

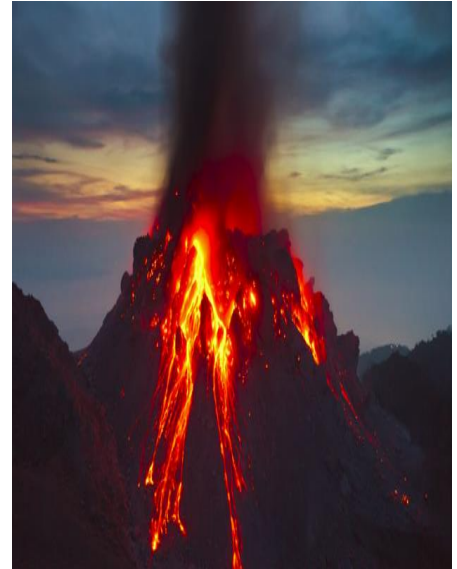
ROCKWOOL

People living close to the volcanic area, had known Rock Wool since a long time. They observed mineral fibers being formed around volcano crater; these fibers are produced from the eruption of lava, which is highly charged with gases through the earth to the atmosphere.

Mineral wool is classified into three main types, Glass Wool, Rock Wool, and Slag Wool. Glass Wool has lower service temperature. The properties of Rock and Slag Wool are similar, although, in general, the best-quality wools are produced from Rocks.

Slag Wool was first made in Germany in 1870 and Rock Wool is in the United States in 1897. There has been little change in the method of manufacture since the early days of the industry especially the fiber forming process.

Early Rock Wool is made by subjecting a thin stream of molten rock to a steam or air; nowadays the fibers are formed by spinning the molten rock using high-speed cylindrical spinner machines.



AL TAZI Rockwool Factory started Rock Wool production with new technology to improve the Rock Wool fibers and to increase the production capacity while maintaining safely environmental friendly process with low emissions complying with the standards of King Abdullah Economic City (KAEC) and Presidency of Meteorology and Environment (PME).

AL TAZI Rock Wool products are produced to comply with technical requirements of the American standard ASTM C168, ASTM C612, ASTM C547, ASTM C592, ASTM C665, ASTM C553, international European standard BS EN13162, and Saudi Standard SASO-GSO-EN13162.

Al Tazi Rockwool fibers are manufactured from natural volcanic rocks which is melted in cupola furnace at high temperature up to 1,500 °C, the melt is formed into fibers using high speed fiberizing desks, the formed fibers will withstand high temperatures applications above 750 °C.

The fibers are treated with special additives to gain flexibility and water repellency, then collected and processed on the production lines to form different types of Rock Wool products, which are widely used for thermo-acoustic insulation and fire proofing purposes.



Advantages of Thermal Insulation

1. Reduces the electric energy used for cooling and heating.

Using thermal insulation will reduce the electric energy used in air-conditions with 30 – 40% as the thermal insulation will eliminate the heat flow through walls and roofs. This will also reduce the compressor working period resulting in reduction of electric consumption. Additionally, it will prolong the life span of air-conditioning units and its maintenance cost.



2. Reduces the need for high capacity air-conditions and its maintenance cost.

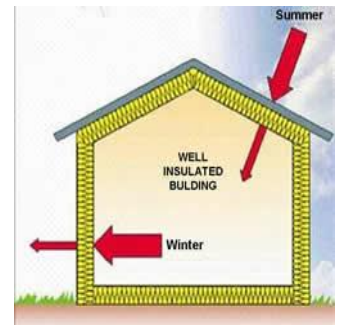
The capacity of air cooling units depends on the volume and the area to be cooled. Using the thermal insulation will eliminate the heat leakage leading to the use of less capacity units resulting in reduction of the cost of cooling and heating units.

3. Protection of the building materials from the temperature changes.

Thermal insulation protects the building material from external weather changes that occurs, as a result of large difference of temperature during the day hours which leads to a continuous thermal stresses on building materials and occurrences of cracks.

4. Protects the furniture inside the building.

Un-insulated buildings are directly affected by external temperature, which makes the temperature inside the building unstable. Thus, furniture materials are affected and disintegrated if appropriate conditioning is not available.



5. Improving the level of comfort.

Installation of thermal insulation in buildings contribute to raise the level of comfort of occupancy due to the stability of temperature inside the building even on the rough climate changes throughout the year. The air temperature inside insulated buildings is relatively acceptable, even in the worst days of summer. The thermal insulation materials eliminate the heat flow in the building, the inside air temperature is close to the temperature considered as comfortable temperature for human occupancy (25 – 27 °C).

6. Fire resistance.

Using un-organic thermal insulation such as mineral wool or perlite will enhance the fire resistance of the buildings.

7. Reduce the value of electric peak loads.

Using thermal insulation results in reducing the value of the energy in the electrical grid and reduce the load on the generating units, transmissions, and distributing networks.

8. Environmental protection.

The use of mechanical systems for conditioning helps the emission off environmentally harmful gasses such as Carbon Dioxide, and Nitrogen Oxide produced by the combustion of energy needed to run air-conditioners, this can be largely reduced by using thermal insulation.

Characteristics of AL Tazi Rock Wool

1. Thermal Insulation

Thermal insulation in buildings, constructions, and other fields is one of the civilization aspects of this age.

Each country has its own thermal insulation code depending on the climate conditions, building designs, types of building materials, and percentage of the opening in the walls.

According to the Saudi Standard SASO 2856/2014, the maximum Thermal Transmittance (U Value) of the walls and roofs have been adopted as below tables. The above-mentioned standard is issued by SASO in cooperation with Saudi Energy Efficiency Center (SEEC) on April 2014.

Saudi Arabia is divided into three main thermal zones according to the climate conditions.



Figure 1 - Saudi Arabia Climate Zones

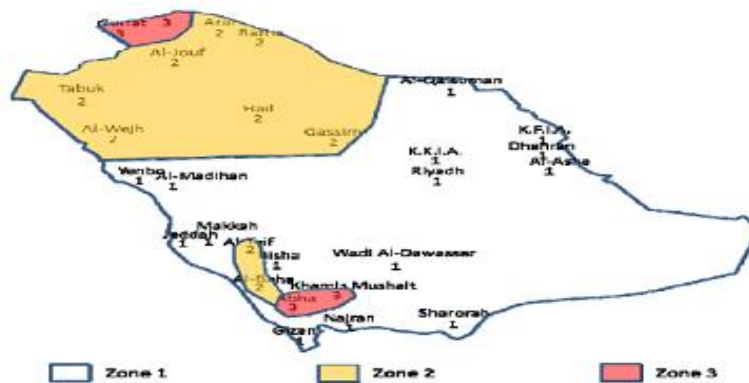


Table 1 is applicable for Low-rise / Residential buildings (not built by/for governmental entities) and it should be implemented from the date of 25/11/2014 until January 1, 2017, beyond this date table, 2 will be applicable for this type of buildings.

Table 1 – The thermal transmittance (U-Values) for low-rise / residential buildings

Opaque Elements	Zone 1	Zone 2	Zone 3
Roofs	0.31	0.37	0.42
Walls	0.53	0.61	0.7
Opaque Doors –All Assemblies	2.84	2.84	2.84
Vertical Glazing , 25% of wall			
All Assemblies	2.67 SHGC - 0.25	2.67 SHGC - 0.25	2.67 SHGC - 0.25
Skylight with Curb , Glass , % of Roof			
0% -3% All Types	4.26 SHGC- 0.35	4.26 SHGC- 0.35	4.26 SHGC- 0.35

Table 2 is applicable for Low-rise / Residential buildings (built by/for governmental entities), and need to be implemented starting from 25/11/2014 beyond January 1, 2017. It will be applicable for Low-rise / Residential buildings built for private or governmental entities.

Table 2 – The thermal transmittance (U-Values) for low-rise / residential buildings

Opaque Elements	Zone 1	Zone 2	Zone 3
Roofs	0.20	0.24	0.27
Walls	0.34	0.4	0.45
Opaque Doors –All Assemblies	2.84	2.84	2.84
Vertical Glazing , 25% of wall			
All Assemblies	2.67 SHGC- 0.25	2.67 SHGC- 0.25	2.67 SHGC- 0.25
Skylight with Curb , Glass , % of Roof			
0% -3% All Types	4.26 SHGC- 0.35	4.26 SHGC- 0.35	4.26 SHGC- 0.35

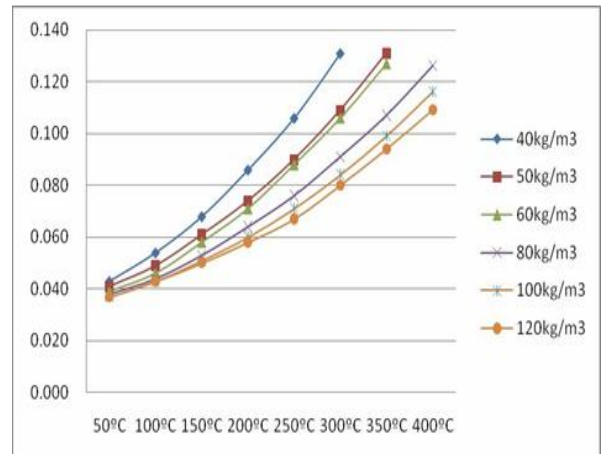
Technical studies and research proved that the Rock Wool is one of the best insulation materials for reducing successfully the heat transfer through the insulated walls or roofs, and saves more than 50% from the consumption of the heating / cooling energy.

The following table shows the thermal comparison between the non-insulated and the insulated stone wall with Rock Wool.

Construction Element	Emissivity	Thick mm	Thermal Resistance m2c°/w	
			Before Insulation	After Insulation
External air film	High	-	0.060	0.060
Building stone		70	0.050	0.050
Concrete		200	0.114	0.114
RW Panels		50	-	1.47
Hollow bricks		100	0.111	0.111
Plaster		20	0.0167	0.0167
Internal air film		-	0.123	0.123
Total Thermal Resistance m² K/W			0.47	1.94
Thermal Transmittance (U Value) w/ m² K			2.10	0.51

Rockwool has low thermal conductivity which is considered as an excellent building thermal insulation material. Its thermal conductivity is almost the same or better than most of the other petrochemical insulation materials, when measured at the actual operating temperature of 35 °C which means temperature of the severe ambient hot condition (45-50 °C) and the comfortable internal temperature (24-27 °C).

The thermal conductivity of ARW products are tested by SASO, King Saud University, and by R&D Laboratory with the products achieved low thermal conductivity.



Thermal conductivity of AL Tazi Rock wool products

2. Acoustic Insulation

Sound is measured in decibels (dB). Human range of hearing starts at 0 dB and is considered safe up to 80 dB. Over and above that level is hazardous and can result in permanent hearing damage.



The Noise Reduction Coefficient (NRC):

Is a scalar representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates complete reflection; an NRC of 1 indicates 0 reflection. NRC is the average absorption of material at four frequencies (250, 500, 1,000 and 2,000 Hz).

The structure of the Al Tazi Rock Wool makes it an ideal product as sound absorbent due to its surface open cells structure. It will not reflect the sound waves striking its surface. Rockwool above 2" thickness will have almost 1 NRC. As a result, Al Tazi Rock Wool is very effective to control the reverberation time of the place securing comfortable living and listening. In this case, Rock Wool boards are normally covered with decorative porous fabric (cloth) and installed inside the rooms / halls, theaters, cinema, etc.

The Sound Transmission Class (STC) indicates the average sound transmission loss within the audible range of frequency for wall or partition, higher STC is better insulation. Installing Rock Wool through wall partition or cavity wall will reduce the sound transmitted between the adjacent rooms. Rockwool as a flexible porous damping material will dampens the mass-air-mass resonance provided with soft coupling between the two panels of partition and it reduces the reverberation in the cavity thus reducing the buildup of sound between the two sides of partition increasing the sound transmission class (STC) of walls / partitions.

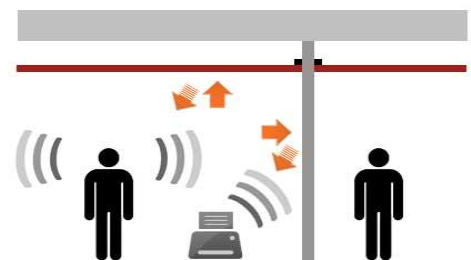
The minimum STC for partitions is specified by the related building codes as per the intended application of partition.

WHAT MAKES THAT NOISE?	dB	HOW LONG IS IT SAFE?
Rocket Launch	180	0 seconds
Gunshot	165	0 seconds
Firecrackers	140	0 seconds
Ambulance Siren	130	0 seconds
Jackhammer	120	15 seconds
Chainsaw	110	2 minutes
Power Tools	100	15 minutes
Lawnmower	90	2 hours
Car Traffic	85	8 hours
Washing Machine	80	Forever
Food Mixer	70	Forever
Dishwasher	60	Forever
Rain	50	Forever
Whisper	30	Forever

HOW LOUD?



Wall Type	STC
Between apartments of multi store building	53
Between classroom and sport hall (school)	55
Between classroom (school)	47
Between bedroom and corridors (Hotel)	47



3- Fire characteristics

Melting point: Due to its in-organic (mineral) composition, ARW Rock Wool has high melting point of 1,100 °C. Therefore, can safely operate at 750 °C without any degradation in thermal insulation performance.

Reaction to fire: Combustibility is a measure of how easily a substance will burn through fire.

Computability: is measured using the vertical furnace method according to EN 1182, samples are placed inside furnace at high temperature. The increase of furnace temperature, mass loss of samples, and duration of flaming are measured (it should be within certain limits).

Other related characteristics for fire classification of material is the heat of combustion (heating values) which indicates the amount of heat (calories) released by material when exposed to fire, tested according to EN 1716. In case the heating value is within certain limit, and material is noncombustible then the reaction to fire of material is A1.

The common building materials such as block and steel has A1 reaction to fire classification.

Rock Wool is tested at Al Tazi Rockwool Laboratory and it achieved A1 classification which means it is noncombustible material and will not emit toxic fumes when exposed to fire.



Flame Spread Index and Smoke Developed Index

This test indicates how fast will flame propagate on surface of material and what will be the smoke density in case material is subjected to source of ignition from one portion. The values are compared to reference materials (cement board 0 values and wood 100 value). This property is tested according to ASTM E84, or UL 723.

ARW Rock Wool products can be classified with zero flame spread index and zero smoke developed index, which means ARW Rock Wool insulation will not assist the spread of fire and will not emit fumes when exposed to fire.

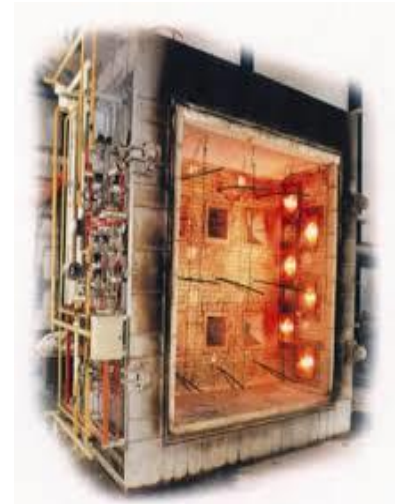
4- Fire Resistance

Using Rockwool through partitions will improve the fire resistance of wall or roofs it will delay the fire to spread from place to another, and will give enough time before the fire spread.

Fire resistance is measured according to ASTM E119, or EN 1363-1 for the complete construction system (wall, roof, or door including the components of the partition) where the system is exposed to hot temperature according the time temperature curve, and the cold surface temperature is measured.

Rock Wool is recommended to be used in fire proofing systems. It is widely used as fire stopper in the expansion joints between the block work and concrete slabs. Rockwool slabs are coated with special fire coating materials with intumescent properties and used to fill the cavities between the flat ceiling and concrete slabs this will eliminate the spread of fire between the adjacent rooms.

Rock Wool is widely applied in offshore oil drilling platform for person and equipment protection.



5- Water and Moisture Absorption

Water or moisture have negative effect on the thermal conductivity of the insulation materials and their insulation efficiency.

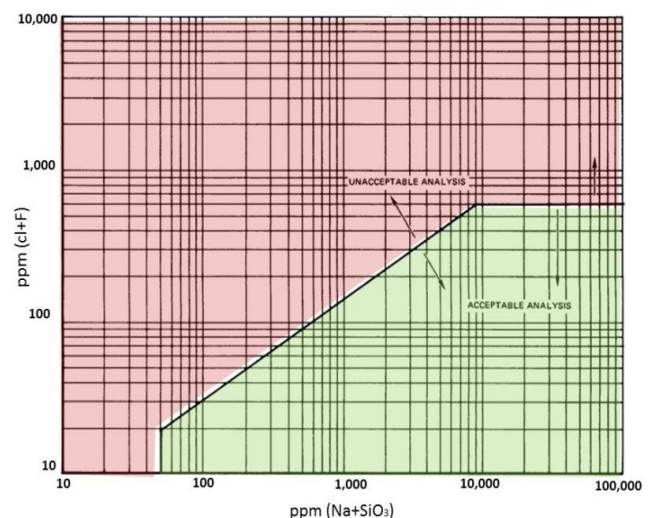
ARW products are treated with water repellent emulsion oil, the insulation is water repellent non capillary and hydrophobic. Insulation doesn't have the tendency to absorb water from the severe humid environment.

The water vapor sorption of ARW products are continuously tested in Al Tazi Laboratory as part of Factory Product Control (FPC) according to ASTM C 1104 / 1104 M. Using humidity chamber and EN 1609 using water bath. ARW products are also tested by SASO, results are very satisfactory.



Corrosion Resistance

The presence of Leachable Chloride, and fluorides in the Rock Wool can cause corrosion to the insulated stainless steel surface especially in the presence of electrolyte (moisture from insulation or environment). The presence of sodium and silicate ions in the insulation has been found to inhibit external stress corrosion cracking. ARW fibers are treated to have minimum chloride and fluoride ions. The leach ions of ARW products is tested according to ASTM C871 and found within acceptable zone stated by figure 1 ASTM C795.



ARW products are tested by R&D Laboratory (USA) for corrosiveness to steel, copper, and aluminum according to ASTM C665 section 13.8, where metal plates covered with Rockwool are placed inside environmental chamber at severe humid conditions, steel sample is placed for 96 hours, the aluminum and copper samples are tested for 720 hours, all samples passed the test.



6- Non aging material

Rock Wool is mainly produced from Basalt rock which is chemically inert, Rock Wool cells structures contains static inactive gas (air), consequently, the Rock Wool will not be effected by aging factors, and can withstand severe conditions. Thus it is non aging material, the aging of Rockwool products is tested at Al Tazi Laboratory according to EN 1607 where the products are tested at accelerated environmental conditions, found within the acceptable range of EN 11362.



7- No health hazard

ARW products are tested by Al Hoty Stanger and approved to be Asbestos free. In general, Rockwool products are classified as non-carcinogenic to human according to the International Agency for Research on Cancer (IARC).

Normally, the end user (occupant) will not be exposed to the insulation; hence, there is no possibility to cause any health hazard to them.

However, it is always recommended to the contractor or installer to have suitable protection while installation, wearing long cloth, hand gloves, and dust masks. (material safety data sheet is available on website).

ARW products are tested by R&D Laboratory (USA) for odor emission according to C-1304, the products are tested at high temperature, the odor is evaluated by committee of five expert person and approved that it will not emit unacceptable odor.



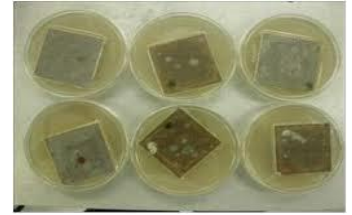
8- Environment Friendly

No harmful industrial wastes are produced from Al Tazi Rock Wool production processes, the solid wastes are efficiently recycled as per LEED requirements, the exhaust gases are treated and reduced to the international acceptable limits. The use of Rock Wool as a thermal insulation significantly reduce the environment pollution due to decrease of the energy consumption, reducing the emitted gases from power plants.



9- Vermin Proof

Rock Wool is unfavorable environmental media for the growth of fungi, bacteria, vermin, and pests. ARW products are tested by R&D Laboratory (USA) for Fungi Resistance by placing three Rock Wool samples through testing chamber for 28 days' inoculation period at severe conditions according to ASTM C1338 standard. Every samples passed the test, and did not show any fungi growth.



10- Light Weight, Easy to Handle and Install

Rock Wool is relatively light weight compared to most of building materials, it will not cause significant load to the buildings. ARW products are easy to handle, fabricate to the required size using simple sharp edge knife or saw, for some applications. ARW products can be installed without any fixing fixtures such as drywall, cavity wall, roof hanger applications, where insulation is friction fit between the dry wall studs or between the two masonry walls, other applications require suitable fixing accessories such as adhesives, insulation fastener or insulation anchor, stuck up pin.



AL TAZI Rockwool Products

Burkani Rock Wool Slabs

Burkani Rock Wool Slabs (Panels) are formed from Rock Wool fibers bonded with heat resistance thermosetting binder (Phenol formaldehyde) to meet the requirements of the American standards (ASTM C 612). **ARW** Slabs are produced in a number of thicknesses and densities, faced with various facing materials to meet the requirements of the purpose of applications. **ARW** Slabs are used for thermo-acoustic insulation purposes and fire proofing system mainly in construction sector.



Packing: ARW Slabs are packed in polyethylene bags or in shrink film polyethylene.

Storage: Store materials off ground in dry location and protected from exposure to harmful weather conditions. Store in original packaging until installed.

Burkani Rock Wool Slabs are classified according to Density into Rigid and Semi Rigid slabs:

A - Semi Rigid Slabs

Burkani Semi Rigid Panels are produced in low and medium density with the following specifications:

Length (m)	Width (m)	Thick (mm)	Density (Kg/m ³)	Thermal conductivity at 24°C (W/m.K)	Facing materials
1.2	0.6	30-100	40-70	0.034-0.038	PE Bags , Aluminum foil

Applications

Burkani Rock Wool Slabs are applied in the following applications:

1. Wall Thermal Insulation

ARW Semi Rigid Slabs faced with Polyethylene bags or Aluminum foil which is acting as a vapor barrier are applied in building walls, roofs, and partitions, where Slabs are designed to be placed in the wall system either internally or externally. Semi Rigid Slabs will minimize the heat flow from indoors to outdoors in cold season and from outdoors to indoors in hot season securing saving energy, reduction of fuel expenses, environment protection, and comfortable living.



2. Curtain Wall Insulation

ARW Semi Rigid Slabs are used for curtain walls (metal or glass) insulation to minimize heat flow through building envelopes. The product is designed to meet a variety of curtain wall specifications. Suited for back pan or mechanical fastening applications. It provides a comprehensive critical line of defense in fire protection.



3. External Duct Insulation

ARW Semi Rigid Slabs faced with Aluminum foil are used as a duct thermal insulation to the central heating and cooling system. **ARW** slabs can be cut at site into suitable sizes and fixed on the external shell of the duct with special pins.



4. Steel Walls and Fire Proofing Doors

Semi Rigid Panels are placed inside the metal walls in the steel structures hangars and fire proofing doors. It is ideal for those applications which requires special safety precautions, this will improve the fire resistance classification of the insulated system.



B - Rigid Rock Wool Panels

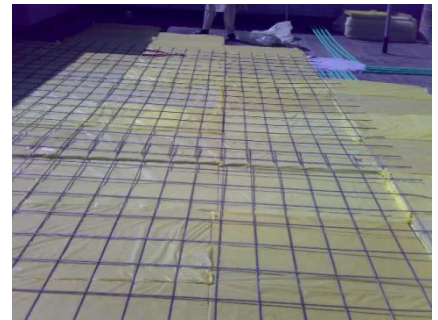
ARW Rigid Slabs are produced in high density with the following specifications:

Length (m)	Width (m)	Thick (mm)	Density (Kg/m ³)	Thermal conductivity at 24°C (W/m.K)	Facing materials
1.2	0.6	30-100	80-160	0.033-0.034	- None - PE Bags - Aluminum foil - fiberglass veil

Applications

1. Roof Thermal Insulation

High density **ARW** Rigid Slabs faced with Polyethylene bags is ideal for thermal and acoustical insulation of the concrete roof buildings. Rigid Panels are placed above the roof and below the reinforced concrete screen. The rigidity of the slabs will resist the compression of the panels from screen load. While Polyethylene bag will protect the slabs from water and wet concrete penetration.



2. Acoustic Insulation

High density **ARW** slabs are recommended for acoustic insulation purposes in the construction sectors. **ARW** slabs are used to modify the reverberation time of the place due to its high sound absorption by mounting **ARW** slabs to the internal wall surface of the room. **ARW** Panels are used also to improve the efficiency of the wall to reduce the sound transmission through it. **ARW** slabs are applied either un-faced or faced with fiber glass veils. **ARW** slabs are efficaciously applied on TV and broadcasting studios, conference halls, Electrical generators enclosures, or rooms.



Sound Absorption and Noise Reduction Coefficient of ARW Slabs

Thickness (inches)	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	NRC
50	0.29	0.68	1.12	1.10	1.06	1.04	0.98
75	0.60	0.95	1.14	1.01	1.03	1.04	1.03
100	1.02	1.07	1.12	1.04	1.07	1.08	1.07

3. Internal Acoustic Lining

ARW slabs are used as acoustic lining of the cooling & heating ducts to reduce the noise level by absorbing the sound of the airflow through the ducts. 25-30 mm thickness of the slabs is suitable to absorb the sound of high frequency due to its short wave length.



C - Rock Wool Blankets

Burkani Rockwool blankets are flexible rolls formed from Rockwool fibers, slightly bonded with heat resistant thermosetting binders to meet the requirements of the American standards ASTM C 665, and ASTM C 553. Burkani Rockwool blankets produced in different thicknesses and densities up to 70 kg / m³. Normally faced with vapor retarder aluminum foil.



Length (m)	Width (m)	Thick (mm)	Density (Kg/m ³)	Thermal conductivity at 24°C (W/m.K)	Facing materials
4-6	1.2	30-100	40-70	0.035-0.038	Aluminum foil

Other sizes are available upon request

Packing: Products are packed in polyethylene film or bags.

Storage: Products should be stored dry. If possible also materials in original packaging.

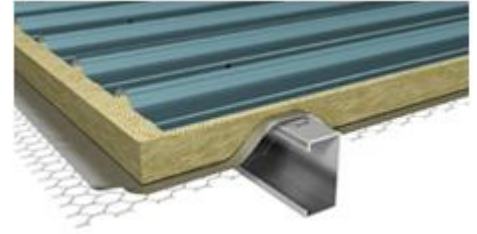
Materials without packaging should always be stored dry.

Application

- Burkani Rock Wool blankets are used as thermal insulation for commercial and industrial applications as recommended by ASTM C-553, as a such as duct wrap for HVAC insulation, Piping, Boilers, and Gas ovens thermal insulation.



- Thermal insulation for light frame constructions and manufactured housing as recommended by ASTM C 665 such as steel structure roof/walls thermal insulation, it is widely applied in hangers, Stores, Poultry, cold storage, and others.



D - Burkani Wired Blankets

Burkani Wired Blankets are flexible rolls mainly used for industrial sector for high temperature applications. The product is made out of molten mineral basalt rocks spun to fine fibers, bonded with slight amount of heat resistance binder and mechanically stitched with stitching wires to hexagonal galvanized steel or stainless steel wire mesh.

Burkani Wired Blankets are flexible and can fit onto different geometries and surface structures.



Packing: In well-sealed polyethylene bags or wrapped in polyethylene sheets.

Storage: Products should be stored indoors or under a water proof covering.

Applications

Burkani Wired Blankets are widely used in Petroleum Refinery, Petro Chemical Plants, Power Generation Plants, Water Distillation Plants, for thermal insulation of oil tanks, High Diameter Pipe Lines, Boilers, Chimneys, Electrical Generation Stations, Generator Rooms, Mechanical Rooms, and other industrial sectors.

Burkani Wired Blankets are produced in the following specifications:

Length (m)	Width (m)	Thick (mm)	Density (Kg/m ³)	Thermal conductivity at 50°C (W/m.K)	Facing materials
2-4	1-1.2	30-100	80-160	0.037-0.039	- Galvanized hexagonal wire mesh -Stainless-steel hexagonal wire mesh

Other sizes are available upon request.



Burkani Loose Wool

Burkani Loose Wool is manufactured by fiberizing molten Basalt and Limestone to produce fine fibers, then treated with water repellent emulsion oil, collected and used in loose shape, with the compliance of technical American standard ASTM C 764.

Physical and Chemical Properties

Physical Properties

Fibers Length: 30-50 mm

Fibers Diameter; 5-7 μ

None fibrous content (Shot Content) : <20%

Resin free rock wool



Applications

The flexibility of Burkani Loose Wool allows for installation in irregular shaped constructions and spaces where it is not practical to use a bonded product. Such as Furnaces and Ovens, Pipe Elbows, Vehicle Exhaust Mufflers, Solar System Cylinders. Burkani Loose Wool can also be used as raw materials in false ceiling tiles and break pad manufacturing.



Packing: In polyethylene bags with 10 to 20 kg.

Storage: RW Loose is stored in a place where they are protected from water, moisture, and chemical effects.





Quality Control & Technical Advice

The management of Al Tazi Rock Wool Factory have the goal to achieve and maintain the highest quality standards. ARW is certified for the quality management system according to ISO 9001-2008 standards, all the procedures related to the standard are fully implemented in all related processes including purchasing, supplier approval / evaluation, production, quality control, contract review, handling, storage, calibration, customer satisfaction, and customer complaints, product traceability, non-conforming raw materials / products.

The products are continually inspected on production line by quality team, to insure that all packed products comply with customer requirements; samples are frequently collected and tested in our laboratory which is equipped with high sophisticated testing instruments. The tests are conducted according to the related standard test methods, factory product control (FPC) as stated by EN 13162 is implemented showing the required tests and the frequency of testing.

FPC			
Sr #	Title	Test method	Minimum testing frequency
1	Length and width	EN 822	board (slab) 1 per 2hrs, Roll 1 per 4hrs,
2	Thickness	EN 823	board (slab) 1 per 2hrs, Roll 1 per 4hrs
3	Squareness	EN 824	board (slab) 1 per 2hrs
4	Flatness	EN 825	board (slab) 1 per 8hrs
5	Thermal Conductivity K (W/m.K) at 10°C ,24 °C, and 35 °C	EN 12667 EN 12939 ASTM C177	(1/day)
6	Compressive Stress (kPa) @10% deformation, CS(10)	EN 826/ C165	(1/ 8Hrs)
7	Short Term Water absorption (kg/m ²)	EN 1609	(1/ month)
8	Long Term Water absorption (kg/m ²)	EN 12087	(1/ month)
9	Water absorption (volume %)	ASTM C209	(A.P)
10	Water Vapor Sorption	ASTM C1104/C1104M	(1/ month)
11	Loss of Ignition (LOI %) (weight %)	EN 13820	(1/4Hrs)
12	Moisture Content	BS 2972 sec11	(1/4Hrs)
13	Non-combustibility test	EN ISO 1182	(1/ 3months)
14	Dimensional stability 48 h, 70 °C, 90 % R.H.	EN 1604	(1 month)
15	Shot Content (mass %)	ASTM C1335	(A.P)
16	Fiber Diameter	BS 2972 Sec 19	(A.P)
17	Recovery after compression	BS 3958	(A.P)
18	Rigidity or Semi-rigidity	ASTM C1101/C1101M	(1/ week)
19	Alkalinity	BS 3958 App B	(A.P)
20	Workmanship, Finish, and Appearance	ASTM C612	Continues

Al Tazi Rock Wool products are also tested by third party independent local and international laboratory.

SASO (KSA)  الهيئة السعودية للمواصفات والمقاييس والجودة Saudi Standards, Metrology and Quality Org.	Appearance of AL TAZI Rockwool Slab 50 kg / m ³	EN 13162
	Thermal Conductivity	EN 12667
	Length and Width	EN 822
	Thickness	EN 823
	Thickness Variation	EN 13162
	Squareness	EN 824
	Flatness	EN 825
	Fire Resistance	EN ISO 1182
	Compressive ³	EN 826
	Water Absorption	EN1609
	Water Vapor Transmission	EN 12086
	Dimensional stability under specified temperature and humidity conditions: - 23 °C, 48 Hours - 40 °C, 48 Hours - 70 °C, 48 Hours - 70 °C, 90 % RH, 48 Hours	EN 1604
King Saud University (K.S.A.) 	Thermal Conductivity at (10 - 90 °C) for - Burkani Slab with 40 kg / m ³ - Burkani Slab with 50 kg / m ³ - Burkani Slab with 70 kg / m ³ - Burkani Slab with 100 kg / m ³ - Burkani Slab with 140 kg / m ³	ISO 8301 ASTM C518 DIN EN 12667 / 12939 DIN EN 13163
AL HOTY-STRANGER LTD. CO. (K.S.A.) 	Asbestos Analysis Burkani Rockwool	EPA 600 / R-93 / 116 Using Polarized Light Microscopy
R&D Services (USA) 	Thermal Resistance @ 10°C, 2°C 4, and 35°C For Burkani Slab, 40,560, 70 density kg / m ³	ASTM C518-15
	Non Fibrous Content	ASTM C1335-12
	Fungi Resistance	ASTM C1338-14
	Corrosiveness	ASTM C655-12
	Odor Emission	ASTM C1304-08

ALTAZI Rockwool Factory is in process to achieve all related quality marks such as Saudi Standard Quality Mark, (DCL) Dubai Central Laboratory, Certificate of Conformity, additional to the certificates related to fire safety of products such as UL and IMO (certificate international maritime organization). Civil Defense certificates from GCC countries, Al Tazi Rock Wool has steady working plan to achieve the qualification by the governmental and private sector.

ALTAZI Rockwool Factory provides technical support to his valuable customers, which includes:

- Arrange with customers to Visit the project site and arrange meeting with the concerned persons (consultant, contractor, etc.)
- Products samples
- Thermal calculation
- Acoustic calculation
- Installation method

Issuing the necessary related documents such as:

- Technical data sheets.
- Test reports (in-house and third-party)
- Material test certificates (MTC)
- Third- party Products / factory certificates
- Warranty certificate
- Project compliance statement
- Material safety data sheet (MSDS)
- Handling and storage instructions