VALVE INSULATION JACKETS

GENERAL FEATURES

Steam traps and valves require periodic maintenance, easily applicable and removable jacket type insulations are more appropriate rather than fixed insulation applications for these armatures. A valve jacket is a simple and smart solution for preventing heat losses around the valves at hot or cold liquid transporting pipelines.

Thermal energy benefit by jacket type insulations is dependent on some factors likewise process temperature, ambient temperature and wind speed.

Un-insulated valves cause energy loses, reducing energy loses to the minimum level by using valve jackets helps to reduce operation costs. Easily removable valve jackets make the maintenance easier.

APPLICATION AREAS

- Hot water and steam lines
- Refineries and gas processing plants
- Petro- chemical plants
- Power plants
- Military establishments
- Food and oil mills
- Textile industry
- Plastic plants
- Oil and gas processing industry
- Pharmaceutical plants

INSULATION ADVANTAGES

- Health, safety,
- Heat economy >> Energy, competition, business
- Providing thermal comfort conditions
- Sound level
- Fire protection
- Prevention of sweating, coagulation, evaporation and frost,
- Temperature drop in pipelines, use of thermal capacity efficiently

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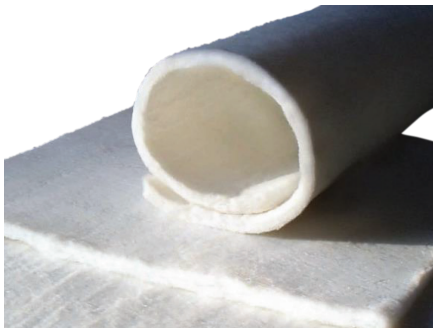
FABRIC TYPES

ROCK WOOL

• It is obtained by making the basalt stone melt and fibrous.
• The thermal conductivity value k= 0,040 W/mK.
• The water vapor diffusion resistance is m= 542 mgm/Nh Mu (μ)
• Rockwool is also an open-pored material. 99% of the material covers the air gap. In this respect, it is easy to get wet if measures are not taken.

PYROGEL XT

• Thickness: 5 mm - 10 mm
• Max Usage Temperature: 0 °C + 650 °C
• The thermal conductivity value k = 0.021 W / m-K.
• Color: Beige
• Density: 0.15 g / cc
• Hydrophobic: Yes
• It has 3-5 times better k value than other insulation materials.
• It is resistant to pressure and impact.
• Class A is a group of fireproof materials.



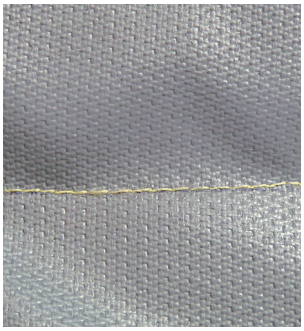
CRYOGEL X

• Thickness: 5 mm - 10 mm
• Max Usage Temperature: -200 °C + 90 °C
• The thermal conductivity is k = 0.015 W / mK.
• Color: White
• Density: 0.15 g / cc
• Hydrophobic: Yes
• It has 3-5 times better k value than other insulation materials.
• It is resistant to pressure and impact.
• Class A is a group of fireproof materials.

ROPE

Ceramic Fabric (1260 °C Resistance)

JACKET FABRIC



• Cyclon Fabric (outer scale-inner scale opt.) (200 °C Resistance)
• Fiber Glass Fabric (inner scale) (500 °C Resistance)

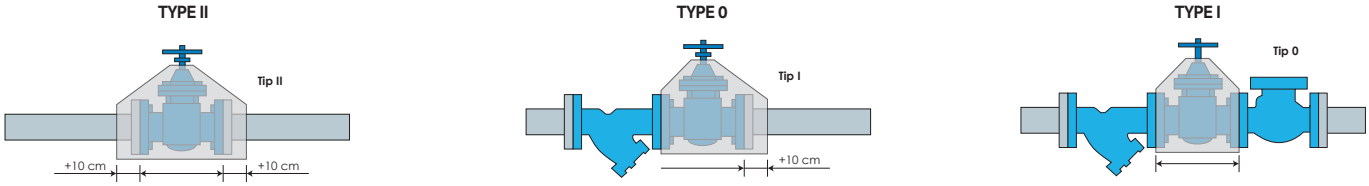
Velcro bants and metal wire hooks are included and standard.

VALVE INSULATION JACKETS

SELECTION CRITERIA

- **Resistance to Different Operating Temperatures:** Protects physical and thermal properties.
- **Physical Strength:** It should not lose its original properties during (vibration), storage, loadings, operation and application.
- **Mechanical Strength:** should not deteriorate in expansion and contraction.
- It must be easy to install.
- **Resistance to Flammability:** must be considered and covered with appropriate coating techniques.
- **Resistance to Corrosive Effects:** Water, steam etc. resistance to leaks or condensation.
- **Insulation Thickness and Weight:** Investment cost should be observed.

APPLICATIONS



TYPE 2

- Standart Applications
- Bypass Valves
- Seperators
- Pressure Reducing Valve

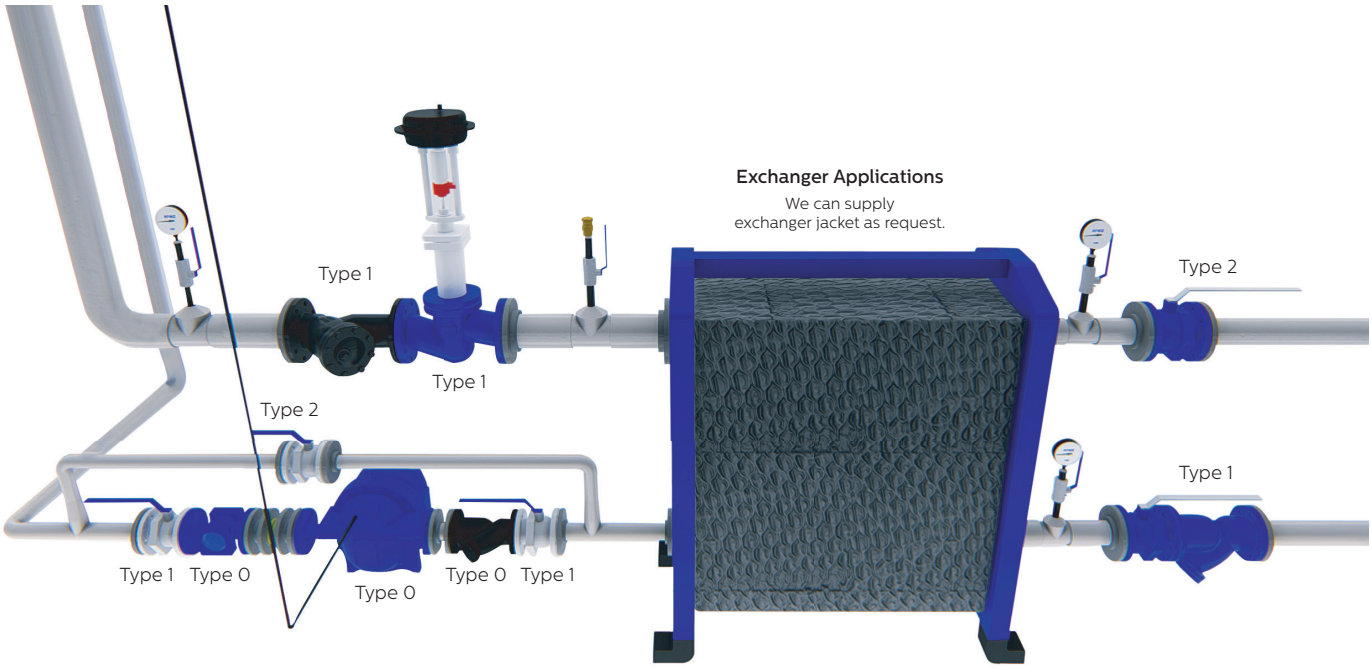
TYPE 0

- Steam Traps
- Non-return Valves
- Strainers
- Flange to Flange Connected Equipment

TYPE 1

- Steam Trap Unit Starts
- Steam Trap Unit Ends

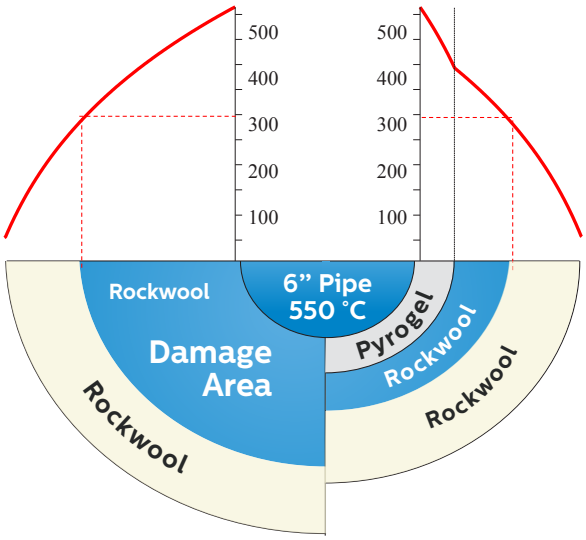
Note: If the customer does not specify the valve jacket type, Type-2 will be default.



VALVE INSULATION JACKETS

COMBINATION OF ROCKWOOL AND AEROGEL

- Combined use reduces surface area.
- PGXT at high temperatures
- TY at low temperatures
- It also reduces the cost of investment.
- At temperatures above 300 °C, rockwool is damaged and the insulation quality is reduced.
- Combined use will also increase the lifetime and thermal resistance capacity of the limelight.

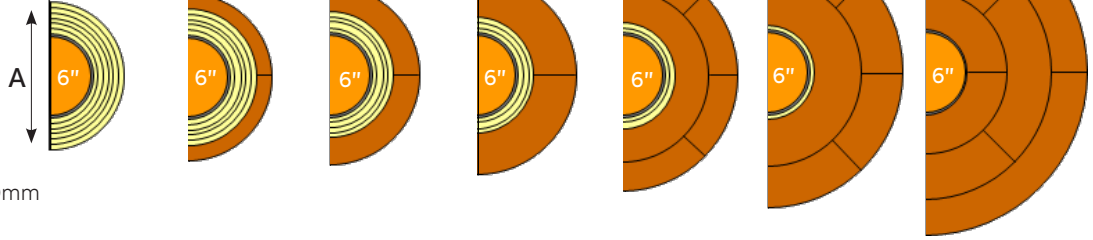


COMBINED APPLICATION EXAMPLE

		EXP. 1	EXP. 2					
PYROGEL	(mm)	70	50	40	30	20	10	-
ROCKWOOL	(mm)	-	30	50	80	110	160	230
TOTAL THICKNESS (A)	(mm)	290	310	330	370	410	490	610

EXP. 1
6"=150mm
150+(70x2)=290 mm

EXP. 2
6"=150mm
150+(50x2)+(30x2) =310mm



In this example, Pipe Size is 6", T_{in} = 550 °C ambient temperature T_{AMB}= 20 °C and insulation surface temperature T_{SRF}= 40 °C.

STANDARD OF THERMAL HEAT UNIT (R)

Insulation Scale	50 mm Rockwool	10 mm Pyrogel	10 mm Pyrogel + 50 mm Rockwool	20 mm Pyrogel + 50 mm Rockwool	30 mm Pyrogel + 50 mm Rockwool
R Unit Value*	1,428 m².K/W	0,476 m².K/W	1,904 m².K/W	2,380 m².K/W	2,856 m².K/W

*Please check your R value according to your country's standards.

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