Wedge India

Fumed Silica Microporous Insulation

High Performance | Rigid Board | Thin Sheet | Flexible Blanket

Wedge Heat Insulation Solutions

Improved solutions to heat problems are constantly required in most applications and processes starting from (-) 60 °C to 1750 °C to improve operational performance and durability of equipments, reduce heat loss, save energy, save space, and protect environment.

Finding heat insulation system with highest insulation performance (lowest thermal conductivity), high mechanical strength, high service temperature, easiest application, long lasting, and lowest cost is almost impossible. However, thanks to the modern insulation technologies and latest developments in combining wide range of technical properties making it available a wide range of insulation materials & systems to achieve optimized high performance at low cost and long lasting insulation systems at extremely low maintenance cost.

Heat insulating materials usually have a total porosity of at least 45%, in practice mostly from 60 to 90%, and in extreme cases up to 99%. Besides low thermal conductivity, high porosity causes reduced mechanical strength, high gas permeability and low corrosion resistance. The thermal conductivity not only depends on the total porosity of the material, but also on the pore size and shape, the structure composition and the mineralogical composition.

Depending on temperature, the factors responsible for the flow of heat – solid state conduction, convection and radiation – vary in influence. Maximum pore diameters of < 1 mm are necessary. Micro -porous insulating materials with pores < 0.1 μm have the lowest thermal conductivity.

Wedge manufactures and offers wide range of Insulation solutions designed in-house, manufactured with high quality raw materials, and fabricated to highest precision.

Wedge Insulation systems satisfy the demand for optimum planning, thermal profiles, ready to use shapes, lower thickness, easy installation, high insulation performance, long life, and lower maintenance cost. Our insulation materials are most suitable for all types of surfaces straight and cylindrical.

Our wide range of insulation products include: Microsilica, Fumed Silica, Nano-porous, Microporous, Millboards, Magnesium Silicate, Calcium Silicate, Perlite, Vermiculite, Refractory Fibre Cement, Ceramic Fibre, Glass Wool, Slag Wool, Foam Glass, Aerogel, Vacuum Insulation.

What is Insulation?

Insulation is a property of any material that explains the resistance to transfer or transmit any form of energy it could be sound, heat, electricity, fire, cooling, vibrations. In general term Insulation is used to describe material that creates barriers for transmission of electricity, heat, moisture, shock or sound.

What is thermal or heat Insulation?

Thermal insulation of any material (organic or inorganic) is the resistance to heat transfer or transmission. To understand insulation materials we need to understand the physics of heat transfer. Heat transfer can occur through conduction (solid & gaseous), convection and radiation. Usually the overall heat transfer comes from a combined effect of all of them. The driving force in this process is the temperature difference. In furnaces and plants with low mechanical load and without corrosion stress, a design with lightweight heat insulating materials has almost completely eliminated heavy designs with dense, refractory materials.

Heat insulating materials are products for the refractory lining of thermal industrial plants with the objective of reducing heat losses. Here the low thermal conductivity and the thermal capacity of air is used. Heat insulating materials usually have a total porosity of at least 45%, in practice mostly from 60 to 90%, and in extreme cases up to 99%. Besides low thermal conductivity, high porosity causes reduced mechanical strength, high gas permeability and low corrosion resistance. The thermal conductivity not only depends on the total porosity of the material, but also on the pore size and shape, the structure composition and the mineralogical composition. Depending on temperature, the factors responsible for the flow of heat solid state conduction, convection and radiation vary in influence. Maximum pore diameters of < 1 mm are necessary.

Wedge Micro Silica Aerogel Microporous FSMP insulating materials with pores < 0.1 µm have the lowest thermal conductivity. The thermal shock resistance of lightweight construction materials has a large influence on applications. High temperature wool products usually resist severe thermal shocks. Other lightweight construction materials are sensitive to thermal shock. The term “heat insulating bricks” covers those heat insulating materials which are applied up to 1000°C and which are often mistakenly referred to as rear insulation materials. These products are manufactured on the basis of naturally occurring lightweight raw materials (kieselguhr, vermiculite, perlite). They are assigned to the group of lightweight refractory bricks which are made out of refractory raw materials.

What is Heat transfer?

The heat energy transfer rate through a body is proportional to the temperature gradient across the body and its cross sectional area. In the limit of thickness and temperature difference, the fundamental law of heat transfer is:

Q = λA x dT / dx

Q is the heat transfer (W)

A is the cross-sectional area (m2)

dT/dx is the temperature/thickness gradient (K/m)

λ is defined as the thermal conductivity value (W/m.K)

Even the very best thermal insulation will not block heat completely. Every material will transfer some heat if a temperature gradient exists across its thickness. According to the known laws of thermodynamics, heat will always fl ow from a region of high temperature to one of lower temperature. This is simple physics. The effectiveness of a material as a thermal insulator can be expressed in terms of its thermal conductivity.

Solid Conduction Heat transfer

In a solid, a liquid, or a gas, as individual molecules heat up they vibrate more and more. In solid conduction heat energy is transferred from one adjacent molecule to another by this vibration. The transfer rate is related to the material's density or mass. The higher the mass, the higher the conduction will be. It is also related to the length and cross section of the conduction path. The rate of solid conduction is directly proportional to the cross sectional area of the conduction path, and inversely proportional to the length of that conduction path.

Convection Heat transfer

Convection is heat transfer by bulk movement within a heated fluid such as a liquid or a gas. Free convection is caused by expansion of gas or fluid when heated, causing hot regions to become less dense and buoyant and to rise. Circulation occurs as the hot fluid cools and sinks down again. Free convection systems can be very large and convey massive amounts of heat, for instance in weather systems and the circulation of molten rock inside the earth. The gas or liquid particles may be energised when passing by a warmer solid mass. A classic convector heater is a perfect example (hot air rises, and as it cools down, it falls). Convection currents are avoided by the inability of the air molecules to flow inside the microporous structure. Since a microporous material consists mostly out of entrapped air (> 95%), it cannot act as an intermediary solid material to allow convection of the surrounding air.

Radiation Heat transfer

All objects absorb and emit thermal radiation. Also called infrared radiation, the heat is transferred by the emission of electromagnetic waves. No particles are involved, unlike in the processes of conduction and convection, so radiation can even work through the vacuum of space. This is why we can still feel the sun's heat, although it's 150 million km away from the earth. The hotter an object is, the more infrared radiation it emits. The radiation rate is proportional to the fourth power of temperature, resulting in rapidly increasing heat loss when temperature rises.

Gaseous Conduction Heat transfer

All materials whether solid, liquid, or a gas, have mass and a thermal conductivity and can therefore conduct heat. When gas molecules are heated, the heat energy is converted to kinetic energy and they start moving faster. Gaseous conduction occurs when adjacent gas molecules collide and transfer their kinetic energy. The mean free path of a gas molecule is the average distance it will need to travel before it collides with another molecule. The mean free path of an air molecule at STP is around 93 nm (3.66 x 10-6 inches).



High Temperature Insulation

High temperature insulation materials also known as Industrial Thermal Insulation materials market is driven by growing demand in various end-use industries, such as petrochemical, ceramic, glass, aluminum, and iron & steel. High-temperature insulation materials operate at high-temperature ranges such as 600°C - 1600°C. Petrochemical is the largest and fastest-growing end-use industry of high temperature insulation materials. High temperature insulation materials such as ceramic fibers, insulating firebricks and calcium silicate, which are used in high-pressure steam piping, flanges, boilers, dryers, furnaces and turbines. Most common high temperature insulation materials are ceramic fiber, calcium silicate, insulating firebrick, and others and Ceramic fibers are the leading segment worldwide in the High Temperature Applications.

What is Thermal conductivity λ Lambda value?

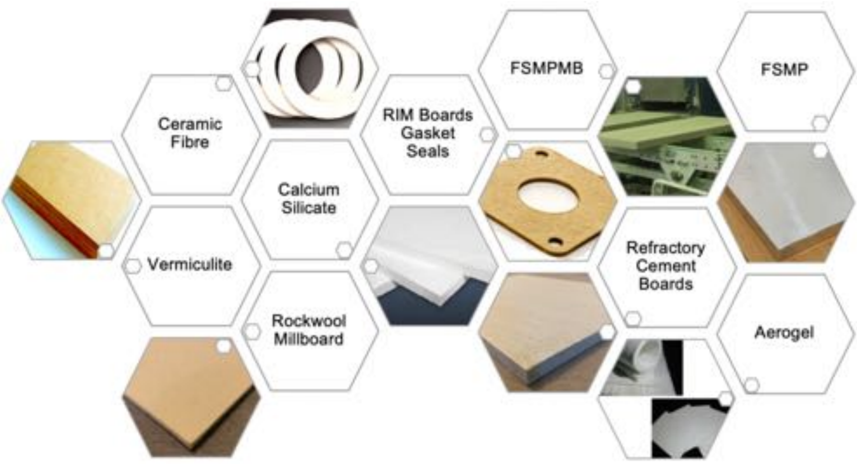
Thermal conductivity is the rate at which heat passes through a specified material, expressed as the amount of heat that flows per unit time through a unit area with a temperature gradient of one degree per unit distance. The thermal conductivity of a material is a measure of its ability to conduct heat. It is commonly denoted by k, \lambda, or \kappa. Heat transfer occurs at a lower rate in materials of low thermal conductivity than in materials of high thermal conductivity. A good high temperature insulator has a very low thermal conductivity at high temperatures. Not all materials transfer heat equally and the thermal conductivity (λ value) of a material is a physical property which describes its ability to transfer heat. The lower the thermal conductivity value, the more resistant a material is to the heat transmission. An insulator therefore has a low thermal conductivity, while a conductor has a high thermal conductivity. Examples of the thermal conductivity of some common materials or substances at ambient temperatures.

Formula to calculate Thermal Conductivity of any material.
K or λ = Qd / A (T1 - T2)
K = thermal conductivity
Q = amount of heat transferred
d = distance between the two isothermal planes
A = area of the surface
T1-T2= difference in temperature

λ value Copper = an excellent conductor 401 W/m.K
λ value Carbon steel = 54 W/m.K
λ value Glass = 1.05 W/m.K
λ value Air 0.026 = W/m.K
λ value Wedge Microporous insulation = 0.021 W/m.K
λ value Wedge HVIP (High Vaccum Insulation Boards) = < 0.0035 W/mK
λ value of Wedge Aerogel WAG650 = 0.015 W/m.K

Wedge Insulation Products

- High Performance Aerogel Insulation Boards, Panels, Blanket, Silica Gel Powder
- Calcium Silicate Board, Calcium Silicate Building Boards, Fire Resistant Calcium Silicate, High Density Calcium Silicate Boards
- Centrifugal Casting Millboards, Ceramic Millboards Discs
- Ceramic Braided Rope Textile, Ceramic Cloth & Fabric, Ceramic Fibre Blanket, Ceramic Fibre Boards, Ceramic Fibre Insulation, Ceramic Paper, Ceramic Wool Bulk Fibre
- Fire Resistant Rockwool Boards, Fire Sleeve, Glass Wool / Fibreglass, Heat Loss Calculator
- Insulation Bricks WETON, Intumescent Fire Door Seal
- MgO Boards for High Temperature Insulation, Fire Door Manufacturing, Partitions, Wall, Roof
- WEDGE RIMB Steel Plant and Aluminium Ladle insulation Boards
- High Performance Low Cost Microporous Insulation, Microporous Pipe Insulation
- Millboard, Non Asbestos Millboards Gaskets, Strips, Discs for Stainless Steel Plant Roller
- Low Density High Strength Perlite Insulation for Cryogenic and High Temperature insulation
- Rigid Foam Spray PUF / PIR Insulation for Wall, Roof,SIP, Cold Storage
- Rigid Insulation Board for Steel Plant Ladles and Tundish Insulation
- Rockwool Insulation, Rockwool Insulation Boards HD for Fire Door Insulation
- Vacuum Insulated Cold Box, Vacuum Insulation Panel Board for Cold Chain Insulation
- Vermiculite Board for Ladle Insulation, Fire Door, Steel Structure Fire Protection
- WAIFLEX Rubber Foam for AC Pipe Insulation, XPLPE Foam Insulation



Case Study | Heat Loss Reduction in Oven Furnace

How to achieve 40 °C Cold Face Skin Temperature?

Steady state heat transfer calculation plane wall - vertical

Offer/Order No.		Name	
Customer	Foodtech Ventures	Date	30.04.2022
Project	500C Oven Insulation	Revis.Name	
Location		Revis.Date	

Calculation

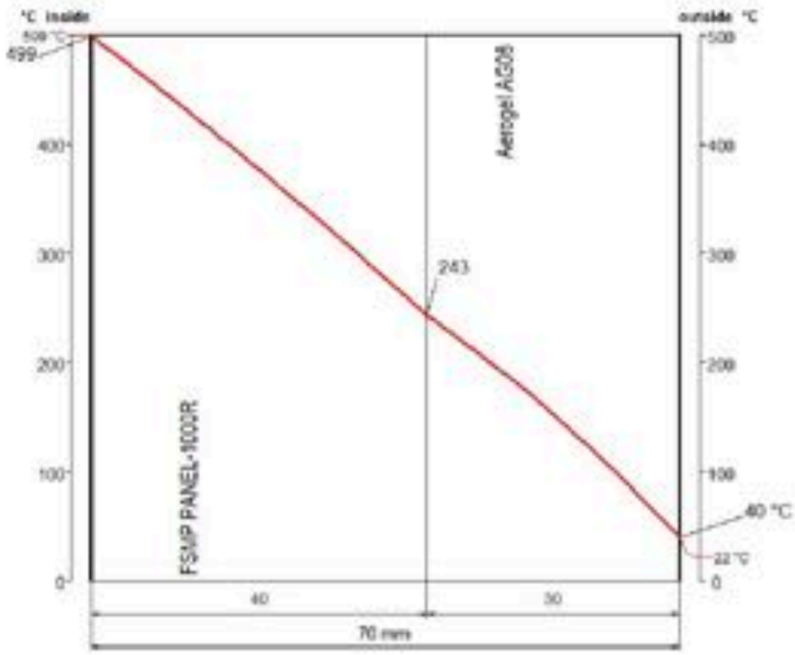
	inside	outside	unit
Ambient temperature	500	22	°C
Surface temperature	498.9	39.9	°C
Heat transition coefficient	150	9.221 (1)	W/m2K

(1) Calculation method ASTM C680, issue 2004 Emissivity=0.89 - wind =0 m/s

lining characteristics
- 164.8 W/m2 Heat loss
- 3.807 MJ/m2 heat storage
- 16.2 kg/m2 weight
- 70 mm total thickness

wall layers from inside to outside

	Material	Thickn. mm	Density kg/m3	Classif. °C	temperature border °C	temperature mean °C	K mean W/mK
1	FSMP PANEL-1000R	40	240	1000	498.9	375	0.0256
2	Aerogel AG06	30	220	500	243	149	0.024
					39.9		

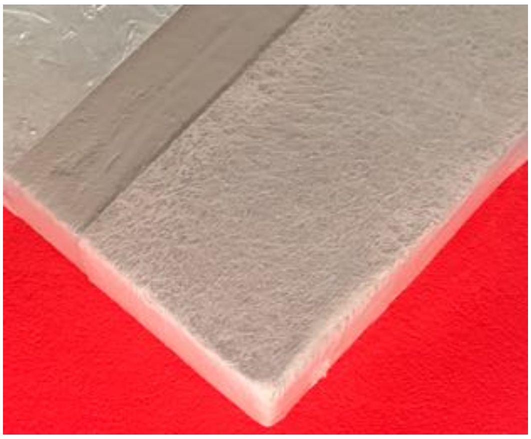


FSMP Board | Fumed Silica Microporous Insulation Board

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. 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.
- 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.

Technical Data Sheet

Quality		FSMP1200	FSMP1000S	FSMP1000T	FSMP900	FSMP1200HD
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				

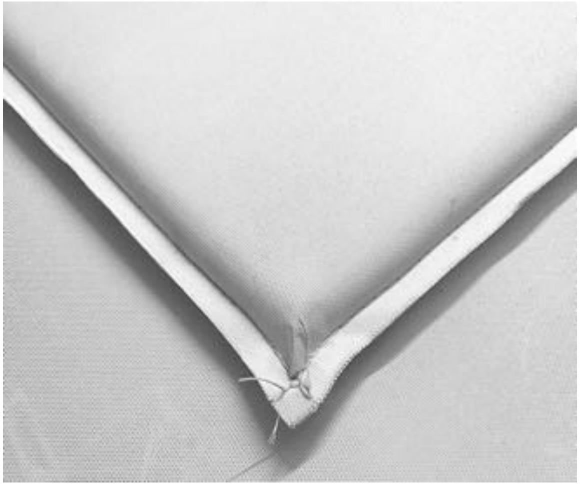
Wedge

FSMP-HEC | Microporous Insulation HT E-Glass 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. These pipe sections 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.
- Environmentally friendly, free of organic binders



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
- Refineries, Oil & Gas Industry
- Fuel cells & Thermal Batteries insulation

Technical Data Sheet

Quality		**FSMP-HEC 1200**	**FSMP-HEC 1000S**	**FSMP-HEC 1000T**	**FSMP-HEC 800**	**FSMP-HEC 1200HD**
Strength		High	Medium	High	Low	Very High
Colour		Grey	Grey	Brown	Grey	Grey
Density	kg/m3	280 - 320	240 - 260	320	220 - 260	360 - 480
Classification Temperature	ºC	1200	1000	1000	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-HY | 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. 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.
- 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 1000T	FSMP-HY 900	FSMP-HY 1200HD
Strength			High	Medium	High	Low	Very High
Colour			Grey	Grey	Brown	Grey	Grey
Density		kg/m3	280 - 320	240 - 260	320	235 - 265	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	0.027	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			Glass Cloth , Plastic, Ceramic Paper, Aluminium Foil, 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				

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. These pipe sections 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.
- Environmentally friendly, free of organic binders

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 Data

Quality		FSMP-OS 1200	FSMP-OS 1000S	FSMP-OS 1000T	FSMP-OS 900	FSMP-OS 1200HD
Strength		High	Medium	High	Low	Very High
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
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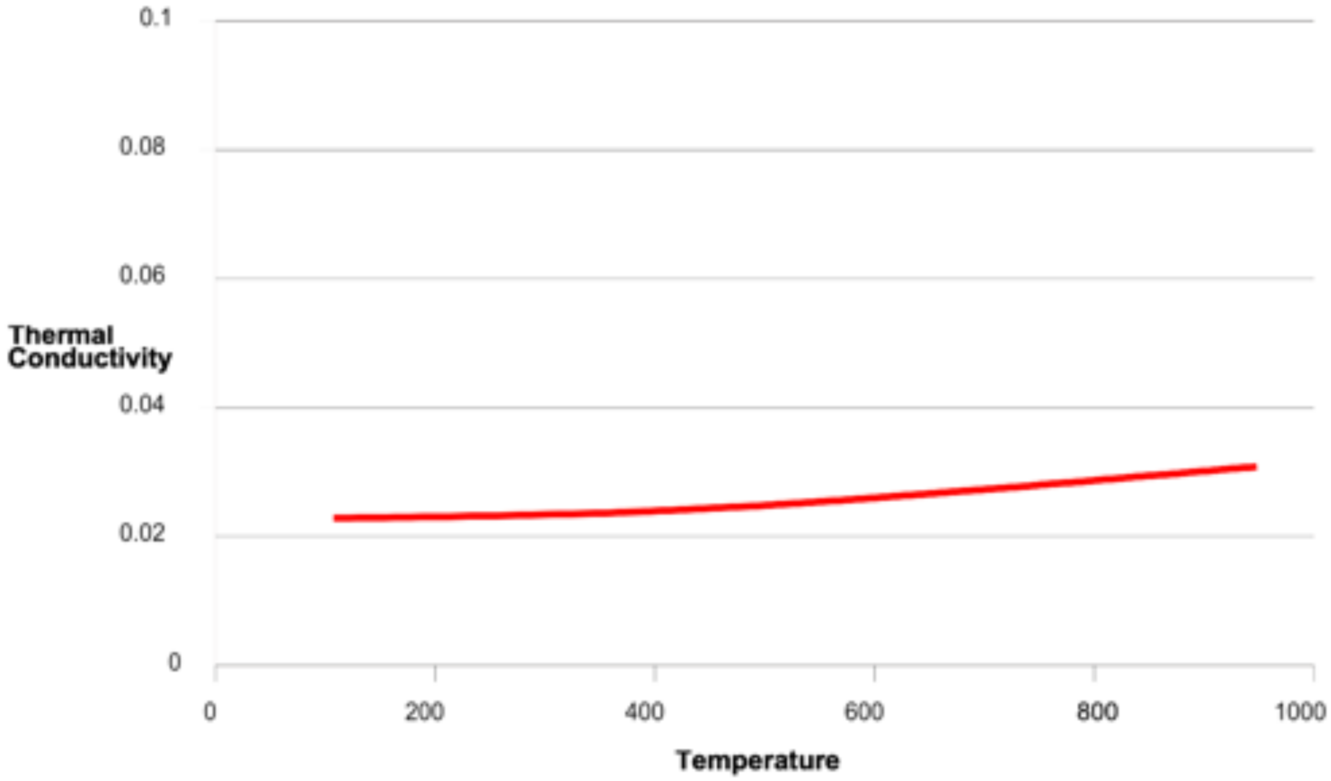
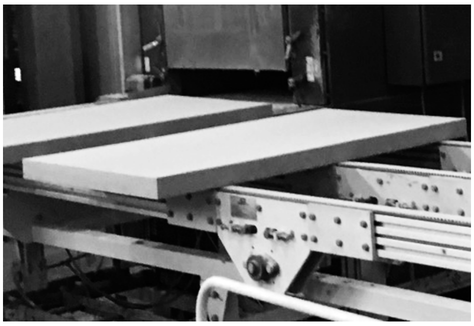
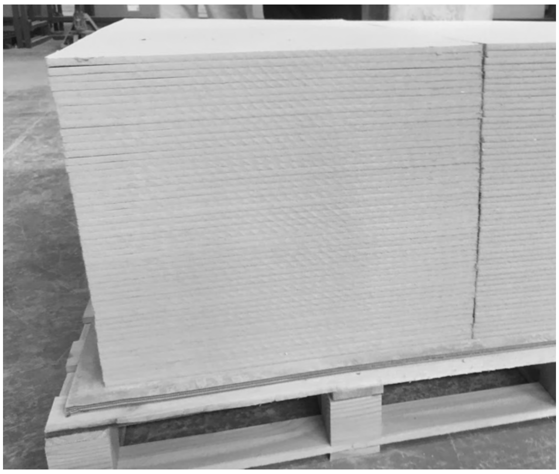
Specific Heat Capacity						
200°C	kJ/kg.K	0.89	0.86	0.92	0.92	0.88
400°C	kJ/kg.K	1.01	0.92	1.01	1.01	0.98
600°C	kJ/kg.K	1.04	0.96	1.03	1.03	1.03
800°C	kJ/kg.K	1.07	1.01	1.08	1.08	1.06
Shrinkage (ISO2477) one side 12h @1000°C Full soak	%	<0.5	<0.5	<0.5	<0.5	<0.5
Coverings		Aluminium Foil, E-Glass Cloth, Ceramic Paper, Mica, Millboard, Steel				
Lengths	mm	1000				
Width	mm	500				
Thickness	mm	3, 5, ,6, 7, 8, 10, 12, 15, 20, 25				


0.1
0.08
0.06
Thermal Conductivity
0.04
0.02
0
0
200
400
600
800
1000
Temperature





AG06 650 | MicroSilica Aerogel Boards

Wedge AG06 650 are low density, low thickness, flexible commercial grade Aerogel Blanket having extremely high performance in pipe insulation in both industrial and buildings applications. The AG06 650 aerogel insulation blankets are made of high quality silica aerogel and of glass fiber needled blanket.

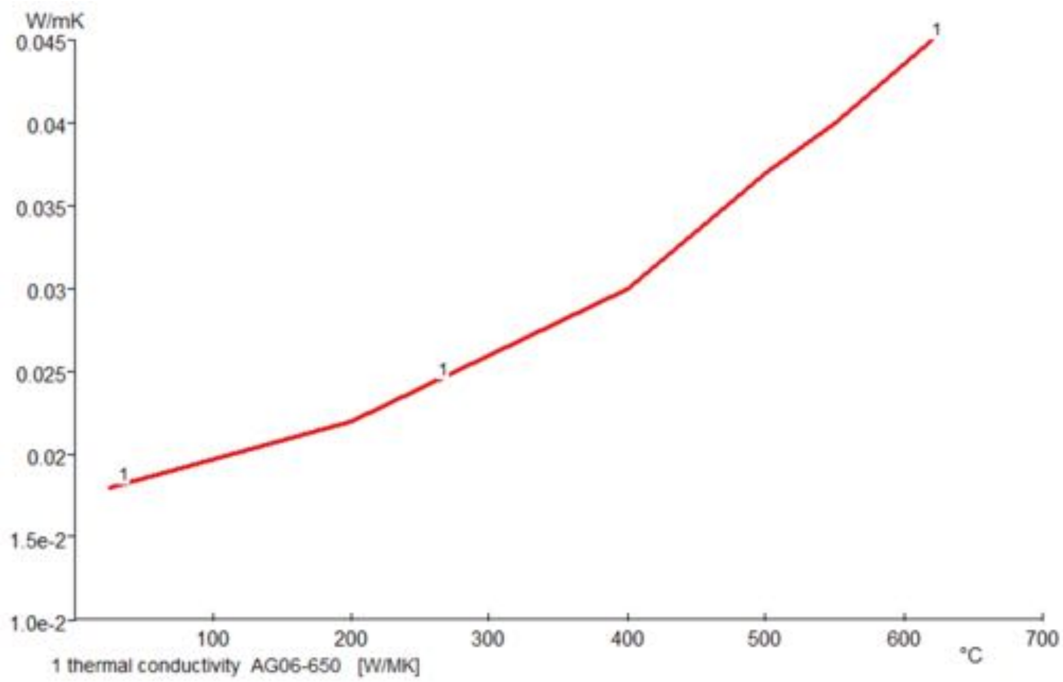
Applications

- Hot Water / Gas / Oil Pipeline
- High heat Steam Pipeline
- Petrochemical industry & power generation
- Back-up insulation in refractory lined pipes
- Exhaust systems
- Filler material for mattresses, cassettes, heat shields, expansion joints
- Prefabricated pipe with insulation
- Tanks, vessels and other equipment
- Pipe line insulation in Petrochemical plants
- Automobile, high-speed, train, and subway
- Building and Construction
- PFP (Passive Fire Protection)

Features & Benefits

- Lightweight, thin, custom made & very flexible
- Noncombustible & Environmentally friendly
- Resistant to most chemicals
- Superior Insulation Performance
- 4 to 5 times better than traditional insulation products with longer service life
- Reduced Insulation Thickness
- Hydrophobicity and Fire-proof
- Repel water from penetrating into pipes
- A1 rating of fire-proof
- Transportation Costs Savings
- Lower packing volume and lower weight can greatly cut down logistics costs

Properties	AG06 650
Base Materials	Aerogel Silica
Classification Temperature, °C	650 to (-) 50
Thickness, mm	5, 10
Density, Kg/M3	220
Thermal conductivity, W/m.K, at 25 °C	0.021



Wedge India

120/143 SilverOks Tower
DLF Phase1, Gurgaon
Haryana - 122002,
New Delhi Region, India
Tel: + 91 124 4144480
Email: info@wedge-india.com
www.wedge-india.com