



ABM®



Industrial Insulation



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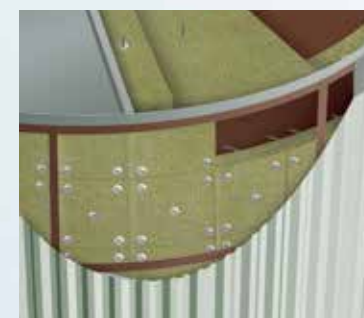
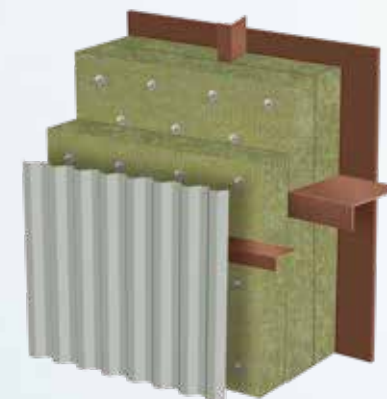
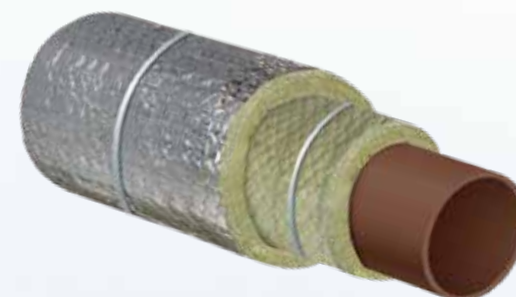
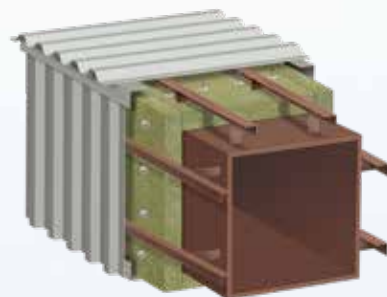
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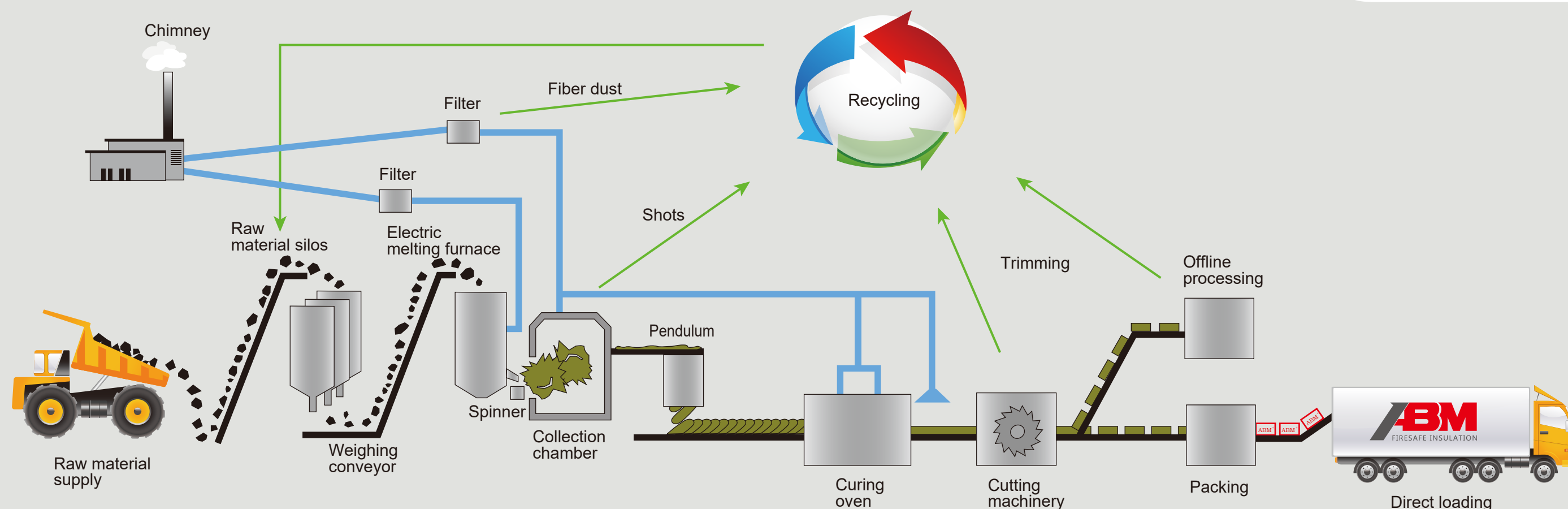


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SHANGHAI ABM ROCK WOOL CO., LTD.



Production Process



Rock Wool Properties



Fire Resistance

ABM® rock wool is made of natural rock, it is non-combustible material with melting point above 1000°C ; When setting on fire, ABM® rock wool can retard the fire spreading, and doesn't generate any poisonous gas or flaming droplets; The excellent resistance to high temperature and low thermal conductivity at high temperature can make more time to save lives and reduce property loss.



Thermal Insulation

Due to the very thin diameter, low shot content and porous structure, ABM® rock wool has low thermal conductivity coefficient and therefore excellent thermal insulation performance.



Water Repellence

Hydrophobic rate of ABM® rock wool is more than 99%, mass water absorption is less than 0.5%, no wicking permeation.



Environment-Friendly

ABM® rock wool does not contain any CFCs, HCFCs, HFCs which can damage the ozone in the atmosphere; Asbestos free, and be classified as not classifiable as to carcinogenicity to humans (Group 3) by IARC which belongs to WTO; ABM Rock wool is neutral or alkaline, doesn't damage, corrode the contacting materials.



Sound Control

ABM® rock wool is a porous fiber structure material. These structures can transform acoustic energy to heat by vibration and friction, reducing the sound reflection and transmission, creates a quiet inside environment.



Weather Resistance

ABM® rock wool has good resistance against frost, freeze-thaw and UV. Seasonal temperature changes do not bring it expansion or contraction. If not affected by other materials in the same system, the product is able to keep its properties under extreme climate.



Energy Saving

In the whole life cycle, averagely, ABM® rock wool can save more than 100 times energy than it consumes during production and recycling.



Easy Handling

ABM® rock wool products are easy to cut, cutting can be done with a wide blade knife very easily. The small size, lightness and flexibility of the products make the installation very convenient.

ABM® Multi-Function rock wool board



Product Description

ABM® Multi-Function rock wool board has good thermal stability, chemical stability and mechanical properties. At the same time, it also has excellent sound absorption and thermal insulation performance. The non-combustion performance can reach class A1. Low-chlorine products can be produced according to customer requirements, and can be laminated with Aluminum glass cloth (AG), Aluminum foil (ALK), glass fiber cloth (GF) and other veneer materials according to different applications.

Main Properties and Technical Data

Product Properties		IB60	IB80	IB100	IB120	IB150	Unit	Standard
Thermal Conductivity	50℃	≤0.040	≤0.038	≤0.038	≤0.038	≤0.038	W/(m•K)	GB/T 10295 ASTM C518 ASTM C177
	100℃	≤0.046	≤0.045	≤0.043	≤0.043	≤0.043		
	150℃	≤0.060	≤0.055	≤0.050	≤0.050	≤0.050		
	200℃	≤0.077	≤0.065	≤0.058	≤0.060	≤0.060		
	250℃	≤0.095	≤0.075	≤0.063	≤0.063	≤0.063		
	300℃	≤0.120	≤0.090	≤0.070	≤0.072	≤0.072		
Max Service Temperature		500	650	650	650	650	℃	ASTM C411
Linear Shrinkage		Surface material: 80					%	ASTM C356
Water vapor sorption		≤2.0	≤2.0	≤2.0	≤2.0	≤2.0	%	ASTM C1104
Water Repellent		≥99	≥99	≥99	≥99	≥99	%	GB/T 10299
Water leachable chloride content*		≤10	≤10	≤10	≤10	≤10	PPM	ASTM C871
Reaction to Fire		Class A1 Noncombustible, Smoke Development=5, Flame Spread=0					--	GB 8624 ASTM E84
Environment		Asbestos free, no CFCs, HCFCs, HFCs					--	--
Corrosiveness		Corrosion Free					--	ASTM C665

*Refer to low water leachable chloride content products used for austenitic stainless steel, meet ASTM C795's requirements;
Other properties meet GB/T 11835 or ASTM C612's requirements.

Standard Specification

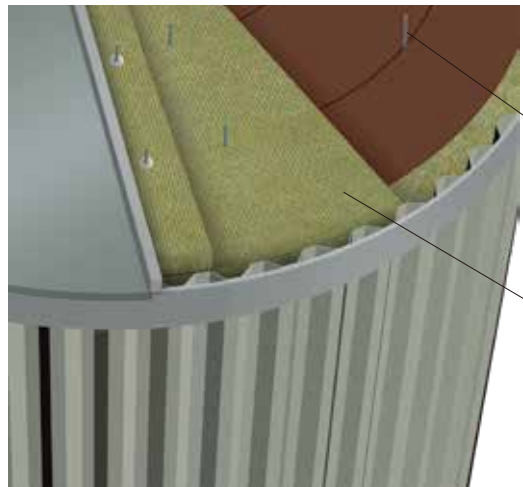
Product Type	IB60	IB80	IB100	IB120	IB150
Nominal Density, kg/m³	60	80	100	120	150
Thickness, mm	40~150	25~250	25~250	25~200	25~150
Size (length x width), mm	1200x600				

Other size or density may be available on request.

Product Application

ABM® industrial boards are widely used on industry furnace, boilers, oven, big diameter pipelines, storage tanks and equipments for thermal, fireproof, acoustic insulation.

For big tank insulation



To avoid thermal bridge effect, the two more layers of IB series products should be secured tightly at all transverse and longitudinal joints of each layer, and the joints of two layers should be staggered at about 150mm.

The IB series products should be fixed with pin and wash, and the pins length should be 15mm bigger than the whole insulation thickness, and the pins should be bent over the washer to keep IB series products against the tank wall.



ABM® Industrial Blanket



Product Description

ABM® Industrial Blanket (IRL series) is a good flexible rolled product with glass fiber mesh on one side, mainly made from natural rock such as basalt and dolomite. Low chloride series is available according to customers, various veneered materials such as aluminium glass cloth (AG) , aluminum foil (ALK) available to different applications.

Main Properties and Technical Data

Product Properties	IRL60	IRL80	IRL100	Unit	Standard
Thermal Conductivity (70°C)	≤0.040	≤0.040	≤0.040	W/(m•K)	GB/T 10295 ASTM C177 ASTM C518
Max Service Temperature	450	650	650	°C	ASTM C411
	Surface material: 80				
Linear Shrinkage	≤2	≤2	≤2	%	ASTM C356
Water vapor sorption	≤2.0	≤2.0	≤2.0	%	ASTM C1104
Water Repellent	≥99	≥99	≥99	%	GB/T 10299
Water leachable chloride content*	≤10	≤10	≤10	PPM	ASTM C871
Reaction to Fire	Class A1 Noncombustible, Smoke Development=0, Flame Spread=0			--	GB 8624 ASTM E84
Environment	Asbestos free, no CFCs, HCFCs, HFCs			--	--
Corrosiveness	Corrosion Free			--	ASTM C665

*Refer to low water leachable chloride content products used for austenitic stainless steel, meet ASTM C795's requirements;
Other properties meet GB/T 11835, ASTM C665 or ASTM C553's requirements.

Standard Specification

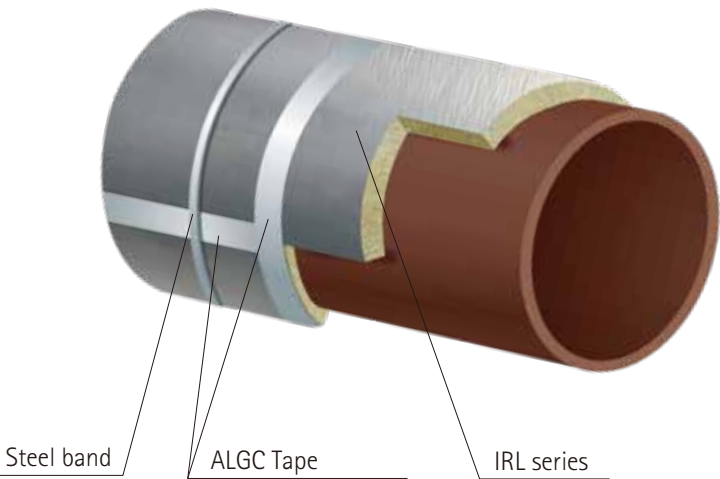
Product Type	IRL60			IRL80			IRL100	
Nominal Density, kg/m³	60			80			100	
Width, mm	600			600			600	
Thickness, mm	50	60	75	50	60	75	40	50
Length, mm	5000	4000	3000	5000	4000	3000	5000	5000

Other size or density may be available on request.

Product Application

ABM® industrial blanket are mainly used as insulation agent in Industry. In industrial field, rock wool blanket is suitable for thermal insulation, noise reduction and fire resistance in uneven surfaces, vessels, tank walls and duct of power plant, petrochemical plant etc.

For Pipe Insulation



The blankets are secured with two steel banding at about 100mm from the lateral joints and should be covered with profiled aluminium sheet to protect them from mechanical or weather damage.

Neighboring blankets joints should be staggered, and all of the joints of longitudinal and latitudinal should be sealed with tape to reduce thermal bridge.



ABM® Industrial Wire-meshed Blanket



Product Description

ABM® Industrial Wire-meshed Blanket (IRW series) is made of rock wool blanket and galvanized wire mesh or stainless steel wire mesh stitched together by GI or Stainless steel wire. It is flexible, good thermal insulation and easy handling. Low chloride series is available according to customer requirements, and can be laminated with aluminium glass cloth (AG) .

Main Properties and Technical Data

Product Properties		IRW80	IRW100	IRW120	Unit	Standard
Thermal Conductivity	50℃	≤0.038	≤0.038	≤0.038	W/(m•K)	GB/T 10295 ASTM C518 ASTM C177
	100℃	≤0.046	≤0.043	≤0.042		
	150℃	≤0.055	≤0.051	≤0.047		
	200℃	≤0.063	≤0.058	≤0.055		
	250℃	≤0.075	≤0.066	≤0.062		
	300℃	≤0.080	≤0.076	≤0.071		
Max Service Temperature		650	650	650	℃	ASTM C411
Linear Shrinkage		≤4	≤4	≤4	%	ASTM C356
Water vapor sorption		≤2.0	≤2.0	≤2.0	%	ASTM C1104
Water Repellent		≥99	≥99	≥99	%	GB/T 10299
Water leachable chloride content*		≤10	≤10	≤10	PPM	ASTM C871
Reaction to Fire		Class A1 Noncombustible, Smoke Development=5, Flame Spread=0			--	GB 8624 ASTM E84
Environment		Asbestos free, no CFCs, HCFCs, HFCs			--	--
Corrosiveness		Corrosion Free			--	ASTM C665

*Refer to low water leachable chloride content products used for austenitic stainless steel, meet ASTM C795's requirements; Other properties meet GB/T 11835 or ASTM C592's requirements.

Standard Specification

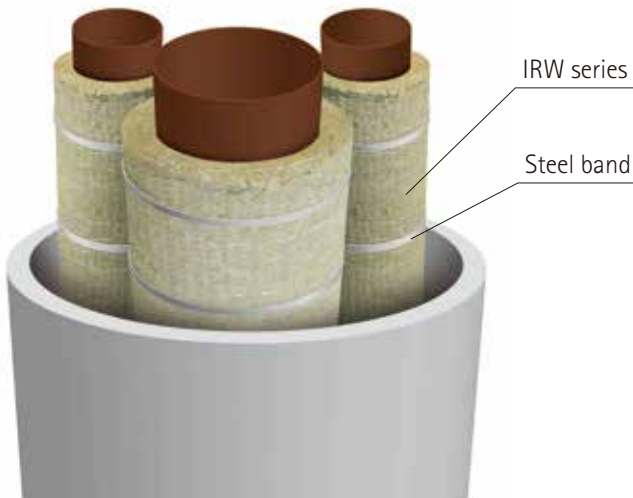
Product Type	IRW80		IRW100		IRW120	
Nominal Density, kg/m³	80		100		120	
Width, mm	600		600		600	
Thickness, mm	25~50	60~100	25~50	60~100	25~50	60~100
Length, mm	5000	3000	5000	3000	5000	3000

Other size or density may be available on request.

Product Application

It is suitable for thermal and acoustic insulation of industrial applications reaching high temperatures, such as industry pipe line, boiler walls, furnace, smoke ducts for power plant, refinery plant, and chemical and oil plant etc.

For special shape, pipe insulation



Cut the IRW series products to required length and wrapped around the pipe and fixed tightly at joints. To avoid thermal bridges, in case of multi-layers insulation, the mats should be secured tightly at all lateral and longitudinal joints of each layer, and the joints of two layers should be staggered at about 150mm;

The IRW series products are fixed with pins and washers, and the pins length should be 15mm bigger than the whole insulation thickness, and the pins should be bent over the washer to keep IRW series against the tank wall.



ABM® Industrial Pipe Section



Product Description

ABM® Industrial Pipe Section (IPS series) is made of rock wool fiber, preformed through some mould and cured by high temperature. For easy installation, the pipe section is split in one side with a joint cutting on the opposite side along with the axis of the pipe. Low Chloride series is available according to customers, various veneered materials such as Aluminium glass cloth (AG), Aluminum foil (ALK) and glass fiber cloth (GF) and so on are available to different applications.

Main Properties and Technical Data

Product Properties		IPS110	IPS120	IPS140	Unit	Standard
Nominal Density		110	120	140	kg/m³	--
Thermal Conductivity	50℃	≤0.039	≤0.039	≤0.039	W/(m•K)	GB/T 10295 ASTM C518 ASTM C177
	100℃	≤0.044	≤0.044	≤0.044		
	150℃	≤0.053	≤0.050	≤0.052		
	200℃	≤0.065	≤0.058	≤0.061		
	250℃	≤0.078	≤0.069	≤0.070		
	300℃	≤0.094	≤0.080	≤0.078		
Max Service Temperature		650	650	650	℃	ASTM C411
		Surface material: 80				
Linear Shrinkage		≤2	≤2	≤2	%	ASTM C356
Water vapor sorption		≤2.0	≤2.0	≤2.0	%	ASTM C1104
Water Repellent		≥99	≥99	≥99	%	GB/T 10299
Water leachable chloride content*		≤10	≤10	≤10	PPM	ASTM C871
Reaction to Fire		Class A1 Noncombustible, Smoke Development=5, Flame Spread=0			--	GB 8624 ASTM E84
Environment		Asbestos free, no CFCs, HCFCs, HFCs			--	--
Corrosiveness		Corrosion Free			--	ASTM C665

*Refer to low water leachable chloride content products used for austenitic stainless steel, meet ASTM C795's requirements;
Other properties meet GB/T 11835 or ASTM C547's requirements.

Standard Specification

Nominal Diameter		ID	Thickness(mm)									
mm	(")	mm	30	40	50	60	70	80	90	100	120	150
15	1/2	22	●	●	●							
20	3/4	27	●	●	●	●	●	●				
25	1	34	●	●	●	●	●	●				
32	1-1/4	43	●	●	●	●	●	●	●	●		
40	1-1/2	48	●	●	●	●	●	●	●	●		
50	2	60	●	●	●	●	●	●	●	●		
65	2-1/2	76	●	●	●	●	●	●	●	●		
80	3	89	●	●	●	●	●	●	●	●		
90	3-1/2	108	●	●	●	●	●	●	●	●		
100	4	114	●	●	●	●	●	●	●	●	●	
125	5	140	●	●	●	●	●	●	●	●	●	●
150	6	169	●	●	●	●	●	●	●	●	●	●
200	8	219		●	●	●	●	●	●	●	●	●
250	10	273		●	●	●	●	●	●	●	●	●
300	12	325		●	●	●	●	●	●	●	●	●
350	14	356			●	●	●	●	●	●	●	●
375	15	381			●	●	●	●	●	●	●	●
400	16	406			●	●	●	●	●	●	●	●
450	18	456			●	●	●	●	●	●	●	●
475	19	483				●	●	●	●	●	●	●
500	20	508					●	●	●	●	●	●
550	22	558						●	●	●	●	●
600	24	610						●	●	●	●	●

Other size or density may be available on request.

Product Application

ABM® Pipe Section main application is pipe line insulation in fire power plant, nuclear power plant or other industry process for thermal and acoustic insulation, human protection, avoid or decrease the condensation, to improve the energy efficiency.

For pipe insulation



The joints in longitudinal and latitudinal directions of two layers shall be staggered, overlap of 150mm in longitudinal is recommended.

Each layer should be banded with three steel bands per pipe section, two for both ends and one in the middle, the end band will be about 100mm from the edge.



ABM® Industrial Granulated Wool



Product Description

ABM® Industrial Granulated Wool (IGW series) is a bulk granulated product made of rock wool fiber. It has excellent properties of heat insulation, cold insulation and sound absorption. It can change the packing density and thickness according to the shape and requirements of different use parts. According to customer requirements can produce hydrophobic, low-Chlorine products.

Main Properties and Technical Data

Product Properties	IGW				Unit	Standard
	T	λ	T	λ		
Thermal Conductivity	-180℃	≤0.015	50℃	≤0.040	W/(m•K)	GB/T 10295 ASTM C518 ASTM C177
	-140℃	≤0.018	100℃	≤0.049		
	-100℃	≤0.022	150℃	≤0.057		
	-60℃	≤0.027	200℃	≤0.067		
	-20℃	≤0.033	250℃	≤0.075		
	20℃	≤0.039	300℃	≤0.091		
Max Service Temperature	650				℃	ASTM C411
Reaction to Fire	Class A1 Noncombustible, Smoke Development=0, Flame Spread=0				--	GB 8624 ASTM E136 ASTM E84
Organic Content	≤0.3				%	GB/T 11835
Environment	Asbestos free, no CFCs, HCFCs, HFCs				--	--
Corrosiveness	Corrosion Free				--	ASTM C665

Other properties meet GB/T 11835's requirements.

Product Application

IGW is mainly used for filling irregular space and apertures in thermal insulation structure, spraying for fire proof of steel structure building and tunnel, manufacturing sound absorption ceiling board, also can be used for cold box of air separation equipment insulation.

Reference List



Karbala (Iraq) Refinery	Hadjret EN Nouss 1200 MW (Algeria)
Wacker (NanJing China) Chemicals	Bayer (Shanghai) Polymer Co., Ltd. Polycarbonate Project
Formosa (Vietnam) Steel plant	Nine Dragons Paper Waste Heat Recovery Project
Kurashiki (Japan) Power plant	Sudan 3-7 District oilfield surface construction (Petro China)
Ain Sokhna (Egypt) Power plant	Formosa Plastics (Ningbo) Project
VIVA (Vietnam) Power plant	Shanghai Secco 900,000 tons ethylene project
Chica Uno (Chile) Power plant	Jiangsu Oilfield
CAMPICHE (Chile) Power plant	Jinshan Petrochemical 4PE project
Kallpa (Peru) Power plant	Shanghai BASF a Stanford furan hydrogen project
Mundra (India) Power plant	Taizhou refinery expansion project
SIPAT (India) Power plant	Taizhou Meilanhua Chemical New project
Haramachi (Japan) Power plant	Shanghai Refinery refining base project
Ruwais (The united Arab emirates) Refinery	Nanhua nitrogenous fertilizer plant nitrogen project
TISCO Desulfurization & denitrification projects	Nuclear Power Station (Qinshan)
Shandong Pacific Fair Pulp & Paper Recovery boiler project	