3 - 20	3 - 50	5 - 20	5 - 20
Short Term Temperature Resistance, ºC	1000	1400	1400	1200
Density ASTM C303, kg/m3	180	200 ± 40	200	170 ± 20
Compression Strength, ASTM C165; at 10%, Kpa	60	80	35	20
Thermal Conductivity, ASTM C177				
W/m.K at 25°C	0.018	0.018	NA	0.029
W/m.K at 37.8°C	0.022	0.022	NA	NA
W/m.K at 93.3°C	NA	0.023	NA	NA
W/m.K at 100°C	0.023	0.023	0.024	0.039
W/m.K at 200°C	0.026	0.028	0.028	0.049
W/m.K at 300°C	0.035	0.035	0.033	0.061
W/m.K at 400°C	NA	0.047	0.040	NA
W/m.K at 500°C	NA	0.058	0.049	NA
W/m.K at 600°C	NA	0.068	0.062	NA
W/m.K at 650°C	NA	NA	0.069	NA
Hydrophobicity GB/T 10299-2011 %	99	99	99	99
Flexibility ASTM C1101	Flexible	Flexible	Flexible	Flexible
Complies with ROHS regulation	Complies	Complies	Complies	Complies
Size Tolerances, ASTM C1728	Pass	Pass	Pass	Pass
Stress Corrosion Cracking ASTM C795	Pass	Pass	Pass	Pass
Corrosiveness of Steel ASTM C1617	<5 ppm CL	<5 ppm CL	<5 ppm CL	<5 ppm CL
Reaction to fire, GB/T8624-2012, EN 13501-1	Non-combustible	Non-combustible	Non-combustible	Non-combustible
Flame Spread Index ASTM E84, FSI	≤ 5	≤ 5	≤ 5	≤ 5
Smoke Developed Index ASTM E84, SDI	≤ 10	≤ 10	≤ 10	≤ 10
Classification, Fire Proofing GB/T 8642-2012	A	A1	A1	A
Linear shrinkage for 24h max Temp. ASTM C356	<2%	<2%	<2%	<2%
Water absorption by immersion ASTM C1763	<5%	<5%	<5%	<5%
Vibration Loss Ratio, GB/T 34336-2017, %	<1	<1	<1	<1
Water vapour sorption by weight ASTM C1104	≤ 5%	≤ 5%	≤ 5%	≤ 5%
Coverings Options	Aluminium Foil / PE / Silica Cloth	Aluminium Foil / PE / Silica Cloth	Silica Cloth	Aluminium Foil / PE / Silica Cloth

WedGel BL20, BL50 | Aerogel Insulation for Home and Buildings

WedGel Aerogel is a highly effective material for home insulation due to its exceptional thermal insulation properties. It can be used in various forms, such as WedGel Aerogel blankets, panels, or coatings, to provide insulation in residential buildings. WedGel Aerogel is renowned for its extremely low thermal conductivity, which is one of its key properties that makes it an excellent insulating material. The thermal conductivity of WedGel Aerogel is typically in the range of 0.015 to 0.05 W/(m·K) at room temperature. It helps to minimize heat loss or gain, improve energy efficiency, and enhance thermal comfort in different environments.

Features and Benefits

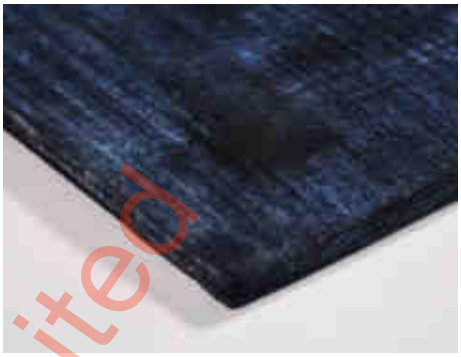
- Superior Thermal Insulation: WedGel Aerogel has one of the lowest thermal conductivities of any known solid material. It significantly reduces heat transfer by conduction, convection, and radiation, making it highly efficient at insulating homes.
- Thin Insulation Profile: WedGel Aerogel offers high thermal resistance with a relatively thin layer.
- Moisture Resistance: Many WedGel Aerogel insulation products are hydrophobic, meaning they repel water and resist moisture absorption. WedGel Aerogel insulation maintains its thermal performance even in humid or wet environments.
- Fire Resistance: WedGel Aerogel insulation offers good fire resistance. This can enhance the safety of homes and provide additional fire protection.
- Energy Efficiency: By providing effective thermal insulation, WedGel Aerogel helps improve the energy efficiency of homes. It reduces the need for heating and cooling, resulting in lower energy consumption and reduced utility costs.

Quality ASTM C1728		WedGel BL20	WedGel BL50
Application		Building Cold Insulation	Building Heat & Fire Insulation
Service temperature, ASTM C411/C447		-170 to 100	25 to 1200
Colour		Grey / White	White
Thickness, mm		5, 10, 25, 50	10, 20, 25, 30, 50
Short term Temperature Resistance, ºC		1000	1400
Density (kg/m3) ASTM C303		150	180
Compression Strength, ASTM C165; at 10%, Kpa		80	37
Thermal conductivity, W/m.K, ASTM C177, GB/T10295/4-2008			
	25°C	0.021	0.021
	37.8°C	0.022	0.022
	100°C	0.023	0.024
	200°C	NA	0.029
	300°C	NA	0.036
	400°C	NA	NA
Hydrophobicity GB/T 10299-2011 %		99	99
Complies with ROHS regulation		Complies	Complies
Stress Corrosion Cracking, Tested according to ASTM C692		Pass	Pass
Reaction to fire, ISO 1182, GB/T8624-2012, EN 13501-1		Non-combustible	Non-combustible
Flame spread index (ASTM E84), max FSI		≤ 25	≤ 25
Smoke developed index (ASTM E84) , max ASTM E84 SDI		≤ 50	≤ 50
Classification, Fire Proofing GB/T 8642-2012		A1	A
Water absorption by immersion, max % by weight, ASTM C1763		<5%	<5%

Note: When considering WedGel Aerogel insulation for home use, it's important to consult with insulation professionals or contractors who are knowledgeable about WedGel Aerogel products and their installation.

WedGel CAC350 | Carbon Aerogel Composite

Carbon fiber-reinforced carbon aerogel composites for thermal insulation, incorporating oxidized polyacrylonitrile (PAN) fiber felts, are advanced materials designed to provide exceptional thermal insulating properties. It is a flexible, insulation material manufactured from oxidized polyacrylonitrile fibers and SiO2 aerogel. It is manufactured through an innovative, high technology nano-composite process. This composite thermal barrier has ultra-low thermal conductivity, excellent hydrophobicity, is environmentally safe, flame-resistant, easy to cut and easy to use in thermally protective applications. It is the most effective thermally insulative material, that is also easily processed in the end use application, to effectively insulate against fire and high heat, while maintaining minimum thickness.



Features and Benefits

Carbon fiber-reinforced carbon aerogel composites (C/CAs) for thermal insulators were prepared by copyrolysis of resorcinol-formaldehyde (RF) aerogels reinforced by oxidized polyacrylonitrile (PAN) fiber felts. The RF aerogel composites were obtained by impregnating PAN fiber felts with RF sols, then aging, ethanol exchanging, and drying at ambient pressure. Upon carbonization, the PAN fibers shrink with the RF aerogels, thus reducing the difference of shrinkage rates between the fiber reinforcements and the aerogel matrices, and resulting in C/CAs without any obvious cracks.

Low Density: Carbon aerogels have an incredibly low density due to their high porosity. As a result, composites incorporating carbon aerogels will generally be lightweight.

Good Thermal Insulation: Carbon aerogels are known for their excellent thermal insulating properties, making them useful in applications where heat resistance is essential.

Mechanical Strength: While carbon aerogels are generally fragile, their mechanical strength can be improved when used as part of composites.

Quality	WedGel CAC350
Type	Roll, Sheet
Service temperature, ºC	350
Colour	Black
Thickness, mm	1-25
Short term Temperature Resistance, ºC	1200
Density, kg/m3	150 - 210
Compression Strength, MPa	1.75
Thermal conductivity	
W/m.K at 25°C	0.021
W/m.K at 100°C	0.023
W/m.K at 200°C	0.028
W/m.K at 300°C	0.035
W/m.K at 350°C	<0.04
Hydrophobicity GB/T 10299-2011 %	>93
Complies with ROHS regulation	Complies
Banned Substances in Vehicles	None
Flammability Rating, UL 94-2013	UL94-V0
Halogen Content	None
Coverings Options	As required
Flashover without breakdown, Leakage current ≤1mA	3820V DC, 60s
Insulation Resistance 2500V DC, 60s	≥500MΩ

Applications

- EV Batteries Insulation and Fire Protection.
- High strength Insulation application.
- Automotive Noise, Heat and Vibration Liners.
- Welding Drapes and Heat Insulating Blankets.
- Flame and Electric Arc Resistant Apparel.
- Acoustical, Heat and Flame Resistant Insulation.
- Heat and Thermal Protective Apparel.
- Runaway Thermal Barriers for Electric Vehicle Batteries.
- Heat and fire protection in Electric Vehicle Batteries.
- High performance Insulation gaskets.
- Cold Box, Shipping Boxes, Cold Rooms.
- Cold chain transportation vehicles.
- Cold storage, shipping containers.
- Heat insulation protection between battery cells.
- Industrial containers, pipes, and for the shell.
- Phase change materials in thermal protection system.

WedGel Powder | Aerogel Insulation Powder & Granules

WedGel Aerogel powder are granules of Aerogel material made of silica aerogel particles having a nano- porous structure. WedGel Aerogel, in its original form, is a highly porous solid material with a gel-like structure, typically composed of a network of interconnected nanoparticles or fibers. When the liquid component of the gel is removed through a drying process, it results in an WedGel Aerogel with a high porosity and low density. It is high porosity and ultra-low density, high specific surface area, ultra-high pore volume. All these advantages make this material have super excellent performance on thermal insulation, acoustic insulation, adsorption, environmental protection, flame retardant and hydrophobic, and other fields.

Features & Benefits

WedGel Powder has thermal conductivity less than 0.018W/m•K and very high hydrophobicity with water repellence rate ≥90%.
Its light weight with porosity as high as 90%. The product is composed of inorganic materials, does not contain harmful substances to the human body, and is safe and reliable.

- High Porosity: Like WedGel Aerogel in its solid form, WedGel Aerogel powder retains the high porosity that characterizes WedGel Aerogel materials. This porosity contributes to its excellent thermal insulation properties and low density.
- Low Density: WedGel Aerogel powder is lightweight due to its low density. This makes it an attractive material for various applications where weight reduction is desirable.
- Ultra-low thermal conductivity: WedGel Aerogel powder retains the exceptional thermal insulation properties of WedGel Aerogel. Its low thermal conductivity helps to minimize heat transfer and makes it suitable for use in thermal insulation applications.
- Versatile Applications: WedGel Aerogel powder can be used in a wide range of applications. It can be incorporated into paints, coatings, or composite materials to enhance their thermal insulation properties. It can also be used in the production of WedGel Aerogel blankets, panels, or other insulation products.
- Processability: WedGel Aerogel powder is highly processable due to its fine particle size. It can be easily mixed or dispersed into various liquid or solid matrices to create composite materials with improved insulation capabilities.

Quality	WAP20	WAP60	FSMP1000	WAPM19	AG Bead
Colour	White	White	Grey	White	White
Thermal Conductivity, W/m·K at 25°C	0.016 - 0.018	0.019	0.023	0.019	0.016 - 0.019
Specific surface area, m2/g	600 - 800	360	350 - 450	600 - 800	300 - 500
Bulk density, kg/m3	20 - 100	60	220	60	100 - 200
Particle size	15 - 50 µm	11 µm	2 - 20 µm	2 - 20 µm	1 - 6 mm
Pore Hole diameter, nm	20 - 50	30	20 - 40	20 - 40	20 - 25
Porosity, %	90 - 95	95	90 - 98	90 - 98	80
Surface properties	Hydrophobic	Hydrophobic	NA	Hydrophobic	Hydrophobic

Applications of Aerogel Powder

- Insulation coating and water based aerogel slurry.
- Polyester slice and functional polyester film.
- Insulation foam sheet filler.
- Purification adsorption function packing.
- Reduce the density of composite insulation material.
- Enhance fire resistance of various materials.
- Enhance thermal insulation performance of gypsum boards
  Insulation and hydrophobic coatings

WedGel WJ120, WJ400 | Aerogel Coating, Spray, Paint, Paste

WedGel WJ120 and WJ400 are thin layer or coating applied to a surface that incorporates WedGel Aerogel material. The WedGel coat is designed to provide specific properties, such as thermal insulation, moisture resistance, or protection, to the coated surface. WedGel Aerogel can be incorporated into paint formulations to enhance certain properties of the paint, such as thermal insulation, fire resistance, or acoustic damping. Aerogel paint is an innovative product supplied by Wedge is high performance insulation coatings for the areas where panels cannot be applied. The WJ120 Degree grade Aerogel spray is organic polymer based Silica Aerogel Coating for low temperature resistance in industrial use. WJ400 grade aerogel coating offers high insulation up to temperature 400 °C. The coating is a viscous paste which can be applicated by spraying, smearing, scraping, batching, or simply with paint brush.

Features & Benefits of Aerogel Coatings

- High Thermal Insulation: WedGel Aerogel paint incorporates WedGel Aerogel particles, which have excellent thermal insulation properties. The WedGel Aerogel particles help to reduce heat transfer through the coated surface by minimizing thermal conductivity.
- Aesthetic Appeal: In addition to its insulation properties, WedGel Aerogel paint can provide a decorative finish to surfaces. It is available in various colors and finishes, allowing for customization and aesthetic enhancement of coated areas.
- Moisture Resistance: Depending on the specific formulation, WedGel Aerogel paint can exhibit moisture resistance properties.
- Fire and flame retardant: Inorganic materials can effectively prevent the spread of fire. The combustion level is Class A.
- Safe and environmentally friendly, friendly to the ecological environment. The water-based solvent does not contain volatile harmful substances.
- Safe and environmentally friendly, eco-friendly: The material uses water as the solvent, does not contain volatile harmful compounds, the production process and the use of the process is safe and environmentally friendly non-toxic.
- Easy construction, low cost: The construction process of traditional thermal insulation material is 7~15 courses, and the construction process of aerogel material is 5 courses, and the spraying process can effectively reduce the construction difficulty, shorten the construction cycle and guarantee the construction safety.
- Sound insulation and noise reduction, long service life: The aerogel coating has good sound insulation and noise reduction function when used on the building, and the different functions of water-based heat-reflecting materials and water- based water-proof materials are synergistic with each other to form a complete heat insulation or heat insulation and water-proof function, and the service life can be as long as ten years.

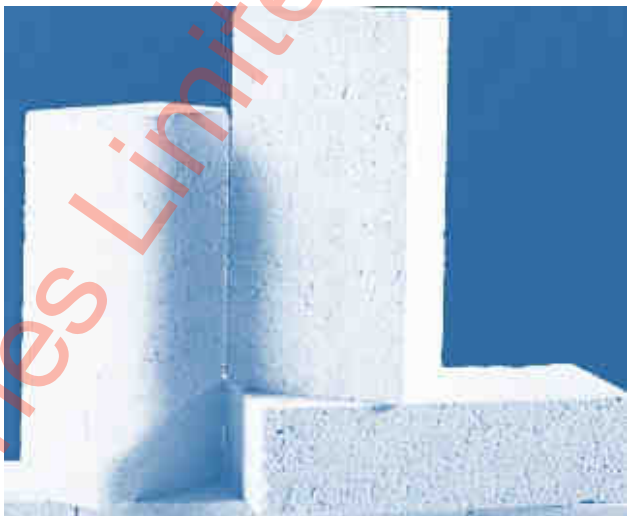
WedGel Quality	WedGel WJ120	WedGel WJ400
Colour	White	White / Grey
Thermal Conductivity, W/m·K at 25°C	0.038	0.038
Application Temperature Range, ºC	-40 to 120	-40 to 400
Solid Content, %	32 - 35	32 - 35
WFT / Coat (µm), maximum	500	500
DFT / Coat (µm), maximum	175	175
Curing, Wet at 50-85 °C	30 minute / 0.5 mm	30 minute / 0.5 mm
Curing at NTP (20~30oC)	3 hrs./.5mm WFT	3 hrs./.5mm WFT
Dry density, Kg/m3	280 - 320	380 - 450
Dry SiO2, Silica %	90 - 92	90 - 92
Application	Building Paint	Industrial Paint
Construction Temperature Range, ºC	5 - 40	5 - 50
Application usage area Kg/m2	0.7 - 1.5	8 - 10 (10mm)
Fire Performance, Reaction to fire	A2	A
Drying Time, hr	4	4 at 80 °C
Shelf Life, months	6	6

WETON | Insulation Refractory Bricks

WETON are lightweight refractory insulation bricks most suitable for high temperature insulation up to 1600 Degree C. These bricks are produced from high purity raw materials to achieve lowest possible thermal conductivity without compromising on mechanical strength.

Feature & Advantages

- Low thermal conductivity at high temperatures
- Low bulk density, thus low heat storage
- Good high temperature resistance
- Reduced thermal shrinkage
- High thermal shock resistance
- High mechanical resistance



Applications

- Insulating layer in torpedo ladles
- Ceramic industry plants like chamber,
- Bogie hearth and tunnel kilns
- Anode baking furnaces
- Cracker and process plants
- Combustion chamber lining
- Insulation in reheating furnaces
- Walking beam furnaces
- Rapid roller kilns for cement
- Glass furnaces & Tunnel furnaces

Technical Properties

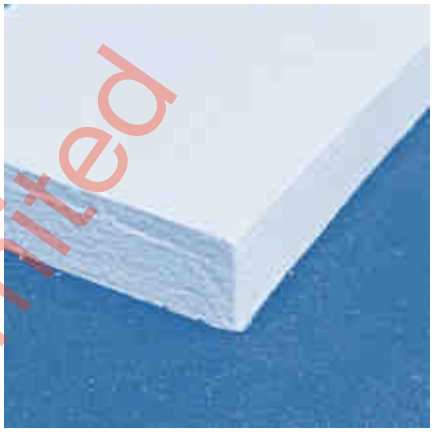
Qualities	WETON 23	WETON 26	WETON 28	WETON 30	WETON 32
Type	Soft	Hard	Hard	Hard	Hard
Colour	White	White	White	White	White
Classification Temperature; °C	1260	1430	1540	1650	1760
Bulk Density; Kg / CM3	600	800	890	1030	1250
Flexural Strength; Mpa	0.9	1.5	1.6	1.7	2
Cold Crushing Strength; MPa	1.2	2.4	2.6	2.8	3.4
Thermal Conductivity; W/m.k					
400	0.17	0.24	0.3	0.4	0.49
600	0.18	0.27	0.32	0.42	0.5
800	0.21	0.29	0.35	0.44	0.51
1000	0.24	0.32	0.38	0.45	0.53
1200		0.35	0.39	0.47	0.55
Al2O3; %	45	55	65	72	76
Fe2O3; %	0.7	0.6	0.3	0.3	0.3
SiO2; %	50	43	33	26	22
TiO2; %	1.2	1.1	0.9	0.5	0.3
CaO + MgO; %	0.7	0.3	0.2	0.3	0.2
K2O + Na2O; %	1.3	1.1	0.8	0.2	0.1

W-LD 650, 900, 1000, 1100 | Low Density Calcium Silicate Boards

Wedge lightweight low density & medium density Calcium Silicate Boards are manufactured with Filter Press & Gel Tank Technology to achieve low density, high strength, high temperature insulation, machinability. These boards and machined ready to use designs are most suitable as thermal insulation for processes in various industrial applications.

Features and Advantages

- Low thermal conductivity.
- Resistant to H2, CO, CH4, NH3, N2.
- Low density & lightweight.
- High thermal resistance.
- High mechanical strength.
- Vibration resistant.
- Resistant to moisture and chemicals.
- Low heat storage.



Applications

- High temperature insulation and heat protection.
- Steel industry: smelting, heat distortion and heat treatment plants.
- Ceramic industry: chamber and tunnel furnaces.
- Glass industry: melting furnaces and cooling channels.
- Cement industry: heat exchangers and cyclone separators.
- Chemical and petrochemical industry: thermal cracking. reactors and processing plants.

Technical Properties

Quality		W-LD 650	W-LD 900	W-LD 1000	W-LD 1100
Color		White	White	White	White
Service temperature	°C	650	900	1000	1100
Bulk density	kg/m3	220 - 240	245	255	255
Open Porosity	%	90	90	90	90
Reversible thermal expansion	m/m K		5.4x10-6	5.4x10-6	5.5x10-6
Cold compressive strength	MPa	0.75	1.5	1.6	1.6
Flexural strength	MPa	0.35	0.5	0.5	0.5
Linear shrinkage @ Service Temperature	%	1.8	0.9	1	1
Thermal conductivity					
200 °C	W/m K	0.062	0.075	0.075	0.075
400 °C	W/m K	0.095	0.105	0.105	0.105
600 °C	W/m K		0.145	0.145	0.145
800 °C	W/m K		0.175	0.175	0.185
Specific heat capacity at 400 °C	kJ/kg K		1.03	1.03	1.05
Protective gas-resistance			CO, NH3, H2, CH4, N2 atmosphere		
Standard Sizes					
Length	mm	1000 - 600	1000 - 600	1000 - 600	1000 - 600
Width	mm	600 - 300	600 - 300	600 - 300	600 - 300
Thickness	mm	25 - 100	25 - 100	25 - 100	25 - 100

HD150, 280, 850, L23, T1000 | High Density Calcium Silicate Boards

Wedge high density Calcium Silicate Boards are manufactured with Filter Press Technology to achieve very high compressive strength at high temperature, high temperature insulation, and high machinability. These boards and machined ready to use designs are most suitable as thermal insulation for hot tank support base insulation, pipe support, die-casting, heat shield to concrete.

Features and Advantages

- Low thermal conductivity.
- High mechanical strength.
- Resistant to moisture and chemicals.
- Excellent machinability to close tolerances.
- Dust free surface & Asbestos free.
- High electrical strength.
- High arc resistance.

Applications

- Heat protection, Load-bearing pipe columns.
- Dryer, ventilation and air conditioning technology.
- Insulating cut sections for industrial applications.
- Special applications for the construction of fireplaces.
- Furnace construction, special parts for induction furnaces.
- Machine and apparatus construction.
- Precision parts for machine and apparatus construction.
- Thermal and electrical insulation, Arc chutes.
- Oven and drier walls/cladding, Platen press insulation, Load bearing pipe supports.
- Heat shields, Thermal breaks, Furnace bottom.
- Working lining in low energy aluminium die cast holding.

Technical Properties

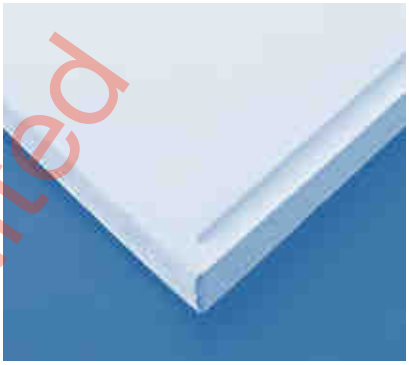
Quality		HDL23	HD150	HD280	HDT1000	HD850
Colour		White	White	White	White	White
Classification temperature	°C	350	900	1000	1000	1000
Bulk density	kg/m3	1800	750	950	1400	900
Cold compressive strength	MPa	85	15	28	55	18
Bending strength	MPa	32	7	10	16	8
Hardness	Shore D					55
Shrinkage at CT 12 hour		0.5	0.4	0.4	0.25	0.20
Thermal conductivity						
200 °C	W/(m K)	0.5	0.16	0.28	0.56	0.20
400 °C	W/(m K)		0.19	0.30	0.54	0.22
600 °C	W/(m K)		0.20	0.31	0.52	0.24
800 °C	W/(m K)		0.22	0.32	0.49	0.28
Specific heat capacity	kJ/kg K		0.96	1.03	1.05	0.92
Standard Sizes						
Length	mm			100 - 3000		
Width	mm			100 - 1500		
Thickness	mm			6 - 100		

HD 900, 1000, Z140, M1000, C45 | High Density Calcium Silicate Boards

Wedge high density Calcium Silicate Boards are manufactured with Filter Press Technology to achieve very high strength, high temperature insulation, high machinability, and non-wettability to molten metals. These boards and machined ready to use designs are most suitable as thermal insulation for processes in direct contact with molten aluminium such as transfer ladle, casting, holding, metal bath furnace in launders, spouts, floats, hot top ring headers.

Advantages

- Low thermal conductivity, Low heat capacity Molten aluminium can be transferred with minimal reduction in temperature.
- Used for the lining of the holding furnace, energy savings can be achieved.
- Excellent machinability for variety of shapes such as floats, spouts, hot top ring headers, etc.



Applications

- Molten aluminium launders.
- Molten aluminium baths for holding furnaces
- Floats, spouts, stopper pins.
- Hot top ring headers, Floats, Spouts, etc.

Technical Properties

Quality		HD900	HD1000	Z140	M-1000	C45
Colour		White	White	White	White	White
Classification temperature	ºC	1000	1000	1000	1000	1000
Bulk density	kg/m3	860	1000	840	800	1000
Cold compressive strength	MPa	19	28	1% @2.3	1% @2.7	> 30
Bending strength	MPa	7	12	8.8	9.3	> 8
Hardness	Shore D	55	68	64	64	
Shrinkage						
at 750 ºC after 12h Linear	%	0.2	0.1	@ 24hr 0.4	@ 24hr 0.4	0.1
at 750 ºC after 12h Thickness	%	0.6	0.6	@ 24hr 1.1	@ 24hr 1.1	
at 1000 ºC after 12h Linear	%	0.3	0.15	@ 24hr 0.9	@ 24hr 0.6	
at 1000 ºC after 12h Thickness	%	1.1	1.8	@ 24hr 4.6	@ 24hr 2.0	
Thermal conductivity						
200 ºC	W/(m K)	0.24	0.25	0.2	0.19	0.25
400 ºC	W/(m K)	0.25	0.26	0.2	0.2	0.26
600 ºC	W/(m K)	0.25	0.28	0.2	0.2	0.27
800 ºC	W/(m K)	0.27	0.29	0.2	0.2	0.27
Specific heat capacity	kJ/kg K	0.96	0.97			0.97
Reversible thermal expansion						
(20–750 °C)	K-1 x 10-6	7	4.5			6-7x10-6
Chemical analysis						
CaO	%	38–52	38–52			38–52
SiO2	%	45–55	45–55			45–55
Al2O3	%	1.4	1.4			1.4
Fe2O3	%	< 1.1	< 1			< 1
LOI	%	< 5	< 5			< 5
Standard Sizes						
Length	mm			100 - 3000		
Width	mm			100 - 1500		
Thickness	mm			12.7 - 101.6		

CMA, C18, CCG4, WL100 | Graphite Reinforced Calcium Silicate Boards

Wedge graphite reinforced boards and designs combines the mechanical and physical properties of graphite and calcium silicate that provides very high load carrying capacity. With these boards and designs you can achieve very low shrinkage, less oil absorption, less out gassing when in metal contact, high non-wetting with molten metal, excellent machinability due to improved toughness and strength. After contact with the aluminium metal almost zero sticking of metal to the surface of boards and design parts. This can also reduce the transport of oxides into the casted part as well as the overall consumption of metal alloy.

Features and Advantages

- Very low shrinkage.
- Less oil absorption.
- Less out gassing when in metal contact.
- High non-wetting with molten metal.
- Excellent machinability.

Applications

- Transfer & transport launders, ladles.
- Bushings, hot top rings.
- transition plates, tips, snouts, filter boxes.
- head boxes, headers, floats and spouts.

Technical Properties

Quality		W-CMA	W-C18	W-CCG4	WL-101
Classification temperature	ºC	1000	850	1000	1000
Bulk density	kg/m3	1040	816 - 818	1100 - 1150	800
Cold compressive strength	MPa	17	16	22 - 24	1% @2.7
Bending strength	MPa	9.5	8	10 - 11	9.3
Hardness	Shore D	60		65 - 70	64
Shrinkage					
at 750 ºC after 12h Linear	%	0.1	0.1	0.25 - 0.3	@ 24hr 0.4
at 750 ºC after 12h Thickness	%	0.8	0.6	0.8	@ 24hr 1.1
Thermal conductivity					
200 ºC	W/(m K)	0.2	0.2		0.19
400 ºC	W/(m K)	0.2	0.2	0.64 - 1.2	0.2
600 ºC	W/(m K)	0.21	0.21	0.52 - 0.92	0.2
800 ºC	W/(m K)	0.22	0.22	0.37 - 0.62	0.2
(20–750 °C)	K-1 x 10-6		7	6.2 - 6.7	
Chemical analysis					
Calcium Silicate	%	82-85		90 - 95	
Graphite	%			4 - 8	
Standard Sizes					
Length	mm		100 - 3000		
Width	mm		100 - 1500		
Thickness	mm		12.7 - 101.6		

Installation SOPs: A double wall of high-density Calcium silicate the third walls a low-density Calcium Silicate as backing insulation is used. One also can apply Vermiculite, microporous material or vacuum formed ceramic fibre boards. The thickness depends what wall temperature you will allow on the outside wall. Heat treatment of the high-density material will influence mostly the amount of shrinkage during the first heat treatment cycles of the furnaces. Some of our customers request shrinking of the boards, others request the lowest shrinkage possible. Then you have to use heat treated boards. Heat treatment is less importance of costs but more important to the furnace design.

HSI 1200 | High Density Wollastonite Calcium Silicate Boards

Wedge HSI 1200 are Calcium Silicate based Refractory Insulation Boards made of high quality refractory mineral fibers and calcium silicate bonded with high temperature clays. These insulation boards possess unique combination of properties for various industrial applications in furnace backup insulation, high temperature gasketing & seals, high temperature electrical insulation, etc.

Applications

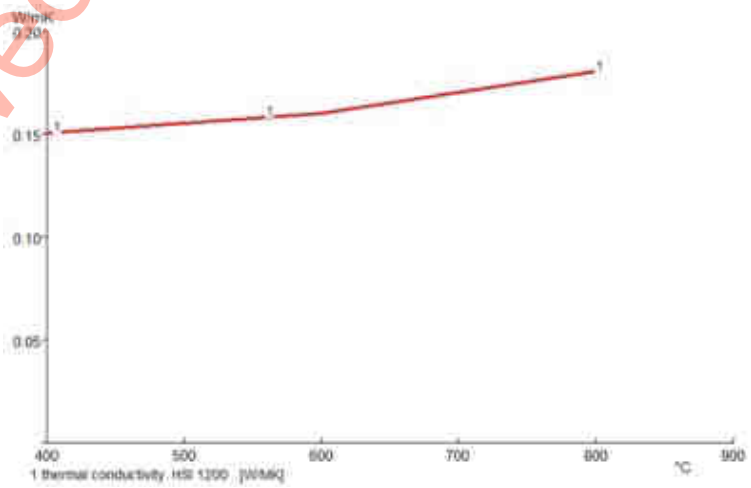
- Ladle & Tundish Insulation.
- Lime Kiln and Cement Kiln Insulation.
- High temperature gasket & sealings.
- Boiler & Furnace Insulation.
- Oil & Gas Burners Insulation.
- Furnace, Dryer, and Oven Insulation.
- Pipe & duct Insulation.
- Metal clad Gaskets fillers.
- Gaskets for centrifugal casting.
- Glass rollers as washers on mandrel.
- Stainless Steel Plant Rollers Insulation.
- Electrical & home appliances insulation gaskets.
- Fire Resistant Doors, Lifts, Safes, Cupboards.

Features & Benefits

- Very Strong Boards with high compressive strength.
- High temperature resistance up to 1200°C.
- Low Thermal Conductivity at high temperatures.
- High Electrical Resistance at high temperature.
- High fire resistance and heat shield properties.
- Easy to cut and punch.
- Available in pipe section for pipe insulation.

Technical Properties

Properties	HSI 1200
Base Materials	Calcium Silicate & Refractory Fibre
Classification Temperature, °C	1200
Density, Kg/M3	1000
Thermal conductivity, W/m.K	
400 °C	0.15
600 °C	0.17
800 °C	0.18
Tensile Strength, Mpa	5
Flexural Strength, Mpa	6
Shrinkage % @ 1000 °C	< 1
Compressive Strength, Mpa	8 - 10
Loss on Ignition %	7



HSI 1100 | High Density Wollastonite Calcium Silicate Boards

Wedge HSI 1100 are calcium silicate & wollastonite fibres based boards ideal for high temperature backup insulation, fire protection, fire doors, electrical home appliances, electrical arcs, furnace backup insulation, high temperature gasketing, duct fire protection, pipe insulation, fire & insulation seals, high temperature electrical insulation, etc.

Applications

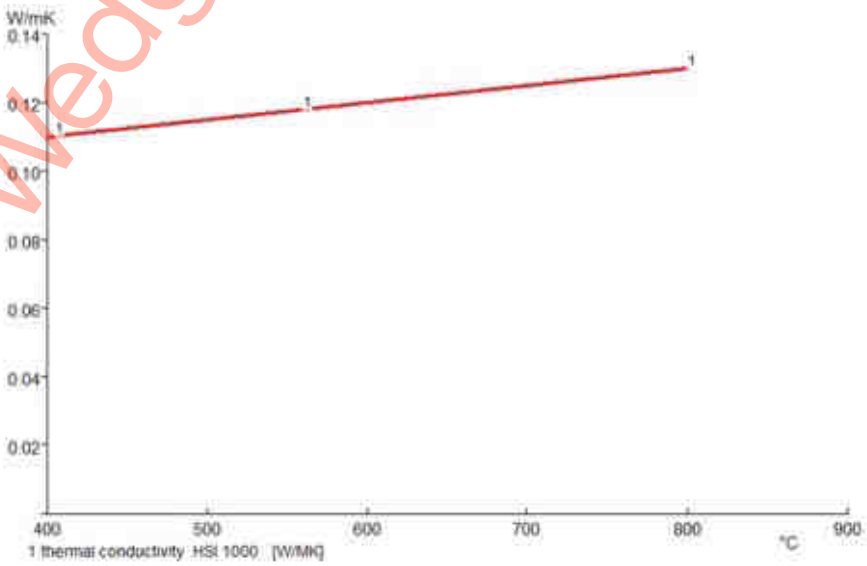
- Ladle & Tundish Insulation.
- Lime Kiln and Cement Kiln Insulation.
- High temperature gasket & sealings.
- Boiler & Furnace Insulation.
- Oil & Gas Burners Insulation.
- Furnace, Dryer, and Oven Insulation.
- Pipe & duct Insulation.
- Metal clad Gaskets fillers.
- Gaskets for centrifugal casting.
- Glass rollers as washers on mandrel.
- Stainless Steel Plant Rollers Insulation.
- Electrical & home appliances insulation gaskets.
- Fire Resistant Doors, Lifts, Safes, Cupboards.

Features & Benefits

- Very Strong Boards with high compressive strength.
- High temperature resistance upto 1100°C.
- Low Thermal Conductivity at high temperatures.
- High Electrical Resistance at high temperature.
- High fire resistance and heat shield properties.
- Easy to cut and punch.
- Available in pipe section for pipe insulation.

Technical Properties

Properties	HSI 1100
Base Materials	Wollastonite fibres & Calcium Silicate
Classification Temperature, °C	1000
Density, Kg/M3	1000
Thermal conductivity, W/m.K	
400 °C	0.11
600 °C	0.12
800 °C	0.14
Tensile Strength, Mpa	5
Flexural Strength, Mpa	6
Shrinkage % @ 1000 °C	< 1
Compressive Strength, Mpa	8 - 10
Loss on Ignition %	8



RIMB | High Temperature Millboards & Gaskets

Wedge RIMB are Refractory Grade High Temperature Resistant Insulation Millboards sheet, gaskets, and seals are made of high quality refractory mineral fibers such as wollastonite, calcium silicate, rockwool bonded with high temperature clays. These insulation boards possess unique combination of properties for various industrial applications in furnace backup insulation, high temperature gasketing & seals.

Features & Benefits

- Very Strong Boards with high compressive strength.
- High temperature resistance from 1000 to 1200°C.
- Very low Thermal Conductivity at high temperatures.
- High Electrical Resistance at high temperature.
- High fire resistance and heat shield properties.
- Easy to cut and punch.
- Adaptable by wet moulding for pipe insulation.

Applications

- Ladle & Tundish Insulation.
- Lime Kiln and Cement Kiln Insulation.
- High temperature insulation Gaskets.
- Boiler & Furnace Insulation.
- Oil & Gas Burners Insulation.
- Furnace, Dryer, and Oven Insulation.
- High temperature Pipe Insulation.
- Refractory insulation expansion joints.
- Metal clad Gaskets fillers.
- Gaskets for centrifugal casting.
- Glass rollers as washers on mandrel.
- Stainless Steel Plant Rollers Insulation.
- Electrical & home appliances insulation gaskets.
- Fire Resistant Doors, Lifts, Safes, Cupboards.

Technical Properties

Properties		RIMB 1000 A	RIMB 1100 A	RIMB 1260 A
Colour		Brown / White	Buff	White
Classification Temperature, °C		1000	1100	1260
Density, Kg/M3		1000	1000	1000
Thermal conductivity, W/m.K				
	400 °C	0.11	0.12	0.11
	600 °C	0.12	0.13	0.12
	800 °C	0.14	0.14	0.13
Electrical Resistance, ΩXx109 /cm2		7.9	4.2	2.4
Tensile Strength, MPa		5	5	5
Flexural Strength, MPa		7	6	6
Shrinkage % @ 1000 °C		2	1.8	1.6
Compression Strength, MPa		8	12	12
Loss on Ignition %		11	8	7

FP1000, SP1150 | High Density Calcium Silicate Board

FP1000 and SP1150 Insulating boards are made of high temperature resistance fireproof materials, cement, and calcium silicate based asbestos free minerals. These boards are large sized and very easy to handle and work for the production of mechanically strong, self-supporting constructions.

Features & Benefits

- Maximum short term temperature resistance up to 1200 Degree C.
- High fire resistance up to 240 Minutes with maximum 10 mm thickness.
- Continuous operating temperature resistance up to 450 Degree C.
- Longer guarantee life more than 15 Years.
- Good thermal insulation.
- High acoustic insulation.
- Unaffected by humidity.

Applications

- Structural steel protection, Self-supporting ceilings.
- Dryers & Oven Insulation.
- Industrial Furnaces, Apparatus Construction.
- Wet and Damp Rooms.
- Timber floor protection, upgrading of timber floors.
- Cladding to steel ducts, self-supporting ducts.
- M&E services enclosure, Smoke barrier, parapet/spandrel wall.
- Access panels and hatches, fire doors.
- Tunnel lining, concrete/brick floor and wall upgrading.
- Fire Door manufacturing for FD30, FD60, FD120, FD240.

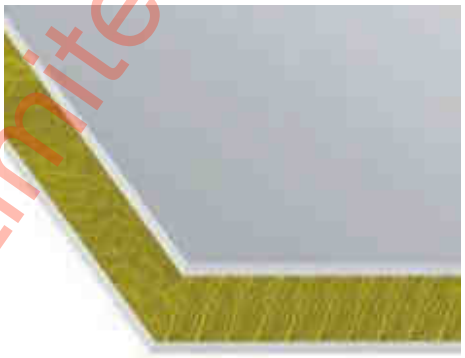
Technical Properties

Properties		FP1000	SP1150
Color		White / Grey	White / Light Brown
Short Term Service Temperature °C		1200	1000
Classification Temperature °C		400	100
Density, Kg/M3		880 – 900	1150
Thermal conductivity, W/m.K			
	20 °C	0.16	0.18
	100 °C	0.18	
	200 °C	0.20	
Tensile Strength, Mpa		5	4
Flexural Strength, Mpa		8	8
Shrinkage % @ 400 °C, 24 h		0.25	-
Compression Strength, Mpa		10	8
Fire Rating for 10 mm thick board, Minutes		240	120
Building material class		A1, Non-Combustible	A1, Non-Combustible
Sizes, mm		2500 x 1220	2500 x 1220
Thicknesses, mm		4 – 30	4 – 30
Thickness Tolerances, for < 12 mm		+/- 0.7	+/- 0.7
Water content, %		< 10	< 10
Moisture Movement		< 0.25	< 0.25

HDSP450 | Calcium Silicate Insulation Sandwich Panel

Wedge CalSil HD450 insulating boards are produced with a special cement technology, calcium silicate based and purely mineral, asbestos-free. These large-sized insulating boards are easy to work and have a favourable combination of special technical proper- ties for the production of mechanically strong, self-supporting constructions.

Their physical behaviour permits combining techniques for thermal insulating, drying technology, humidity, ventilation, fire protection, noise protection, these materials are harmless and not subject to any classification.



Feature & Advantages

- Harmless in terms of working hygiene.
- Large-sized, self-supporting.
- Good insulating effect.
- High permanent temperature resistance.
- Minimum thermal bridges.
- Corrosion and rot-resistant.
- Good chemical resistance.
- Vibration-proof.
- Secure and variable fixings and connections.
- Uncomplicated breakthroughs producible.
- Diffusion open, no condensates.
- Long service life.
- Energy-saving.
- Dimensionally stable, low thermal expansion.
- Variable surface coatings are possible.
- Cost-reducing thanks to ready-to- assemble systems and easy processing.

Application

- Industrial Dryers.
- Apparatus construction.
- Industrial furnaces.
- Hospitals for partition Insulation.
- Fire Protection Walls.
- Fire Resistant Partitions.
- Heat Shield Barriers.
- Interior wall heat Insulation.
- Acoustic Insulation. Noise Reduction.
- Heat and moisture protection in industrial plants.
- Replacement for asbestos containing boards.

Technical Properties

Product Name	HDSP450
Color	Light grey / White
Classification temperature	450°C
Shrinkage @ 400 °C – 24h full soak	0.25
Bulk density ρ	870 kg / m 3
Compressive strength	9.3 N/ mm 2
Thermal conductivity λ	0.16 W/ m K
Length mm	2440
Width mm	1220
Thickness mm	6, 8, 9, 10, 12, 15, 20, 25

ALESI Boards | Alkaline Earth Silicate Boards

Wedge AlESi Boards are alkaline earth silicate wool based boards manufactured in a wet forming process using ceramic fiber bulk and binders. To ensure good quality unique shot removing and vacuum forming process is applied. We deliver low thermal conductivity, high temperature stability, uniform density, and excellent resistance to thermal shock and chemical attack.

These boards are designed for insulation applications experiencing vibration, mechanical stress and erosive forces. alkaline earth silicate wool based boards can reduce energy costs and cycling times due to high insulating capability, as well as serving to protect refractory surfaces from thermal shock and chemical attack. Available in variety of compositions, densities, sizes and post treatments combinations.

Features & Benefits

- High thermal shock resistance
- Heat resistance, High fire resistance
- Suitable for high temperature application
- Low thermal conductivity
- Very linear shrinkage
- Very low shot content
- Excellent chemical stability
- Low heat storage
- High tensile strength

Applications

- Industrial furnace lining
- Blast Furnace Insulation
- Steel reheating furnaces
- Heat treatment furnaces & kilns
- Forging furnaces
- Heat resistant sealing gasket
- Ceramics kilns thermal insulation
- High temperature filter materials

Technical Properties

Quality		ALESI 350	ALESI 400	ALESI 1000	ALESI 1450
Classification temperature	ºC	1260	1260	1100	1450
Bulk density	kg/m3	300 - 350	400 - 450	1000	350 - 400
Cold compressive strength	MPa	3	3	10	3
Bending strength	MPa	1	1	8	1
Shrinkage after 24 h	ºC %	< 4 at 1200	< 4 at 1200	< 2 at 1000	< 4 at 1200
Thermal conductivity					
200 ºC	W/(m K)	0.10	0.10	0.10	0.14
400 ºC	W/(m K)	0.12	0.12	0.12	0.16
600 ºC	W/(m K)	0.14	0.14	0.16	0.18
800 ºC	W/(m K)	0.16	0.16	0.20	0.20
LOI	%	< 10	< 10	< 14	< 10
Chemical analysis					
CaO + MgO	%	-	-	20 - 25	-
SiO_2	%	50 - 58	50 - 58	45 - 55	52 - 56
$Al2O_3$	%	42 - 50	42 - 50	16 - 20	28 - 32
ZrO_2	%	-	-	-	14 - 18

Wedge BA 90, 95, 99, 99HP | Alumina Ceramic Insulating Board

Wedge Alumina Insulating Fire Board is a type of high-temperature, lightweight refractory brick made using insulated alumina—a form of alumina (Al_2O_3) that contains hollow, spherical bubbles. These bricks are used in extreme-temperature environments where low thermal conductivity, high purity, and excellent thermal shock resistance are essential. Here are some key features and uses of alumina bubble bricks:

Property	Description
Material Base	High-purity alumina (typically ≥99%)
Insulating Agent	Porous Alumina (hollow spheres of alumina)
Use Temperature	Up to 1800–1900°C (3270–3450°F)
Bulk Density	1200 – 1600 Kg/M^3
Thermal Conductivity	Extremely low, 0.6 – 0.9 W/m·K
Porosity	High due to the bubble structure
Resistance	Excellent to thermal shock, erosion, and chemical attack

These bricks are often used to line furnaces, kilns, and other equipment where high temperatures are encountered. The insulating properties of alumina bubble bricks help improve the overall efficiency of industrial processes by minimizing heat transfer and reducing energy consumption.

Technical Properties

Properties	Wedge BA90	Wedge BA95	Wedge BA99	Wedge BA99HP
Classification Temperature, °C	1760	1760	1800	1800
Density, kg/m³, ASTM C134	1400 - 1600	1400 - 1600	1400 - 1600	1400 - 1600
Flexural Strength, MPa, ASTM C133	6	4.5	3.5	3.5
Cold Crushing strength, Mpa, ASTM C133	18	15	10	10
Reversible Linear Thermal Expansion, max. %	1.2	1.2	1.3	1.3
Linear Shrinkage,% after 24 hours soaking, ASTM C210 (5 hrs, 1600°C)	-0.3	-0.3	-0.2	-0.2
Al_2O_3 (%)	92	97	99	99.2
SiO_2 (%)	7	2	0.3	0.2
Fe_2O_3 (%)	0.1	0.1	0.1	0.1
TiO_2 (%)	0.2	0.1	0.1	0.1
CaO (%)	0.1	0	0	0
MgO (%)	0.1	0.1	0	0
Alkali as $Na_2O + K_2O$ (%)	0.3	0.2	0.2	0.2
Thermal Conductivity, W/m·K				
at 200°C	0.68	0.68	0.69	0.69
at 400°C	0.72	0.72	0.75	0.75
at 600°C	0.8	0.8	0.8	0.8
at 800°C	0.9	0.9	0.9	0.9
at 1000°C	0.9	0.9	0.9	0.9

AlSi 1500, 1550, 1600 | High Alumina Refractory Fibre Blanket

Wedge AlSi1650 is high Alumina Refractory Fiber based Insulation Material suitable for continuous service temperature up to 1600 ºC. Due to high Alumina content it has extremely low shrinkage and provides most stable thermal and mechanical properties at high temperature. Its Polycrystalline Wool structure is based on mix of high purity mullite and corundum.

Features & Benefits

- High thermal shock resistance
- Heat resistance, High fire resistance
- Suitable for high temperature application
- Low thermal conductivity
- Very linear shrinkage
- Very low shot content
- Excellent chemical stability
- Low heat storage
- High tensile strength

Applications

- Industrial furnace lining
- Blast Furnace Insulation
- Steel reheating furnaces
- Heat treatment furnaces & kilns
- Forging furnaces
- Heat resistant sealing gasket
- Ceramics kilns thermal insulation
- High temperature filter materials

Technical Properties

Blanket Product Name	AlSi1600	AlSi1550	AlSi1500	AlSi-1650-128M
Maximum Service Temperature, °C	1600	1550	1500	1650
Density, kg/m^3	96, 128	128	128	128
Al_2O_3, %	80	45	40	74
Cr_2O_3 %		4		
ZrO_2 %			15	
$Al_2O_3 + Cr_2O_3 + SiO_2$, %	20	>99		
$Al_2O_3 + ZrO_2 + SiO_2$, %			99	
Fe_2O_3, %		<0.3	<0.3	
Mean Fiber Diameter, µm	3.3			
Thermal Shrinkage at 24 hrs, heating, %	@1500°C <0.8	@1400°C <3	@1400°C <3	
Thermal conductivity, W/mK				
400°C	0.09	0.05	0.05	0.08
500°C	0.11	0.12	0.11	0.09
800°C	0.21	0.18	0.15	0.17
1000°C	0.32	0.27	0.24	0.24
1200°C	0.41	0.32	0.38	0.33
Thickness, mm	12.5 / 25	12.5 / 25	12.5 / 25	6 / 12.5 / 25
Size, mm	620x7200	620x7200	610x3600	610x3600

AlSi 1100, 1260, 1450 | Aluminium Silicate Flexible Insulation

Wedge AlSi1260 is Aluminium Silicate Fibres insulation materials made of high temperature resistant with high R-Value and low thermal conductivity aluminium silicate bulk fibres, produced by the most modern spinning needling and thermal forming processes. These insulation materials are available in shape of mattress and semi rigid boards and are thermally efficient high temperature insulating materials that combine the advantages of both low heat storage and complete resistance to thermal shock. These Insulation materials have extremely high resistance against fire.

Features & Benefits

- High thermal shock resistance
- Heat resistance, High fire resistance
- Suitable for making Fire Doors & Fire walls
- Low thermal conductivity
- Excellent chemical stability
- Low shot content
- Low heat storage
- High tensile strength

Applications

- Industrial furnace lining
- Fire Wrap & infill materials in Fire Doors
- Fire resistant wall & partitions making
- High temperature pipes heat preserve
- Heat resistant sealing gasket
- Glass tank furnace thermal insulation
- Power boiler and nuclear heat insulation
- Ceramics kilns thermal insulation
- High temperature filter materials

Item	AlSi 1100			AlSi 1260			AlSi 1450 ASZ Blanket		
Chemical Composition（%）									
Al2O3	44			≥45			≥34		
Al2O3+SiO2	≥96			≥98			≥85		
ZrO2	-			-			≥15		
Al2O3+SiO2+ZrO2	-			-			≥99		
Fe2O3+RTiO2	1.0			≤0.5			≤0.5		
K2O+Na2O	1.0			≤0.2			≤0.2		
Density（Kg/M3）	65	100	130	100	130	160	100	130	160
Classification Temperature（℃）	1100			1260			1450		
Shot Content(%)	≤15			≤15			≤12		
Fiber Diameter（um）	3.5			3.5			3.5		
Permanent Heating Linear Change %				1100℃X24h≤-2.5			1350℃X24h≤-2.5		
Thermal Conductivity（W/m.k）									
400℃	0.100	0.090	0.095	0.124	0.114	0.101	0.138	0.122	0.118
500℃	0.122	0.119	0.123	0.145	0.135	0.120	0.179	0.153	0.145
600℃	0.155	0.152	0.158	0.202	0.191	0.175	0.220	0.184	0.172
Tensile Strength （Mpa）	0.040	0.040	0.050	0.050	0.060	0.075	0.050	0.060	0.075
Specifications（mm）	Length X Width：14400/7200/3600X1220/610;Thickness： 6 to 100 mm								
Packing	Plastic bag inside, carton box outside or with pallet or woven bags Can be customized by specific requirement.								
Quality Certificate	ISO9001-2008 ISO14001-2004								

CaSiF 800,1050, 1150, 1260 | Calcium Silicate Fiber Ceramic Blanket

Wedge CaSiF is high temperature resistant Bio Grade Fiber Blanket manufactured from a blend of calcium silicate, silica and magnesium for industrial applications to withstand temperatures of up to 1100°C. CaSi Blanket is a flexible, light weight needled blanket which is used in a wide application including refractory back linings, thermal insulation.

Features & Benefits

- High thermal shock resistance
- Heat resistance, High fire resistance
- Suitable for high temperature application
- Low thermal conductivity
- Very linear shrinkage
- Very low shot content
- Excellent chemical stability
- Low heat storage
- High tensile strength

Applications

- Industrial furnace lining
- Blast Furnace Insulation
- Steel reheating furnaces
- Heat treatment furnaces & kilns
- Forging furnaces
- Heat resistant sealing gasket
- Ceramics kilns thermal insulation
- High temperature filter materials

Technical Properties

Blanket Product Name	Wedge CaSiF800	Wedge CaSiF1050	Wedge CaSiF1150	Wedge CaSiF1260
Classification Temperature, °C	800	1050	1150	1260
Maximum Service Temperature, °C	750	1000	1100	1200
Melting Temperature, °C	1400	1400	1400	1400
Density, kg/m^3	96 - 180	96 - 180	96 - 180	96 - 180
SiO_2, %	60 - 70	65 - 72	70 - 75	72 - 80
CaO %	25 - 33	25 - 33	25 - 33	20 - 30
MgO %	4 - 7	4 - 7	4 - 7	4 - 7
Shrinkage at 1000°C 24hr %	<1.3	<1.3	<1.3	<1.3
Thermal conductivity, W/mK				
100°C	0.04	0.04	0.04	0.04
200°C	0.06	0.06	0.06	0.06
400°C	0.09	0.05	0.05	0.10
500°C	0.11	0.12	0.11	0.12
800°C	0.26	0.26	0.26	0.26
Thickness, mm	12.5 / 100	12.5 - 100	12.5 - 100	12.5 - 100
Length, mm	720 - 7400	720 - 7400	730 - 7400	730 - 7400
Width, mm	300 - 610	300 - 610	300 - 610	300 - 610

AlSi Ceramic Felt | Technical Datasheet

Wedge AlSi Felts are Ceramic Fiber Felts manufactured from high-grade ceramic fiber formed into flexible sheet. It offers high temperature resistance, very low thermal conductivity, chemical corrosion resistance and thermal shock stability. Ceramic Fiber Felt can be widely used in the applications where purity, cracking resistance and heat resistance are highly required. It provides excellent heat resistance and thermal insulation in a rather limited space.

Features & Benefits

- High thermal shock resistance
- Heat resistance
- Low thermal conductivity
- Excellent chemical stability
- Non-wetting to molten aluminium
- Low heat storage
- Easy to cut and machine

Applications

- Industrial furnace lining
- High temperature pipes heat preserve
- High temperature insulation gasket
- Ingot mould liner
- Refractory Backup Insulation
- Molten metal splash and spark protection
- Heat shield and silencer insulation
- Hot top lining
- High temperature seals materials

Description	Wedge AlSi47	Wedge AlSi52	Wedge AlZSi15
Classification Temperature（℃）	1050	1260	1430
Melting Temperature（℃）	1650	1785	2000
Al2O3 %	47	≥52	≥34
SiO2 %	≥52	≥47	≥50
ZrO2 %	-	-	≥15
Fe2O3 %	5	≤0.5	≤0.5
Na2O %		≤0.2	≤0.2
Tensile Strength（MPa）	≥0.3	≥0.3	≥0.3
Water Content（%）		≤2	
Loss of Ignition（%）		≤10	
Organic Content（%）	≤9	≤8	≤8
Density （Kg/M3）		190~250	
Product Specifications	Length X Width : 40000/30000/20000/10000X1220/610/ Thickness: 2 – 10 mm All sizes can be customized made		
Packaging	Plastic bag inside, carton box outside or with specific requirement		
Certificates	ISO9001-2008;ISO14001-2004		

AlSi Flex-P | Aluminium Silicate Flexible Paper

Wedge AlSi Flexible are high performance Alumina Silicate Fiber Paper manufactured from high alumina silica fiber formed into flexible sheet. It offers high temperature resistance, very low thermal conductivity, chemical corrosion resistance and thermal shock stability. AlSi Paper can be widely used in the applications where purity, cracking resistance and heat resistance are highly required. It provides excellent heat resistance and thermal insulation in a rather limited space.

Features & Benefits

- High thermal shock resistance, Heat resistance
- Low thermal conductivity, Excellent chemical stability
- Non-wetting to molten Aluminium
- High strength, Easy to cut and machine

Applications

- Industrial furnace lining, Combustion chamber construction
- Flue and exhaust stack liners, Fire Protection
- Furnace components, General molten metal contact
- Heat shields, High temperature gaskets and seals
- Hot tops for super alloy casting, Molten aluminum contact
- Semiconductor processing equipment
- Shapes for laboratory furnaces, ammonia reformers
- Ingot mould liner, Refractory Backup Insulation

Description	WedGel 650HP	AlSi FP1050	AlSi FP1260	AlSiZ FP1450
Classification Temperature（℃）	700	1050	1260 - 1250	1450
Colour	White	White	White	White
Al2O3 %	1 - 3	46 - 52	48 - 54	≥34
SiO2 %	98 - 99	50 - 54	50 - 55	≥50
ZrO2 %	-	-	-	≥15
$Fe_2O_3 + TiO_2$%	<0.1	0.25 - 0.5	≤0.2	≤0.5
Na2O %			≤0.2	≤0.2
Tensile Strength（MPa）	≥0.5	≥0.4	≥0.5	≥0.8
Shrinkage tested for 24 hours %	< 5 at 1050 ℃	< 5 at 1050 ℃	< 2 at 1250 ℃	< 4 at 1430 ℃
Thermal conductivity W/m.K				
at 25 ℃	0.014	0.03	0.04	0.05
at 100 ℃	0.025	0.04	0.045	0.06
at 200 ℃	0.03	0.05	0.05	0.07
at 400 ℃	0.04	0.06	0.06	0.08
at 600 ℃	0.06	0.07	0.08	0.10
at 800 ℃	0.12	0.12	0.11	0.12
at 1000 ℃	0.23	0.23	0.16	0.24
at 1200 ℃				0.39
Density （Kg/M3)	190 - 250	190 - 250	200 - 280	200 - 280
Organic Content（%）	≤9	≤9	≤8	≤8
Loss of Ignition（%）	≤12	≤12	≤10	≤10

Product Sizes	Length X Width : 40000/30000/20000/10000X1220/610/ Thickness: 1 – 10 mm All sizes can be customized made
Packaging	Plastic bag inside, carton box outside or with specific requirement
Certificates	ISO9001-2008;ISO14001-2004

AlSi HTI 1050, 1265, 1450 | Fire & Insulation Ceramic Tapes

Wedge AlSi HTI Tapes are made of hight performance ceramic felts manufactured from high strength ceramic fiber formed into flexible rolls or sheets. It offers high insulation performance, fire protection, and high temperature resistance, very low thermal conductivity, chemical corrosion resistance and thermal shock stability. Ceramic Fiber Felt can be widely used in the applications where purity, cracking resistance and heat resistance are highly required. It provides excellent heat resistance and thermal insulation in a rather limited space.

Features & Benefits

- Very high insulation & protection from heat loss.
- Excellent Fire Protection up to 240 minutes.
- High thermal shock resistance.
- Low thermal conductivity.
- Excellent chemical stability.
- Non-wetting to molten aluminium.
- Easy to cut and machine.

Applications

- Industrial furnace lining.
- Fire sealing for doors – Glass, Steel, Wooden
- High temperature pipes heat preserve.
- High temperature insulation gasket.
- Ingot mould liner protection.
- Refractory Backup Insulation.
- Molten metal splash and spark protection.
- Heat shield and silencer insulation.
- Hot top lining. High temperature seals materials.

Description	Wedge HTI1050	Wedge HTI1265	Wedge HTI1450
Classification Temperature（℃）	1050	1265	1450
Melting Temperature（℃）	1650	1785	2000
Al2O3 %	≥42	≥45	≥34
SiO2 %	≥52	≥53	≥50
ZrO2 %	-	-	≥15
Fe2O3 %	5	≤0.5	≤0.5
Na2O %		≤0.2	≤0.2
Tensile Strength（MPa）	≥0.3	≥0.3	≥0.3
Water Content（%）		≤2	
Loss of Ignition（%）		≤10	
Organic Content（%）	≤9	≤8	≤8
Density （Kg/M3）		190~250	
Product Specifications	Length: 12000 – 20000 mm | Width: 5 – 1000 mm Thickness: 2 – 50 mm All other sizes can be customized made		
Packaging	Plastic bag inside, carton box outside or with specific requirement		
Certificates	ISO9001-2008;ISO14001-2004		

HD-AlSi | High Density Alumina Silicate Ceramic Blanket

Wedge HD AlSi is high density Alumina Silicate Refractory Ceramic Fiber based Insulation Material suitable for continuous service temperature up to 1600 ºC. Due to high Alumina content it has extremely low shrinkage and provides most stable thermal and mechanical properties at high temperature. Its Chrome, Zircon, and Polycrystalline Wool structure is based on mix of high purity mullite and corundum.

Features & Benefits

- High thermal shock resistance
- Heat resistance, High fire resistance
- Suitable for high temperature application
- Low thermal conductivity
- Very linear shrinkage
- Very low shot content
- Excellent chemical stability
- Low heat storage
- High tensile strength

Applications

- Industrial furnace lining
- Blast Furnace Insulation
- Steel reheating furnaces
- Heat treatment furnaces & kilns
- Forging furnaces
- Heat resistant sealing gasket
- Ceramics kilns thermal insulation
- High temperature filter materials

Technical Properties

Blanket Product Name	HD-AlSi1600	HD-AlSi1550	HD-AlSi1450	HD-AlSi1260
Maximum Service Temperature, °C	1600	1550	1450	1260
Density, kg/m^3	96, 128	128	128	150 - 198
Al_2O_3, %	80	45	35 - 40	40 - 45
SiO_2, %			45 - 50	50 - 60
Cr_2O_3 %		4		
ZrO_2 %			15 - 17	
$Al_2O_3 + Cr_2O_3 + SiO_2$, %	20	>99		
$Al_2O_3 + ZrO_2 + SiO_2$, %			99	
Fe_2O_3, %		<0.3	<0.3	<0.5
Mean Fiber Diameter, µm	3.3			
Thermal Shrinkage at 24 hrs, heating, %	@1500°C <0.8	@1400°C <3	@1400°C <3	@1100°C <2.5
Thermal conductivity, W/mK				
400°C	0.09	0.05	0.05	0.10
500°C	0.11	0.12	0.11	0.12
800°C	0.21	0.18	0.15	0.15
1000°C	0.32	0.27	0.24	0.24
1200°C	0.41	0.32	0.38	0.35
Thickness, mm	12.5 / 25	12.5 - 100	12.5 - 100	12.5 - 100
Length, mm	720 - 7200	720 - 7200	730 - 7360	730 - 7360
Width, mm	300 - 610	300 - 610	300 - 610	300 - 610

HD AlSi Board | High Density Aluminium Silicate Board

Wedge HD AlSi Boards are Ceramic fiber boards manufactured in a wet forming process or vacuum forming using ceramic fiber bulk and binders. To ensure good quality unique shot removing and vacuum forming process is applied. We deliver low thermal conductivity, high temperature stability, uniform density, and excellent resistance to thermal shock and chemical attack.

These boards are designed for insulation applications experiencing vibration, mechanical stress and erosive forces. Ceramic fiber board can reduce energy costs and cycling times due to high insulating capability, as well as serving to protect refractory surfaces from thermal shock and chemical attack. Available in variety of compositions, densities, sizes and post treatments combinations.

Features & Benefits

- High thermal shock resistance
- Heat resistance, High fire resistance
- Suitable for high temperature application
- Low thermal conductivity
- Excellent chemical stability
- High strength

Applications

- Industrial furnace lining
- Blast Furnace Insulation
- Steel reheating furnaces
- Heat treatment furnaces & kilns
- Forging furnaces
- Heat resistant sealing gasket
- Ceramics kilns thermal insulation
- High temperature filter materials

Technical Properties

Quality		HDAlSi 900	HDAlSi 1000	HDAlSi 400	HDAlSi1450
Classification temperature	ºC	1200	1100	1260	1450
Bulk density	kg/m3	900	1000	400	350
Cold compressive strength	MPa	8	10	3	3
Bending strength	MPa	7	8	1	1
Shrinkage after 24 h	ºC %	< 2 at 850	< 2 at 1000	< 4 at 1200	< 4 at 1200
Thermal conductivity					
200 ºC	W/(m K)	0.08	0.10	0.10	0.14
400 ºC	W/(m K)	0.12	0.12	0.12	0.16
600 ºC	W/(m K)	0.14	0.16	0.14	0.18
800 ºC	W/(m K)	0.16	0.20	0.16	0.20
LOI	%	16	14	< 10	< 10
Chemical analysis					
CaO + MgO	%	2 - 4	20 - 25	-	-
SiO_2	%	55 - 60	45 - 55	50 - 58	52 - 56
$Al2O_3$	%	18 - 22	16 - 20	42 - 50	28 - 32
ZrO_2	%	-	-	-	14 - 18

Thickness	mm	2, 5, 6, 9, 10, 12
Size	mm	500 x 500, 500 x 1000, 600x1200, 1000 x 1000, 12000x1200

HDAlSiZ 130, 160, 185 | High Density Ceramic Blanket

Wedge AlSiZ are high temperature high density ceramic blanket is a type of ceramic fiber insulation used for high-temperature applications. It is commonly used in industries like metallurgy, petrochemical, and furnace insulation.

Features & Benefits

- High thermal shock resistance
- Heat tensile strength
- Low thermal conductivity
- Excellent chemical stability
- Easy to cut and machine

Applications

- Industrial furnace lining
- High temperature pipes heat preserve
- High temperature insulation gasket
- Ingot mould liner
- Refractory Backup Insulation
- Molten metal splash and spark protection
- Heat shield and silencer insulation
- Hot top lining
- High temperature seals materials

Technical Properties

Product Name & Description	HDAlSiZ 130	HDAlSiZ 160	HDAlSiZ 185
Maximum Service Temperature, °C	1430 - 1450	1430 - 1450	1430 - 1450
Density, kg/m^3	130	160	185 - 190
Al_2O_3, %	35 - 40	35 - 40	35 - 40
SiO_2, %	45 - 50	45 - 50	45 - 50
ZrO_2 %	15 - 17	15 - 17	15 - 17
Fe_2O_3, %	<0.1	<0.1	<0.1
Mean Fiber Diameter, µm	3.4	3.5	3.8
Shot Content % Max	40	40	40
Thermal Shrinkage at 24 hrs, heating, %	@1400°C <3	@1400°C <3	@1400°C <3
Thermal conductivity, W/mK			
200°C	0.06	NA	NA
400°C	0.08	0.09	0.09
500°C	0.11	0.12	0.11
800°C	0.21	0.18	0.15
1000°C	0.32	0.27	0.18
1200°C	0.41	0.32	0.36
Tensile Strength Along Direction, KPa	58	68	74
Thickness, mm	12.5 - 50	12.5 - 50	12.5 - 50
Length, mm	720 - 7600	720 - 7600	730 - 7600
Width, mm	300 - 610	300 - 610	300 - 610

AlSi-M 1260, 1350, 1430 | Aluminium Silicate Ceramic Modules

Wedge AlSi is Aluminium Silicate Fibres insulation materials made of high temperature resistant with high R-Value and low thermal conductivity aluminium silicate bulk fibres, produced by the most modern spinning needling and thermal forming processes. These insulation materials are available in shape of mattress and semi rigid boards and are thermally efficient high temperature insulating materials that combine the advantages of both low heat storage and complete resistance to thermal shock. These Insulation materials have extremely high resistance against fire.

Features & Benefits

- High thermal shock resistance
- Heat resistance, High fire resistance
- Suitable for making Fire Doors & Fire walls
- Low thermal conductivity
- Excellent chemical stability
- Low shot content
- Low heat storage
- High tensile strength

Applications

- Industrial furnace lining & kilns
- Fire Wrap & infill materials in Fire Doors
- Fire resistant wall & partitions making
- High temperature pipes heat preserve
- Heat resistant sealing gasket
- Glass tank furnace thermal insulation
- Power boiler and nuclear heat insulation
- Ceramics kilns thermal insulation
- High temperature filter materials

Technical Properties

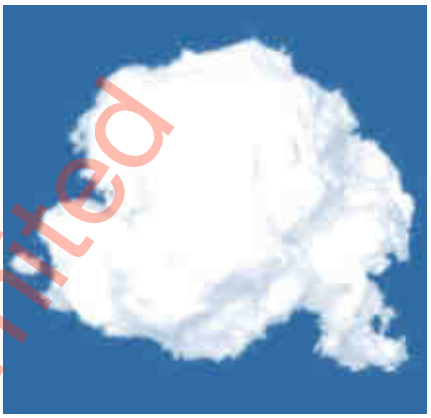
Product Name	Ceramic Fiber Module	Ceramic Fiber Module	Ceramic Fiber Module
Brand	Wedge AlSi-M1260	Wedge AlSi-M1350HP	Wedge AlSi-M1430
Classification Temperature (ºC)	1260	1350	1430
Chemical Composition (%)			
Al2O3	43	52	35
SiO2	54	47	49
ZrO2	-	-	15
Color	White	White	White
Density (kg/m³)	160-220	160-220	160-220
Permanent Linear Shrinkage (%)	1000ºC x 24h ≤2.5	1200ºC x 24h ≤3.0	1350ºC x 24h ≤3.0
Thermal Conductivity (W/m·K)			
400ºC	0.1	0.1	0.1
600ºC	0.18	0.16	0.15
800ºC	0.2	0.2	0.19
1000ºC	0.27	0.26	0.26

AlSi Ceramic Wool Bulk | Technical Datasheet

Wedge AlSi Wool are Ceramic Fiber Bulks are made of high purity high purity composite raw materials, melted in the resistance furnaces and processed by blowing or spinning technology.

Features & Benefits

- High thermal shock resistance
- Excellent thermal stability
- Low thermal conductivity
- Low heat storage
- High temperature resistance



Applications

- Raw materials for Ceramic Fiber Blanket & Boards.
- As joint filling materials in insulation installation.
- Packing expansion joints
- Fire Resistant Doors Making as filler
- Kiln car filling

Items	AlSi 96	AlSi 99	TEXTILE	CHOPPED	ASZ 15
Fiber Diameter（um）	3~5				
Shot content(Φ≥0.212mm)（%）	≤15	≤15	≤12	（Φ≥100mesh）≤10	≤12
Chopped Length mm(inch)	203(8)	203(8)	203(8)	203(8)	203(8)
Al2O3	≥44	≥45	≥45	≥45	≥34
Al2O3+SiO2	≥96	≥99	≥99	≥99	≥84
ZrO2					≥15
Fe2O3	＜0.5	＜0.5	≤0.3		≤0.3
Na2O+K2O+Fe2O3	＜0.9	＜0.9	＜0.9	＜0.9	＜0.9
Classification Temperature（℃）	1260	1260	1260	1260	1430
Melting Temperature（℃）	1425	1575	1575	1575	1750
Thermal conductivity（W/m.k）					
200℃	0.06	0.07	0.06	0.06	0.075
400℃	0.09	0.1	0.1	0.1	0.11
500℃	0.118	0.118	0.118	0.118	0.14
600℃	0.15	0.15	0.15	0.15	0.168
Packaging	Plastic bag inside, woven bag outside or with Vacuum bag				

AlSi Ceramic Fiber Textile & Braided Rope | Technical Datasheet

Wedge AlSi Textile is Ceramic Fiber Yarn made manufactured from high quality spun fiber 1260℃ , and has been mechanically twisted to give it tensile strength. The yarn is available with E-glass, stainless steel wire or high temperature alloy wire reinforced yarn from 525 Tex up to 2500 Tex in single, two or three plies of single yarn twisted together in order to form a heavier yarn or higher strength.

Ceramic Fiber Round Braided Rope

Round packing is a dense, resilient, high performance ceramic fiber material fabricated from ceramic fiber yarn braided around a core of ceramic fiber rope to form a packing in round section. It is widely used for a broad variety of high temperature gasket, packing and sealing application.

Ceramic Fiber Square Braided Rope

Square packing is dense, resilient, high performance ceramic fiber material plaited from E-glass, stainless steel wire or high temperature alloy wire inserted ceramic fiber yarn to form a packing in square section.

Ceramic Fiber Twisted Rope

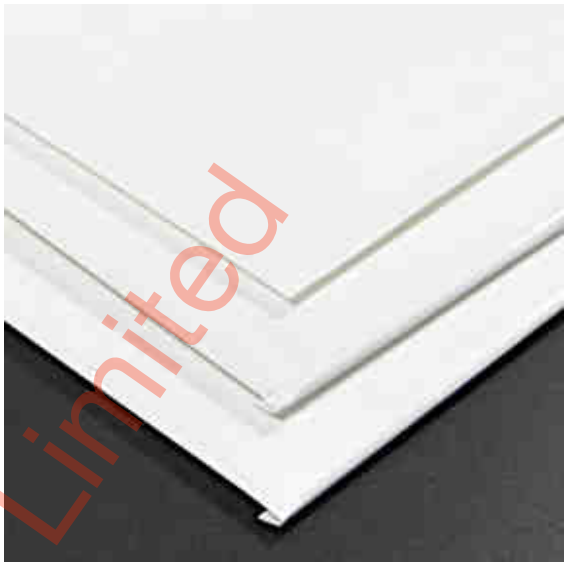
Twisted Packing fabricated from ceramic fiber yarn twisted left hand/right hand together to form a rope of specified diameters ranging from 3 mm to 50 mm, with glass filament, stainless steel wire or high temperature alloy wire inserted to provide high strength at elevated temperature.

Applications

- Wrapping insulation and refractory
- Sealing for different kinds of furnaces and doors
- High temperature gasket
- Lamp wick for burning equipment
- Replacement for Asbestos

Description	FG R-Rope	SS R-Rope	FG S-Rope	SS S-Rope	FG T-Rope	SS T-Rope
Al2O3（%）	45-46					
SiO2（%）	52-53					
Al2O3+SiO2(%)	98					
Fe2O3（%）	0.85					
Density (Kg/M3)	500-650					
Classification temperature (℃)	1260					
Maximum Service Temperature (℃)	500-600	1000	500-600	1000	500-600	1000
Water Content (%)	≤1					
Organic Content（%）	≤18					
Specifications	According to specific requirement					
Reinforced Material	Fiberglass				Stainless Steel	
FG: Fiberglass; SS: Stainless steel; R-Rope: Round Rope, S-rope: Square Rope, T-rope: Twisted Rope						

WedGel | Wedge Insulation for EV Batteries



WedGel Aerogel insulation are most suitable thermal barrier in electric vehicle (EV) batteries to improve thermal management and performance. EV batteries generate heat during operation, especially during charging and discharging cycles. Effective thermal management is crucial for maintaining battery performance, extending battery life, and ensuring safety. WedGel Aerogel insulation can contribute to enhanced thermal management, improved energy efficiency, and increased safety in EV batteries, ultimately helping to optimize battery performance and prolong battery life.

WedGel Applications in EV Battery Packs

- Cell-to-Cell Insulation: WedGel pads can be wrapped around battery cells to prevent heat transfer from one cell to another.
- Module-to-Module & Battery Pack Insulation: Larger pads can be used to insulate entire battery modules.
- Thermal Barriers: Aerogel pads serve as heat shields within the battery pack to protect sensitive components from heat.
- Gap Fillers: They can be used to fill gaps between cells or modules, enhancing overall thermal management.

Key Features of WedGel Insulation Pads

- Lowest Thermal Conductivity: WedGel pads have one of the lowest thermal conductivities among insulating materials.
- Heat Containment: Prevent heat transfer between individual battery cells and modules, reduced risk of thermal runaway.
- High Temperature Resistance: Aerogel insulation pads can withstand very high temperatures without degrading.
- Fire Resistance, Non-Flammable: Aerogels are inherently non-flammable, enhancing the safety of the battery pack.
- Lower Weight Impact: Aerogel pads are lightweight, which helps maintain the efficiency and range of electric vehicles.
- High Durability: Despite their light weight, aerogel pads are durable and can endure mechanical stresses.
- Flexibility: They are flexible enough to conform to the shapes and contours of battery cells and modules.

WedGel | Wedge Insulation for EV Batteries

Technical Properties: Battery Insulation Thermal Barriers are Lightweight, Ultrathin, thermally insulating, electrically insulating, and Flame retardant.

Quality ASTM C1728	WedGel 650EV	AlSi 250EV	FSMP 1000EV	WedGel OXF
Aerogel Fumed Silica Gel SiO2 %	≥ 90	>50	>75	≥ 90
Thickness, mm	0.24 to 10	0.8 to 10	2 to 10	0.3 to 10
Service Temperature ºC ASTM C411, 477	-50 to 700	-10 to 1300	6 to 1000	-50 to 700
Short Term Temperature °C	1400	≥ 1500	≥ 1400	1400
Density, Kg/M3	210± 42	240 to 300	260 to 320	210± 42
Flexibility	Low to Medium	High	Low	Very High
Thermal Conductivity, ASTM C177				
W/m.K at 25 °C	0.018	0.04	0.021	0.023
W/m.K at 100 °C	0.023	0.05	0.022	0.028
W/m.K at 200 °C	0.028	0.06	0.023	0.031
W/m.K at 300 °C	0.032	NA	NA	0.036
W/m.K at 400 °C	0.047	0.08	0.024	0.047
W/m.K at 600 °C	0.068	0.11	0.028	0.068
W/m.K at 800 °C	NA	0.15	0.032	NA
W/m.K at 1000 °C	NA	0.20	NA	NA
Hydrophobicity GB/T 10299-2011, %	99	NA	NA	99
Compression Strength, ASTM C165; Kpa	85 (10%)	35 (10%)	330	38 (10%)
Compression Rebound rate, 100kPa, %	≥ 90	≥ 60	NA	≥ 98
Tensile Strength, GB/T17911-2006, Mpa	≥ 1.0	1.0	≥ 1.0	≥ 1.0
Complies with ROHS regulation	Complies	NA	Complies	Complies
Size Tolerances, ASTM C1728	Pass	Pass	Pass	Pass
Reaction to fire, ISO1182, EN 13501-1	A1	A1	A1	A1
Flame spread index (ASTM E84), max FSI	≤ 25	NA	≤ 25	≤ 25
Smoke developed index ASTM E84	≤ 50	NA	NA	≤ 50
Breakdown Voltage, kV/mm	≥ 10	2 to 8	≥ 10	≥ 10
Volume Resistivity, Ω-cm	≥ 1 x 10^13	NA	NA	≥ 1 x 10^13
Material Flame Retardant UL 94 V-0	Pass	Pass	Pass	Pass
LOI, %	NA	14 to 18	NA	NA
Insulation for Stainless Steel ASTM C795	Passed	NA	NA	Passed
Self-Adhesive	The Peel strength of the adhesive is ≥ 50 N/100mm			
Material Flame retardant	Horizontal Combustion meets the HB Level & Vertical Combustion meets V0 Level			
Short term Temperature Range (5Min)	≥ 1200 °C; No melting, decomposition, or sintering of the material			

Wedge AlSi1000 | Aluminized HT Fabrics | Technical Data Sheet

Aluminized HT fabrics are made of high temperature fire-resistant yarns that are closed weave, lightweight and durable. They provide molten metal splash protection and the fabric's aluminized side reflects radiant heat. The fabric's properties change at 932°F.

Technical Properties	Standard value
Maximum short term application temperature, ℃	1000
Long term service temperature ℃	550 - 650
Width, mm	≥1000
Weight, g/m2	1120
Thickness, mm	1. 50±0.05
Warp tensile strength, (N/25mm)	≥450N
Weft tensile strength (N/25mm)	≥325
Flammability	Non-flammable

Wedge-FG11, FG16 | Cellular Foam Glass

Wedge FG11 & FG16 are foam glass insulation materials, also known as cellular glass insulation, is a type of thermal insulation material used to reduce heat transfer in buildings and industrial applications. It is composed of crushed glass mixed with a foaming agent, which is heated to create a cellular structure of tiny, sealed glass bubbles. This cellular structure gives foam glass insulation its insulating properties and makes it an excellent choice for various insulation needs.

Features & Benefits of Wedge Foam Glass Insulation:

- Thermal Insulation: Foam glass insulation has a high R-value, which measures its thermal resistance. It is effective at reducing heat transfer, making it suitable for both hot and cold applications. It helps maintain a consistent temperature inside a building and reduces energy consumption for heating or cooling.
- Fire Resistance: Foam glass insulation is non-combustible and can withstand high temperatures without releasing toxic fumes or contributing to the spread of fire. This makes it a safe choice for fire-prone areas and industrial settings.
- Moisture Resistance: Foam glass insulation is inherently resistant to moisture and does not absorb water. It retains its insulating properties even in damp conditions, which helps prevent mold and mildew growth.
- Chemical Resistance: It is resistant to most chemicals and does not corrode or degrade when exposed to corrosive substances. This makes it suitable for industrial applications where exposure to chemicals is a concern.
- Durability: Foam glass insulation is a durable material that can last for decades without significant degradation, ensuring long-term insulation performance.
- Pest Resistance: Foam glass insulation is not attractive to pests like rodents or insects, which can be a concern with other insulation materials.
- Low Maintenance: Once installed, foam glass insulation requires minimal maintenance, making it a cost-effective choice over time.

Technical Data Sheet:

Technical Properties	Wedge-FG16	Wedge-FG11	Test Standard
Service Temperature, ºC	-268 to 480	-268 to 480	ASTM E228
Density, kg/m³	160	115	ASTM C303
Thermal Conductivity, W/(m·K)	0.05	0.04	ASTM C518
Compressive Strength, Mpa	0.7	0.62	
Flexural Strength, Mpa	≥0.5	≥0.28	
Water Vapor Permeability, ng/(pa.ms)	≤0.05	≤0.07	
Water Absorption by Vol %	≤0.5	≤0.5	
Combustibility	Class A	Class A	

Wedge HTAL1600 | High Temperature Ceramic Glue

HTAL is high alumina air setting refractory *cement* which is used for laying bricks with thin joints, air and gas joints and strong joints. The Ceramic fibre product HTAL can be shaped or molded in any shape of refractory brick and of any density as per requirements. Thermotex is useful for quick repair and monolithic lining. Our range of HTAL and ceramic products consist of bulk fiber boards, ropes and papers that are in much use in furnaces, reactors, kilns, investment casting moulds and insulation of gas and steam turbines.

Technical Specifications

Item	Value
Service Temperature ^{o}C	1600 - 1700
Density, Kg/M3	1800
Shrinkage %	< 3
SiO_2 %	52
Al_2O_3 %	32
Fe_2O_3 %	0.8
Initial Setting, hrs	1 - 2
Final Setting, hrs	4 - 6

Wedge HTAL1000 | High Temperature Glue & Adhesives

Wedge high temperature glues have been developed for economical processing of various types of insulating materials and lightweight construction systems. They are inorganic, asbestos-free and can be used for high temperatures. Structure, consistency and processing methods have been developed to suit special insulating material groups. The glue consists of a mixture of various inorganic substances. The glue is incombustible and does not create smoke if the temperature exceeds the permitted maximum. In that case, it will melt. It is very suitable for applying thermal insulation materials because the glue can withstand temperatures of about 1000ºC. Wedge HT Glue adheres well to almost all foundations and can be used to glue insulation materials to steel and/or other foundations or to glue insulation materials together. The product has a high pH value, so it does not damage steel. In damp conditions, aluminium may be slightly damaged. Wedge HT Glue is imperishable, sterile, not subject to decay, odourless and is not damaged by vermin, mould or fungi.

Advantages

- Ready-to-use
- High permanent temperature resistance up to 1000°C
- Quick bonding
- High adhesion strength

Applications

- Low Density Calcium Silicate Boards
- High Density Calcium Silicate Boards
- Microporous insulation
- Insulation on steel
- Fireproof stones
- Ceramic fibre
- Perlite Boards

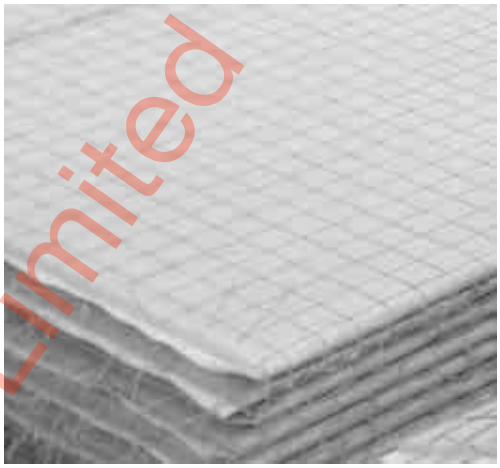
Technical Properties		
	HTAL1000 WK 84	HTAL1000 WK 84/16
Product Name	High temperature Glue	High temperature Glue
Classification temperature	1000°C	1000°C
Color	grey	grey
Consistency	pasty	fluid
Processing temperature	5 - 40°C	5 - 40°C
Setting after application	8 h.	1 h.
Hardening	24 h.	8 h.
Full hardening	1 week	1 week
Substrate	dry, dust-free, grease-free	dry, dust-free, grease-free
Storage	frost-free, 6 months	frost-free, 6 months
Packaging unit	7.5 and 15 kg bucket	15 - 20 kg bucket

FSMP Overstitched | Microporous Flexible Insulation Blanket

FSMP Overstitched are low density high performance microporous blankets for pipe insulation purpose. These blankets are manufactured by mixing high quality agglomerates of high quality fumed silica, opacified blend of pyrogenic silica with a filament reinforcement, it is available in a 1000 grade and is enhanced in a variety of coverings, such as glass fibre, glass fibre cloth or aluminium encapsulation.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.
- Reduce energy cost and increase productivity.
- Non combustible A1 classification.



Applications

- Petrochemical Pipe Insulation
- Concentrated Solar Thermal Power
- General Pipe Insulation
- Glass, cement, and ceramics industry
- Refineries, Oil&Gas Industry
- Fuel cells & Thermal Batteries insulation

Technical Properties

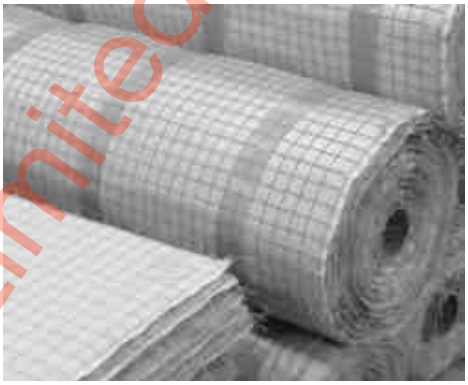
Quality		FSMP-OS 1200	FSMP-OS 1000S	FSMP-OS 1000T	FSMP-OS 900	FSMP-OS 1200HD
Strength		High	Medium	High	Low	Very High
Make		Wedge	Wedge	Wedge	Wedge	Wedge
Colour		Grey	Grey	Brown	Grey	Grey
Density	kg/m3	280 - 320	300 - 320	320	240 - 280	360 - 480
Classification Temperature	ºC	1200	1000	1000	900	1200
Non combustibility test Classification		A1	A1	A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.33	0.32	0.34	0.32	0.55
Thermal conductivity (ISO 8302, ASTM C177)						
200°C	W/m.K	0.023	0.022	0.021	0.022	0.032
400°C	W/m.K	0.024	0.024	0.022	0.025	0.038
600°C	W/m.K	0.026	0.028	0.028	0.032	0.045
800°C	W/m.K	0.029	0.033	0.031	0.038	0.062
Specific Heat Capacity						
200°C	kJ/kg.K	0.89	0.86	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.92	1.01	1.01	0.98
600°C	kJ/kg.K	1.04	0.96	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	1.01	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5
Coverings		Aluminium Foil, E-Glass Cloth, Ceramic Paper, Mica, Millboard, Steel				
Lengths	mm	1000				
Width	mm	500				
Thickness	mm	3, 5, ,6, 7, 8, 10, 12, 15, 20, 25				

FSMP Quilted | Microporous Flexible Insulation Blanket

FSMP Quilted are low density high performance microporous blankets for pipe insulation purpose stitched with 25x25 mm small blocks to provide enough flexibility for smaller diameter pipes. These blankets are manufactured by mixing high quality agglomerates of high quality fumed silica, opacified blend of pyrogenic silica with a filament reinforcement, it is available in a 1000 grade and is enhanced in a variety of coverings, such as glass fibre, glass fibre cloth or aluminium encapsulation.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.



Applications

- Petrochemical Pipe Insulation
- Concentrated Solar Thermal Power
- General Pipe Insulation
- Glass, cement, and ceramics industry
- Refineries, Oil&Gas Industry
- Fuel cells & Thermal Batteries insulation

Technical Properties

Quality		FSMP-QF 1200	FSMP-QF 1000S	FSMP-QF 1000T	FSMP-QF 900	FSMP-QF 1200HD
Strength		High	Medium	High	Low	Very High
Make		Wedge	Wedge	Wedge	Wedge	Wedge
Colour		Grey	Grey	Brown	Grey	Grey
Density	kg/m3	280 - 320	300 - 320	320	240 - 280	360 - 480
Classification Temperature	ºC	1200	1000	1000	900	1200
Non combustibility test Classification		A1	A1	A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.33	0.32	0.34	0.32	0.55
Thermal conductivity (ISO 8302, ASTM C177)						
200°C	W/m.K	0.028	0.024	0.021	0.022	0.032
400°C	W/m.K	0.032	0.026	0.022	0.025	0.038
600°C	W/m.K	0.036	0.030	0.028	0.032	0.045
800°C	W/m.K	0.039	0.036	0.031	0.038	0.062
Specific Heat Capacity						
200°C	kJ/kg.K	0.92	0.92	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.96	1.01	1.01	0.98
600°C	kJ/kg.K	1.04	0.98	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	1.01	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5
Coverings		Aluminium Foil, E-Glass Cloth, Ceramic Paper, Mica, Millboard, Steel				
Lengths	mm	1000				
Width	mm	500				
Thickness	mm	3, 5, ,6, 7, 8, 10, 12, 15, 20, 25				

Wedge

FSMP Slated | Microporous Flexible Insulation Blanket

FSMP Slated are low density high performance microporous slated panels for pipe insulation purpose stitched with high temperature resistant ceramic cloths covered fumed silica microporous blocks to provide enough flexibility for one dimensional pipe insulation. These blankets are manufactured by mixing high quality agglomerates of high quality fumed silica, opacified blend of pyrogenic silica with a filament reinforcement, it is available in a 1000 grade and is enhanced in a variety of coverings, such as glass fibre, glass fibre cloth or aluminium encapsulation.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.
- Reduce energy cost and increase productivity.
- Non combustible A1 classification.

Applications

- Petrochemical Pipe Insulation
- Concentrated Solar Thermal Power
- General Pipe Insulation
- Glass, cement, and ceramics industry
- Refineries, Oil&Gas Industry
- Fuel cells & Thermal Batteries insulation

Technical Properties

Quality		FSMP-SF 1200	FSMP-SF 1000S	FSMP-SF 1000T	FSMP-SF 900	FSMP-QF 1200HD
Strength		High	Medium	High	Low	Very High
Make		Wedge	Wedge	Wedge	Wedge	Wedge
Colour		Grey	Grey	Brown	Grey	Grey
Density	kg/m3	280 - 320	300 - 320	320	240 - 280	360 - 480
Classification Temperature	ºC	1200	1000	1000	900	1200
Non combustibility test Classification		A1	A1	A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.33	0.32	0.34	0.32	0.55
Thermal conductivity (ISO 8302, ASTM C177)						
200°C	W/m.K	0.028	0.024	0.021	0.022	0.032
400°C	W/m.K	0.032	0.026	0.022	0.025	0.038
600°C	W/m.K	0.036	0.030	0.028	0.032	0.045
800°C	W/m.K	0.039	0.036	0.031	0.038	0.062
Specific Heat Capacity						
200°C	kJ/kg.K	0.92	0.92	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.96	1.01	1.01	0.98
600°C	kJ/kg.K	1.04	0.98	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	1.01	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5
Coverings		Aluminium Foil, E-Glass Cloth, Ceramic Paper, Mica, Millboard, Steel				
Lengths	mm	1000				
Width	mm	500				
Thickness	mm	3, 5, ,6, 7, 8, 10, 12, 15, 20, 25				

Wedge FSMP 1000S HD | High Strength Microporous Board

Wedge Fumed Silica Microporous Insulation materials are manufactured by mixing high quality agglomerates of Micro Fumed Silica and Selective grade opacifiers along with filaments and pressed at a very specific pressure range. Wedge boards are most suitable to achieve a very narrow range of optimum highest possible porosity and unique range of densities to deliver a product with lowest possible heat loss through conduction, convection, radiations, and gaseous conduction. The thermal conductivity of Microporous insulation is lower than the still air at high temperatures.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.
- Reduce energy cost and increase productivity.
- Non combustible A1 classification.

Applications

- Furnace back-up insulation.
- Steel, and Aluminium industry.
- Glass, cement, and ceramics industry.
- Petrochemical industry.
- Fuel cells & Thermal Batteries insulation.

Technical Data Sheet

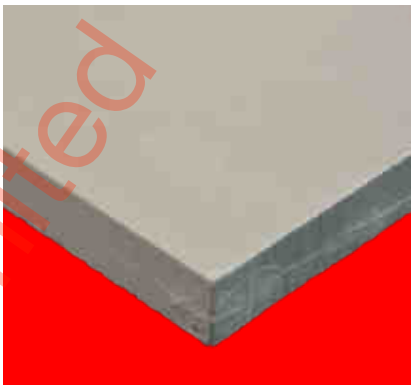
Quality		FSMP 1200 HD	FSMP 1000S HD	FSMP1260HD
Strength		High	Medium	Very High
Make		Wedge	Wedge	Wedge
Colour		Grey	Grey	Grey
Density	kg/m3	300 - 320	280 - 300	360 - 480
Classification Temperature	°C	1200	1050	1260
Non combustibility test Classification		A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.78	0.74	0.55
Thermal conductivity (ISO 8302, ASTM C177)				
200°C	W/m.K	0.023	0.022	0.032
400°C	W/m.K	0.024	0.024	0.038
600°C	W/m.K	0.030	0.028	0.045
800°C	W/m.K	0.032	0.032	0.062
Specific Heat Capacity				
200°C	kJ/kg.K	0.89	0.85	0.88
400°C	kJ/kg.K	1.01	0.94	0.98
600°C	kJ/kg.K	1.04	0.96	1.03
800°C	kJ/kg.K	1.07	0.99	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5
Chemical Properties				
SiO_2	%	60 – 70	60 – 80	50 – 70
SiC	%	18 – 20	15 – 25	12 – 20
Al_2O_3	%	5 – 10	4 – 8	12 – 15
CaO	%	0 – 2.5	0 – 2.5	0 – 2.5
Others	%	5 – 12	5 – 12	5 – 12
LOI	%	<2	<2	<2

Wedge FSMP 900, 1000S, 1100T | Standard Microporous Board

Wedge Fumed Silica Microporous Insulation materials are manufactured by mixing high quality agglomerates of Micro Fumed Silica and Selective grade opacifiers along with filaments and pressed at a very specific pressure range.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.
- Reduce energy cost and increase productivity.
- Non combustible A1 classification.



Applications

- Furnace back-up insulation.
- Steel, and Aluminium industry.
- Glass, cement, and ceramics industry.
- Petrochemical industry.
- Fuel cells & Thermal Batteries insulation.

Technical Data Sheet

Quality		FSMP 1200	FSMP 1000S	FSMP 1000T	FSMP900AL	FSMP1260HD
Make		Wedge	Wedge	Wedge	Wedge	Wedge
Strength		High	Medium	High	Low	Very High
Colour		Light Grey	Light Grey	Light Brown	Light Grey	Light Grey
Density, kg/m3	kg/m3	300 - 320	280 - 300	320	240 - 280	360 - 480
Classification Temperature	°C	1200	1050	1150	900	1260
Fire Rating Classification		A1	A1	A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.33	0.32	0.34	0.32	0.55
Thermal conductivity (ISO 8302, ASTM C177)						
200°C	W/m.K	0.023	0.022	0.021	0.022	0.032
400°C	W/m.K	0.024	0.023	0.022	0.025	0.038
600°C	W/m.K	0.030	0.028	0.028	0.032	0.045
800°C	W/m.K	0.032	0.031	0.031	0.038	0.062
Specific Heat Capacity						
200°C	kJ/kg.K	0.89	0.85	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.94	1.01	1.01	0.98
600°C	kJ/kg.K	1.04	0.96	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	0.99	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5

Coverings		Plastic, Ceramic Paper, Aluminium Foil, E-Glass Cloth, Mica, Millboard
Lengths	mm	250, 300, 500, 610, 1000, 1100, 1200
Widths	mm	250, 300, 500, 610, 750
Thickness	mm	5, 6, 10, 12, 15, 20, 25, 30, 40, 50, 75, 100

FSMP-HEC 1100 | Microporous Insulation HT Ceramic Cloth Panel

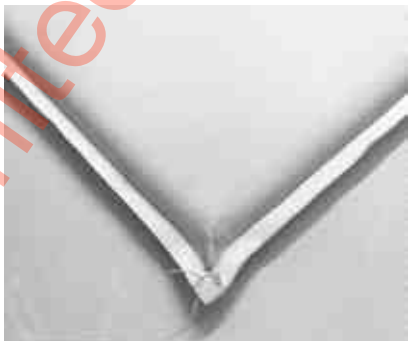
FSMP-GC is high insulation microporous panel covered with high temperature resistant glass cloth surface to provide longer life, easy handling, reduce heat losses in various types of both internal and external insulation applications. FSMP-GC is manufactured by mixing high quality agglomerates of high quality fumed silica, opacified blend of pyrogenic silica with a filament reinforcement, it is available in a 1000 grade and is enhanced in a variety of coverings, such as glass fibre, glass fibre cloth or aluminium encapsulation.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.

Applications

- Furnace, Turbine, Pipe Insulation
- Tunnel Duct Insulation, roof, wall, door insulation
- Cable protection heat shield
- Concentrated Solar Thermal Power
- Glass, cement, and ceramics industry
-



Technical Data Sheet

Quality		FSMP HEC1260	FSMP HEC1100S	FSMP HEC1100T	FSMP HEC800	FSMP HEC1200HD
Strength		High	Medium	High	Low	Very High
Make		Wedge	Wedge	Wedge	Wedge	Wedge
Colour		Grey	Grey	Brown	Grey	Grey
Density	kg/m3	280 - 320	240 - 260	320	220 - 260	360 - 480
Classification Temperature	ºC	1200	1050	1100	800	1200
Non combustibility test Classification		A1	A1	A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.33	0.32	0.34	0.32	0.55
Thermal conductivity (ISO 8302, ASTM C177)						
200°C	W/m.K	0.023	0.022	0.021	0.022	0.032
400°C	W/m.K	0.024	0.024	0.022	0.025	0.038
600°C	W/m.K	0.026	0.028	0.028	0.032	0.045
800°C	W/m.K	0.029	0.033	0.031	0.038	0.062
Specific Heat Capacity						
200°C	kJ/kg.K	0.89	0.86	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.92	1.00	1.00	0.98
600°C	kJ/kg.K	1.04	0.96	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	1.01	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5
Coverings		Aluminium Foil, Glass Cloth, Ceramic Paper, Mica, Millboard, Steel				
Thickness	mm	6, 10, 15, 20, 25, 30, 40, 50, 75, 100				

FSMP-HY1100 | Hydrophopbic Microporous Insulation

Wedge water repellent microporous insulation boards are hydrophobic grade insulation panel ideal for applications where contact with liquid water or condensation is possible. These insulation panels are designed for application in back up of refractory castable or pipes where possibility of water penetration is high. These boards are manufactured by mixing high quality agglomerates of Micro Fumed Silica and Selective grade opacifiers along with filaments and pressed at a very specific pressure range.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Hydrophobic base, very high water repellency
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.
- Reduce energy cost and increase productivity.
- Non combustible A1 classification.
- Environmentally friendly, free of organic binders

Applications

- Furnace back-up insulation.
- Steel, and Aluminium industry.
- Glass, cement, and ceramics industry.
- Petrochemical industry.
- Fuel cells & Thermal Batteries insulation.

Quality		FSMP-HY 1200	FSMP-HY 1000S	FSMP-HY 1100T	FSMP-HY 900	FSMP-HY 1200HD
Strength		High	Medium	High	Low	Very High
Make		Wedge	Wedge	Wedge	Wedge	Wedge
Colour		White	White	White	White	White
Density	kg/m3	280 - 320	260 - 300	320	235 - 265	360 - 480
Classification Temperature	ºC	1200	1050	1100	900	1200
Non combustibility test Classification		A1	A1	A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.33	0.32	0.34	0.32	0.55
Thermal conductivity (ISO 8302, ASTM C177)						
200°C	W/m.K	0.023	0.022	0.021	0.022	0.032
400°C	W/m.K	0.024	0.024	0.022	0.025	0.038
600°C	W/m.K	0.026	0.027	0.028	0.032	0.045
800°C	W/m.K	0.029	0.034	0.031	0.038	0.062
Specific Heat Capacity						
200°C	kJ/kg.K	0.89	0.85	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.94	1.01	1.01	0.98
600°C	kJ/kg.K	1.04	0.96	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	0.99	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5
Surface Finish Coverings		E-Glass Cloth, Aluminium Foil, Ceramic				
Lengths	mm	250, 300, 500, 610, 1000, 1100, 1200				
Widths	mm	250, 300, 500, 610, 750				
Thickness	mm	5, 6, 10, 12, 15, 20, 25, 30, 40, 50, 75, 100				

Slim MicroSilica Insulation Boards

MicroSilica is high density microporous insulation board manufactured by mixing high quality agglomerates of Micro Fumed Silica and Selective grade opacifiers along with filaments and pressed at a very specific pressure range. These boards are most suitable to achieve a very narrow range of optimum highest possible porosity and unique range of densities to deliver a product with lowest possible heat loss through conduction, convection, radiations, and gaseous conduction. The thermal conductivity of Microporous insulation is lower than the still air at high temperatures.

Advantages

- Very high insulation, extremely low thermal conductivity.
- Very thin insulation to save space.
- Reduce insulation thickness by 4 times.
- Reduce heat loss and shell temperatures.
- Reduce energy cost and increase productivity.

Applications

- Furnace back-up insulation.
- Steel, and Aluminium industry.
- Glass, cement, and ceramics industry.
- Petrochemical industry.
- Fuel cells & Thermal Batteries insulation.

Quality		MS1200	MS1000S	MS1000T	MS900	MS1200HD
Strength		High	Medium	High	Low	Very High
Colour		Grey	Grey	Brown	Grey	Grey
Density	kg/m3	280 - 320	280 - 300	320	240 - 280	360 - 480
Classification Temperature	ºC	1200	1000	1000	900	1200
Non combustibility test Classification		A1	A1	A1	A1	A1
Compressive strength at 10% (ASTM C 165)	MPa	0.33	0.32	0.34	0.32	0.55
Thermal conductivity (ISO 8302, ASTM C177)						
200°C	W/m.K	0.023	0.022	0.021	0.022	0.032
400°C	W/m.K	0.024	0.023	0.022	0.025	0.038
600°C	W/m.K	0.026	0.027	0.028	0.032	0.045
800°C	W/m.K	0.029	0.034	0.031	0.038	0.062
Specific Heat Capacity						
200°C	kJ/kg.K	0.89	0.85	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.94	1.01	1.01	0.98
600°C	kJ/kg.K	1.04	0.96	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	0.99	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5
Coverings		Plastic, Ceramic Paper, Aluminium Foil, E-Glass Cloth, Mica, Millboard				
Lengths	mm	250, 300, 500, 610, 1000, 1100, 1200				
Widths	mm	250, 300, 500, 610, 750				
Thickness	mm	5, 6, 10, 12, 15, 20, 25, 30				

Wedge Pearl 220, 250, 350 | Perlite Insulation Boards & Pipe Sections

Wedge Perlite insulation board, also known as waterproof perlite insulation board, is made of expanded perlite bulk material as aggregate, adding waterproofing agent and binder for preparation, screening, pressure forming, drying processes. Expanded perlite is a white, ultra-lightweight aggregate ranging from a very fine powder to an aggregate with a particle size up to 6mm in size. It is inorganic, inert, neutral in pH, biologically stable and has no asbestos content. It has excellent thermal insulation properties over an extremely wide temperature range from cryogenics at minus 273°C (absolute zero) up to refractory applications at over 1000°C.

Advantages

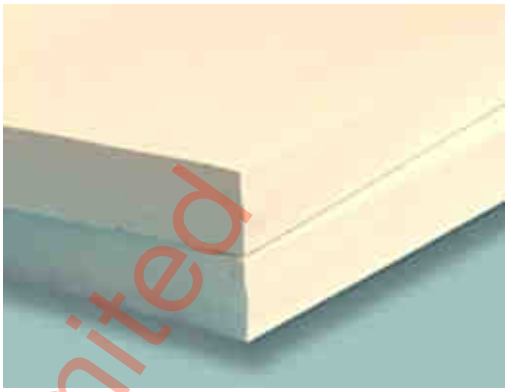
- Light weight with very low bulk density.
- Waterproof with extremely high hydrophobicity.
- Low thermal conductivity.
- Most suitable for cryogenic applications -190°C.
- High temperature insulation up to 650 °C.
- Fireproof, rot proof, damp proof, sound proof.
- Corrosion Under Insulation (CUI) resistant.

Applications

- High temperature insulation and heat protection
- Cryogenic application: Non-combustible ultra-lightweight mineral aggregate with excellent insulation & adsorption properties.
- Fire proofing and sound proofing.
- Swimming pools, cold storage, boilers and some insulation projects with special requirements for waterproofing.
- Perlite insulation is used in high temperature applications in the steel and foundry industries such as ladle topping, hot topping and riser.
- Expanded perlite powder and board is a hydrophobic insulating aggregate.

Quality		W-Pearl220	W-Pearl250	W-Pearl350
Colour		White	White	White
Maximum Service temperature	°C	650	650	650
Minimum Service temperature	°C	- 190	- 190	- 190
Bulk density	kg/m3	220	250	350
Water Repelency / Hydrophobicity	%	99 - 100	99 - 100	99 - 100
Cold compressive strength	MPa	0.45	0.55	0.55
Flexural strength	MPa	0.25	0.3	0.3
Linear shrinkage @ Service Temperature	%	0.5 - 1.5	0.4 - 1.2	0.4 - 1.2
Thermal conductivity				
50 °C	W/m K	0.059	0.06	0.062
100 °C	W/m K	0.062	0.065	0.067
150 °C	W/m K	0.068	0.072	0.078
200 °C	W/m K	0.078	0.081	0.084
Specific heat capacity @ 400 °C	kJ/kg K	1.03		
Chlorine Content		ASTM C795	ASTM C795	ASTM C795
Standard Sizes				
Length	mm	600, 1050, 2100		
Width	mm	300, 900, 950		
Thickness	mm	25 to 100		
Dimensional Tolerance	mm	Length: +3 to -2 | Thickness: +/-2		

WedgePIR 50, 45 | Rigid Polyisocyanurate PIR Insulation Boards



WedgePIR boards are rigid high performance insulation Polyisocyanurate Insulation Boards. Its is used for Insulation of Roof and Wall for Chilled Water Tank, Cold Storage Wall and Roof.

It is also used as Pre-insulated Duct Panel and can offers a high performance light weight and good ductwork system that requires only a few single fix and installation process. It is widely used in the ventilation systems of central air conditioning units in hospital, hotel, market, mall, airport, and so on.

We can supply in various sizes and thicknesses and coverings:

Size : 1000 x 500 mm | 1000 x 2000
Thickness : 20 to 600 mm

Technical Data

Technical Properties	Unit	PIR-45	PIR-50	Test Method
Density (at room temperature)	kg/m³	40 - 45	≥50	ASTM D1622, GB6343
Thermal Conductivity （ Ambient Temp.)	W/（m.K ）	≤0.022	≤0.022	ASTM C177, GB/T10294
Water Vapor Permeability	ng/(pa.m.s)	≤5.0	≤5.0	ASTM E96,GB/T17146
Water Absorption	%	≤1	≤1	ASTM D2842,GB/T8810
Closed Cell Content	%	＞90	＞90	ASTM D6226,GB/T10799
Compressive Strength	kpa	≥150	≥200	ASTM D1621,GB/T8813
Tensile Strength	kpa	≥320	≥320	ASTM D1623,GB/T8812
Oxygen Index		≥30	≥30	GB/T2406.2
Reaction to Fire		Class B 1	Class B1	GB 8624
Flame Spread Rate		≤25	≤25	ASTM E84
PH value		6.0～ 11.7	6.0～11.7	ASTM C871
Coefficient of Linear Thermal Expansion	1/K	≤70╳10 -6	≤70╳10-6	ASTM D696
Service Temperature	℃	-196～ 120	-196～120	

W-PUF50 | Rigid polyurethane PU Foam insulation board

Rigid Polyurethane Foam is a specialized cryogenic insulation material. It is mainly made from polyether polyols and isocyanate added with flame retardant, foaming agent and stabilizing agent, generating into closed-cell foaming body through chemical reaction after mixing and stirring. It has high closed cell content rate and low water absorption, it is applied to cryogenic thermal insulation.

Features & Advantages

- Thermosetting material with high fire-resistance.
- Low thermal conductivity, excellent cold insulation.
- Fluorine-free, environment-friendly, anti-corrosive, anti-mould.
- High mechanical strength, dimensional stability and durable Life.

Applications

It is widely used a in:
Petroleum Industry
Chemical Industry
Ethylene industries
Cold storages
Refrigeration
Commercial & Residential Buildings

PUF can be prefabricated into different shape segments in workshop, it also can be spray or foamed on site.

We can supply in various sizes and thicknesses and coverings:

Size : 1000 x 500 mm
Thickness : 10 to 100 mm

Technical Data Sheet

Technical Properties	Unit	Technical Data
Density (at room temperature)	kg/m³	≥50
Thermal Conductivity at 25℃	W/(m.K)	≤0.023
Water Absorption	%	≤5
Compressive Strength	kpa	≥200
Tensile Strength	kpa	≥200
Oxygen Index		≥30
Service Temperature	℃	-80 to100

WedgeMW | Technical Data Sheet of Wedge Mineral Wool Insulation

Mineral wool insulation possesses several technical properties that make it a popular choice for various applications in construction and other industries.

Technical Properties	Test Method	Wedge MW40	Wedge MW60	Wedge MW100	Wedge MW150	Wedge MW200
Density, kg/m3	GB/T 5480.3 / ASTM C303	45-48	60-65	96-100	150-160	180-220
Working Temperature, °C	GB/T17430 / ASTM C411	650	650	650	650	650
Max. Use Temperature, °C	GB/T17430 / ASTM C411	750	750	750	750	750
Melting point °C	ASTM E794	> 1000	> 1000	> 1000	> 1000	> 1000
Thermal conductivity, W/m•K (at 25 °C)	GB/T10294 / ASTM C518	0.036	0.036	0.036	0.036	0.036
Fibre diameter, um	GB/T5480	≤6	≤6	≤6	≤6	≤6
Shot content (Particle size >0.25mm, %	GB/T5480 / ASTM C612	≤7.0	≤7.0	≤7.0	≤7.0	≤7.0
Wet resistance factor	GB/T30801 / GB/T17794-2008	≤10	≤10	≤10	≤10	≤10
Compression Strength, kPa	EN 826 / GB/T13480	55	55	55	55	55
Tensile Strength, kPa	EN 1607	21	21	21	21	21
Fire Performance, Class	GB 8624, EN13501- 1, BS 476 Part4	A1	A1	A1	A1	A1
Moisture Absorption, % by weight	ASTM C1104	<1	<1	<1	<1	<1
Moisture resistance rate, %	GB/T10299 / ASTM E96	≥98.0	≥98.0	≥98.0	≥98.0	≥98.0
Acidity coefficient	GB/T 5480	≥1.8	≥1.8	≥1.8	≥1.8	≥1.8
Shear Strength, Kpa	GB/T32382	≥60	≥60	≥60	≥60	≥60
Noise reduction coefficient (NRC)	GB/T18696.1	≥0.45	≥0.45	≥0.45	≥0.45	≥0.45
Formaldehyde emission, mg/(kg.h)	GB/T32379	≤1.4	≤1.4	≤1.4	≤1.4	≤1.4
Point load, Kpa	GB/T30802	≥200	≥200	≥200	≥200	≥200
Fungi Resistance	ASTM C665	Does not encourage Fungi Growth				
Non-Combustibility	ASTM E84	Flame Propagation: 25; Flame Diffusivity: 50				
Corrosion Resistance	ASTM C665	No Chemical Reaction				
Corrosiveness	GB/T11835-2007	Non-corrosive				
Mold Resistance	ASTM C665	Mildew proof				

HDRW 850 | High Density Mineral Wool Boards

Wedge HDRW 850 are Refractory Insulation Boards are made of high quality refractory grade mineral fibers wool bonded with high temperature clays. These insulation boards possess unique combination of properties for various industrial applications in furnace backup insulation, fire rated doors, fire protection & heat shield, high temperature gasketing & seals.

- Strong Rigid Boards with high compressive strength.
- High temperature resistance upto 850 °C.
- Very low Thermal Conductivity at high temperatures.
- High Electrical Resistance at high temperature.
- High fire resistance and heat shield properties.
- Easy to cut, laminate, and punch.
- Adaptable by wet moulding for pipe insulation.

Applications:

- Furnace Insulation
- High Temperature Pipe Insulation
- Fire Doors Making / Lift Doors
- Heat Shield / Thermal Protection
- Fire Protection Systems
- Lime Kiln and Cement Kiln Insulation
- High temperature insulation Gaskets
- Boiler & Furnace Insulation
- Oil & Gas Burners Insulation
- Furnace, Dryer, and Oven Insulation
- Refractory insulation expansion joints
- Metal clad Gaskets fillers
- Induction Furnace Insulation
- Glass rollers as washers on mandrel
- Electrical & home appliances insulation gaskets

Technical Properties	HDRW 850
Colour	Light Brown
Classification Temperature, °C	850
Density, Kg/M3	950
Thermal conductivity, W/m.K	
400 °C	0.10
600 °C	0.11
800 °C	0.12
Fire Resistance for 10 mm thickness, minutes	120
Fire Resistance for 5 mm thickness, minutes	60
Tensile Strength, Mpa	3.5
Shrinkage % @ 1000 °C	2
Compression @ 70 Kg/cm2	15

WedgeLMW | Loose Mineral Wool

Loose mineral wool refers to mineral wool insulation that is manufactured and sold in a loose-fill form, typically consisting of fine fibers or granules. It is commonly used as an insulation material in areas where traditional batts or rolls may be difficult to install, such as attics with irregular or confined spaces, or in retrofitting existing structures.

Features and Benefits of Loose mineral wool insulation

- Installation: Loose mineral wool is installed by blowing or pouring the material into cavities or spaces using specialized equipment. It conforms to the shape of the area being insulated, providing effective coverage even in hard-to-reach areas.
- Thermal Insulation: Loose mineral wool provides excellent thermal insulation properties, helping to reduce heat transfer and improve energy efficiency in buildings. It helps to maintain comfortable indoor temperatures and can contribute to lower heating and cooling costs.
- Fire Resistance: Like other forms of mineral wool insulation, loose mineral wool is inherently non-combustible and offers fire resistance. It can help to slow the spread of flames and provide added fire protection in buildings.
- Acoustic Insulation: Loose mineral wool also offers good acoustic insulation properties, helping to reduce noise transmission between rooms and floors. It can contribute to a quieter and more comfortable indoor environment.
- Moisture Resistance: Loose mineral wool is typically hydrophobic, meaning it repels water and does not absorb moisture. This helps to prevent mold growth, rot, and degradation of the insulation over time.
- Environmentally Friendly: Loose mineral wool is made from natural minerals such as basalt or slag, making it environmentally friendly and sustainable. It is also recyclable at the end of its useful life.

Technical Data Sheet of Wedge Loose Mineral Wool Insulation

Item	Unit	Specification	Standard
Color	Off-white	Off-white	
Water content	Percent	<1.0	ASTM C726
Shot content	Shot size>0.5mm	≤1.5%	ASTM C1335
Shot size>0.25mm	≤5.0%		
Particle Size	>25mm		ASTM E2651
(12-25)mm	≥60%		
(6-12)mm			
≤6mm	<10%		
Conpinet content	Al2O3	(12-20)%	
Tfe2O3	(0-1.0)%		
CaO	(28-35)%		
MgO	(6-10)%		
SiO2	(38-42)%		
Bulk density	Kg/m3	≤200	ASTM C167
Average Fiber Diameter	Micron	(3.5±0.5)	ASTM C612
Melting point	Celsius	>750	
Bale	Kg	25±0.5Kg	

H91, L21, HD280, HDT800, HD900 | Syndanio Cement Silicate Boards

H91 has been specially developed to provide outstanding service in demanding thermal applications, where a quality, high strength, machinable engineering board is required. H91 is used in demanding heat and electrical insulation applications in induction furnaces, billet heater boxes, oven cladding, cathode support pads, furnaces and smelters. It is the industry standard for high temperature insulation boards and structural insulation boards.

Technical Data Sheet

Quality Grade	H91-WI	H91-WUK	L21	HD 280	HDT800	HD900	FP1000
Density, K/M^3	1750	1610	1730	1000	1750	860	1000
Operating Temperature, °C	385	700	250	1000	800	1000	650
Short Time Temperature, °C	850	850	350	1400	1100	1200	1250
Thermal conductivity							
W/mK at 100°C	0.5	0.5	0.5	0.18	0.37	0.22	0.18
W/mK at 150°C				0.26	0.42	0.24	0.27
W/mK at 300°C				0.28	0.47	0.26	0.38
Compressive strength, MPa	85	96	85	28	30	19	14
Flexural strength, MPa	25	30	28	10	32	7	8
Impact strength, kJ/m2		6	5				
Linear shrinkage, at 350°C, %		0.4		0.4	0.21	0.18	0.25
Water absorption		17	13				
Electric strength, KV/mm @ 90°C	1	2.1	50				
Surface Breakdown, KV/mm @ 90°C	10	15	14				

Wedge VC | Vermiculite Boards & Designs

Wedge W-VCL high temperature insulating boards are manufactured with base material exfoliated vermiculite and inorganic binders. The material is free of asbestos and organic substances. Vermiculite is an aluminium-magnesium layer silicate, which bloats to ultra-lightweight granulates through heating and is processed to boards, bricks and shaped parts through a compression mould procedure.

Advantages

- High thermal shock resistance. Can be applied in the furnace at fire side.
- Fireproof, Non-combustible A1, excellent fire protection.
- No smoke nuisance during heating-up.
- Low thermal conductivity. High electrical resistance.
- Easy handling and installation. High thermal resistance.
- Good chemical resistance to acids, alkalis and exhaust gases.

Applications

- Industrial furnace construction for thermal insulation.
- Hot face directly in the furnace and backup insulation.
- Widely used in Aluminium Melting furnace, Steel ladle, tundish, torpedo ladle, glass melting as backup insulation.
- Household appliances: Night storage heaters, Boilers, Hearths, Vessels and tanks.
- Fireplace linings, hot stove.
- Resistant to CO and CH4 atmosphere;
- Non wetted by fluid aluminium, kryolite and flouride.

Quality		WedgeVC450	WedgeVC600	WedgeVC700	WedgeVC900
Colour		Brown	Brown	Brown	White / Brown
Service temperature	°C	1100	1100	1100	1150
Bulk density	kg/m3	450 - 475	600	700 - 800	900
Porosity	%	81	76	74	57
Cold compressive strength	MPa	2.5	4.2	4.5	6.3
Thermal Shock Resistance	Cycles	>10	>10	>10	>8
Flexural strength	MPa	0.6 - 0.8	1.6	2	2.1
Linear shrinkage	%	1	1	1	1.2
Thermal conductivity at 25 °C	W/m K	0.048	0.056	0.058	0.056
Thermal conductivity at 200 °C	W/m K	0.14	0.16	0.19	0.18
Thermal conductivity at 400 °C	W/m K	0.17	0.18	0.2	0.19
Thermal conductivity at 600 °C	W/m K	0.19	0.2	0.21	0.2
Thermal conductivity at 800 °C	W/m K	0.21	0.22	0.22	0.23
Specific heat capacity @ 400 °C	kJ/kg K	0.94	0.94	0.94	1.14
Chemical Properties					
SiO2	%	43 - 46	43 - 46	43 - 46	43 - 45
MgO + CaO	%	20 - 22	20 - 23	22 - 25	24 - 28
Al2O3	%	8 - 12	8 - 12	8 - 12	10 - 12
Fe2O3	%	5.5	5.5	5.5	7.1
K2O	%	10	10	10	6.9
LOI	%	6 - 7	6 - 7	6 - 7	4 - 6
Standard Sizes					
Length	mm	For Insulation: 1000 - 1260 | For Fire Protection: 1220 - 2440			
Width	mm	330, 610, 1000, 1220			
Thickness	mm	10 - 100			

WedgeMagSil | Fire Resistant Vermiculite Boards

WedgeVC Vermiculite boards are valued for their exceptional thermal and fire-resistant properties, making them ideal for various applications. Wedge Fire-resistant vermiculite boards are specifically designed to withstand high temperatures and provide effective fire protection. These boards are made by compressing expanded vermiculite particles with a special binder that enhances their ability to resist fire and heat. Here are some key characteristics and uses of fire-resistant vermiculite boards:

- High temperature resistance Fire-resistant vermiculite boards are capable of withstanding temperatures up to 1200°C or even higher, depending on the specific formulation and manufacturing process.
- Fireproofing Fire Rating 60 minutes to 240 Minutes depending on thickness of the boards and system. These boards are used in applications where fire protection is critical, such as lining fireplaces, wood stoves, chimneys, and other high-temperature environments. They act as a barrier, preventing the spread of flames and heat to surrounding structures.
- Insulation In addition to their fire-resistant properties, vermiculite boards also provide thermal insulation, helping to retain heat and improve energy efficiency in heating appliances.
- Structural support Fire-resistant vermiculite boards can serve as a structural component in fireproofing systems, providing support and stability to the overall construction.
- Lightweight Despite their high temperature resistance, vermiculite boards remain lightweight, which facilitates handling and installation.
- Chemical stability Like other vermiculite-based materials, fire-resistant vermiculite boards are chemically stable and resistant to corrosion, ensuring long-term durability in various environments.
- Versatility Fire-resistant vermiculite boards come in various sizes and thicknesses, allowing for customization to fit different applications and construction requirements.

Fire-resistant vermiculite boards are essential components in fireproofing systems, offering reliable protection against high temperatures and helping to ensure the safety of buildings and occupants.

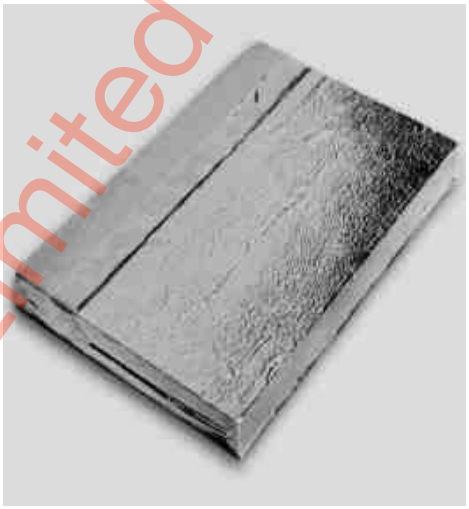
Item Details & Test Standards	WedgeMagSil
Short term Temperature Resistance °C	1400
Long term Temperature Resistance °C	800
Resistance to freezing °C	- 20
Density, kg/m3, BS EN 12467 -2012, ASTM C 1186, minimum	1050
Fire Rating, Minutes	240
Reaction to fire, Non Combustibility BS 476 Part4, EN13501-1	A1
Acoustic Sound Insulation, DB	43
Impact Shock Resistance ASTM D5328, kJ/m2	6
Compressive strength, Mpa	18
Bending strength dry, ASTM C 1185/ISO 8335, Mpa, EN12467:2012 +A1:2016	16
Bending strength wet, Mpa	13
Screw Pull out Strength, N	1480
Direct Screw Withdrawal, ASTM D1037-12, N	1000
Moisture content %	6.50 to 8.9
Frost resistance Freeze Thaw cycles, EN12467:2012+A1:2016	50
Moisture movement, ASTM C1185, EN12467:2012 +A1:2016 %	0.18
Water absorption, ASTM C1185, %	10
Water permeability after 24 hours, water gauge 5 cm	Lack of leakage
Water Vapour Permeability, EN12467:2012+A1:2016	Water vapour resistance value µm: 31
Water Impermeability, EN12467:2012+A1:2016	Passed
Dry Shrinkage, ASTM C 1186-08, maximum %	0.2
Wet expansion ASTM C 1186-08, maximum %	0.1
Thermal conductivity, ASTM C177, EN12667:2001, W/(m·K)	0.186
Thermal Resistance, EN12667:2001, (m²·K)/W	0.065
Asbestos or formaldehyde	None
Warranty, Years	50
Fire Resistant, EN ISO1182 &1176	A1
Surface burning and smoke, ASTM E 84-12	A
Free chloride content, %	None
Growth of Mold & Mildew ASTM D3273	No Growth
Fiber	5 to 6
Perlite	3 to 4
Chloride content, ASTM C 871 maximum %	0.1
Dimensional Tolerance, EN12467:2012 +A1:2016, Width	±2mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Thickness	±0.2mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Edge Straightness, %	±0.02mm
Dimensional Tolerance, EN12467:2012 +A1:2016, Squareness, mm/m	±0.08mm

WedgeVac | High Vacuum Insulation Panel

WedgeVac are very high insulation boards manufactured with high quality microporous core encapsulated and vacuum sealed in impermeable high gas barrier film under vacuum. The core material is fire resistant fire class A1 noncombustible Fumed Silica board and an opacifier to block the infrared radiation. These boards are available in ready to use sizes only.

Applications

- Vacuum Flask, Cool Devices, Refrigerators and freezers
- Temperature controlled packaging or Thermal packaging (Medicine transport boxes, etc.)
- Appliance (Water boiler, etc.)
- Automotive (train, ship, airplanes, etc.)
- Building Insulation: Facades, Walls, Floor & Roof, Doors, Windows Insulation, Cold storages, and cold rooms.

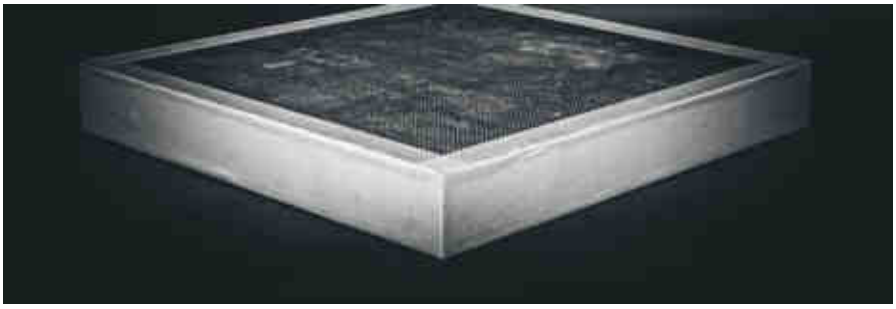


Advantage

- Highest insulation material thermal conductivity < 0.004 W/mK.
- Lowest heat loss and highest barrier to heat penetration into cold environment.
- Lowest insulation thickness achieved resulting in increasing and saving space.
- High R-value (4.8 m2K/W per 20mm)
- Lightweight & thinnest insulation available
- Environmentally safe, contains no respirable fibres
- Very high service life maximum upto 60 years.

Technical Properties

Quality	WedgeVac FSKW	WedgeVac PSV	WedgeVac STFG	WedgeVac VQFS
Application Temperature, ℃	- 100 to 60	- 50 to 80	-70 to 80	-75 to 100
Density, Kg/m3	160-260	160-260	240-300	160-230
Thermal Conductivity at 10℃, W/mK	0.0045	0.0045	0.0019	0.0035
R-Value for 25.4 mm, m2.K/W	6	6	13	7
R-Value for 1 inch, hr-ft2-°F/Btu	32	32	76	41
Compressive strength, MPa	0.19	0.15	0.20	0.12
Length, mm	100-1500	275-1100	80-1800	100-1500
Width, mm	100-1000	350-700	80-800	100-1000
Thickness, mm	5-50	5 - 30	4-40	5-50
Insulation Performance	High	High	Very High	High
Surface Colour	Silver	Silver	Silver	Silver
Service Life, Years	45	45	45	45



CCXP | Wedge Foam Board Technical Data Sheet

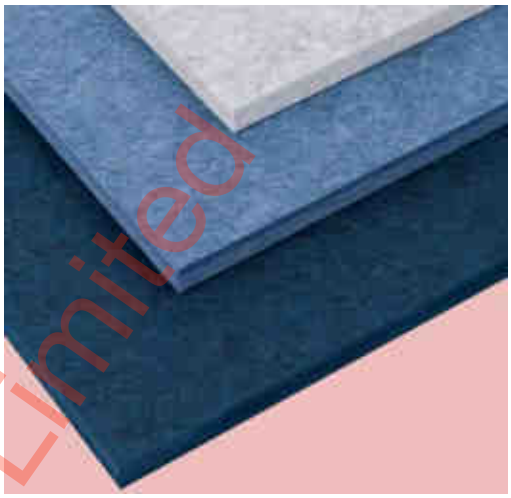
Wedge CCXP foam board is a popular building material known for its excellent insulation properties and durability. Wedge CCXP foam boards have a high R-value, which means they provide effective thermal insulation. They help maintain stable indoor temperatures by reducing heat transfer through walls, roofs, and floors. Wedge CCXP foam has a closed-cell structure, which means the individual cells are closed off from each other. This structure provides resistance to moisture penetration and makes Wedge CCXP highly waterproof and resistant to water vapor.

Wedge CCXP foam is inherently resistant to moisture and does not absorb water. This property makes it suitable for use in damp or humid environments and helps prevent mold and mildew growth. Wedge CCXP foam is a durable material that can withstand heavy loads without significant compression. It retains its insulating properties over time and does not deteriorate easily. Wedge CCXP foam is resistant to most chemicals, making it suitable for use in a variety of applications where exposure to chemicals or solvents may occur. Wedge CCXP foam has minimal thermal expansion and contraction, reducing the risk of cracks or gaps developing in the insulation over time. When using Wedge CCXP foam boards, it's crucial to follow technical guidelines, local building codes, and safety precautions to ensure effective insulation and a safe installation.

Technical Properties	Wedge CCXP 30	Wedge CCXP 35	Wedge CCXP 36	Wedge CCXP 45	Wedge CCXP 60	Wedge CCXP 70
Application Temperature °C	-30 to 80	-30 to 80	-30 to 80	-30 to 80	-30 to 80	-30 to 80
Thermal conductivity, ASTM C518						
at 10 °C, W/mK	0.028	0.028	0.028	0.028	0.028	0.028
at 25 °C, W/mK	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Bulk Density, Kg/m3, ASTM D1622	30	35	37	40	45	48
Compressive strength ASTM D1621, kPa	200	300	350	450	600	700
Compressive strength, psi	29	44	51	65	87	102
Flexural Strength, ASTM C203 kPa	345	400	410	425	525	690
Water vapour permeability at 25 mm ASTM E96, ng/Pa.s.m2	<85	<80	<80	<70	<65	<60
Water absorption by immersion, %	≤0.7	≤0.7	≤0.7	≤0.7	≤0.7	≤0.7
Limiting Oxygen Index, ASTM D 2863, %	24	24	24	24	24	24
Dimensional Stability, ASTM D2126, %	2	1.5	1.5	1	1	1
R-Value 1 Inch Thickness	R 5.1	R 5.1	R 5.1	R 5.2	R 5.2	R 5.2
R-Value 2 Inch Thickness	R 10.2	R 10.2	R 10.2	R 10.4	R 10.4	R 10.4
Thermal resistance RD, m2*K/W (ASTM C177 / C518 at Thickness mm						
10	0.29	0.29	0.29	0.29	0.29	0.29
25	0.88	0.88	0.88	0.88	0.88	0.88
50	1.47	1.47	1.47	1.47	1.47	1.47
75	2.06	2.06	2.06	2.06	2.06	2.06
80	2.35	2.35	2.35	2.35	2.35	2.35
100	2.94	2.94	2.94	2.94	2.94	2.94
125	3.82	3.82	3.82	3.82	3.82	3.82
150	4.41	4.41	4.41	4.41	4.41	4.41
180	5.29	5.29	5.29	5.29	5.29	5.29
200	5.88	5.88	5.88	5.88	5.88	5.88
Colour	White, Yellow, Blue, Pink					
Thickness, mm	6 to 100					
Length, mm	1200 to 3000					
Width, mm	600 to 1200					
Edge Type	Square Edge, Shiplap, Tough and Groove					

WedgeSPP1650 | PET Acoustic Panels

Wedge SPP1650 are high performance PET (Polyethylene Terephthalate) acoustic panels are a popular and sustainable sound-absorbing solution used in various environments to control noise and improve acoustics. Made primarily from recycled plastic bottles, PET panels are eco-friendly, lightweight, and highly effective at reducing sound reflections and echoes. Here's a comprehensive overview of PET acoustic panels:



Features of Wedge PET Acoustic Panels

Sound Absorption: PET panels are excellent at absorbing sound, especially in the mid to high-frequency range, making them ideal for reducing reverberation and noise in a room.
2. Eco-Friendly: These panels are made from up to 100% recycled PET fibers, often sourced from plastic bottles. This makes them a sustainable choice for acoustic treatment, reducing plastic waste and environmental impact.
3. Durability and Lightweight: PET panels are durable, impact-resistant, and lightweight, making them easy to handle and install. They maintain their performance and appearance over time, even in high-traffic areas.
4. Moisture and Mold Resistance: PET panels resist moisture, preventing mold and mildew growth, which adds to their longevity and suitability for various environments.
5. Aesthetic Flexibility: Available in various colours, finishes, and thicknesses, PET panels can be customized to match the design aesthetics of any space.

Technical Specifications

Size: 2440*1220
Thickness: 9 - 45 mm
Core: BS EN 717-1 EO Class 100% polyester fiber
Sound Absorption: ISO 354:2003 NRC-0.8
Thermal Conductivity: 0.036W/(m.K) Ultra-high insulation material
Thermal Resistance: 0.599(m2.K)/W

AlSi1200CT | Aluminium Silica Fiber Cloth

Wedge AlSiCT is Alumina Silica Fiber cloth most cost-effective industrial cloth manufactured from alumina silica fiber yarn, reinforced by a core of glass filament or stainless steel wire for high strength retention at elevated temperatures, ideal for most high temperature applications up to 1200°C. The AlSi1200CT cloth is durable, high-temperature fiber fabrics that are well-suited for industrial applications requiring strong, yet flexible, high-temperature resistant materials.

Features & Benefits

- High thermal shock resistance
- Heat resistance
- Low thermal conductivity
- Excellent chemical stability
- Non-wetting to molten Aluminium
- Low heat storage
- Easy to cut and machine

Applications

- Furnace Curtains
- High temperature insulation
- High temperature electronics insulation
- Combustion pipes protection, Lining cloth for welding
- Fireproof rolling curtain, Lining sleeves for industrial gas pipes, Expansion joints
- Furnace curtains (entrance, exit barriers)
- Personnel and equipment protection
- Welding blankets, Aerospace Applications (Extreme Temperature)
- Aircraft / Rocket Engine Insulation, Cryogenic Applications
- Motorsport Engine / Exhaust Insulation
- Furnace / Kiln / Boiler / Oven Lining
- Hot Glass Processing (Mark / Scratch Prevention)
- Insulation Rings / Collars / Pads for Semi Conductor Producers, Molten Metal Filtration

Description	AlSi1200CT-FG	AlSi1200CT-SS
Al2O3（%）	45-46	
SiO2（%）	52-53	
Al2O3+SiO2(%)	98	
Fe2O3（%）	0.85	
Fiber length(mm)	75	
Fiber diameter(um)	5.2	
Density (Kg/M3)	500-550	500-550
Classification temperature (℃)	1240	
Water Content (%)	≤1	
Organic Content（%）	≤18	
Thickness(mm)	1~6mm	
width(mm)	1000mm	
Reinforced Material	Fiberglass	Stainless Steel
FG: Fiberglass; SS: Stainless steel;		

WSC600 | E-Glass Cloth | Silica Cloth

Woven SC600 is pure E-Glass cloth made of high silica fabric with a 96% pure SiO2 silica fibre, a health-conscious alternative to asbestos and ceramic textiles. High Silica Fabric is widely used for applications that require high heat resistance, as well as abrasion and/or chemical resistance. It is also used for the safety of personnel and equipment, and as thermal barriers to reduce energy costs.

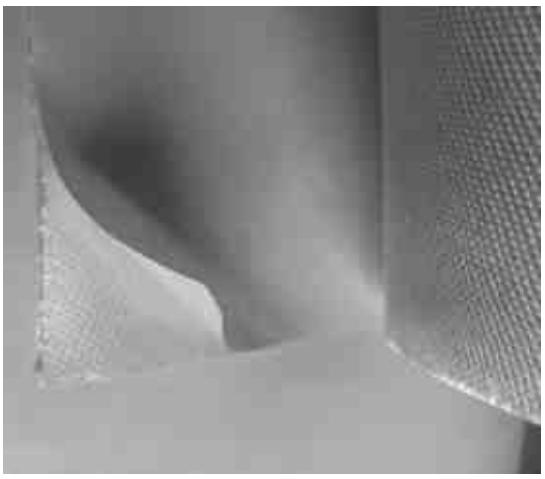
Features & Advantages

- Low thermal conductivity
- Comprised of high strength,
- High purity 96% amorphous silica fibres
- Designed to withstand continuous temperatures of 982°C
- High Dielectric Strength
- High corrosion resistance

Applications

- High temperature insulation and heat protection
- Resealing of Insulation Boards & Pads
- Ceramic industry: chamber and tunnel furnaces
- Glass industry: melting furnaces and cooling channels
- Cement industry: heat exchangers and cyclone separators
- Chemical and petrochemical industry: thermal cracking reactors and processing plants
- Welding blanket and curtains
- Furnace curtains
- Power Generation, Shipbuilding, Construction
- Welding, Metal Processing
- Thermo couple insulation wrap
- Flame resistant barriers
- Thermal barrier insulation

Available in thickness : 0.25 mm - 1.3 mm
Roll length : 10 m / 30 m / 50 m, or supplied in custom lengths
Commonly used width : 50 mm – 1200 mm
Types : With Self Adhesive and Without Self Adhesive (Self Adhesive is made of High Temperature Glue)



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