Removable Insulation Systems

SOLVIT

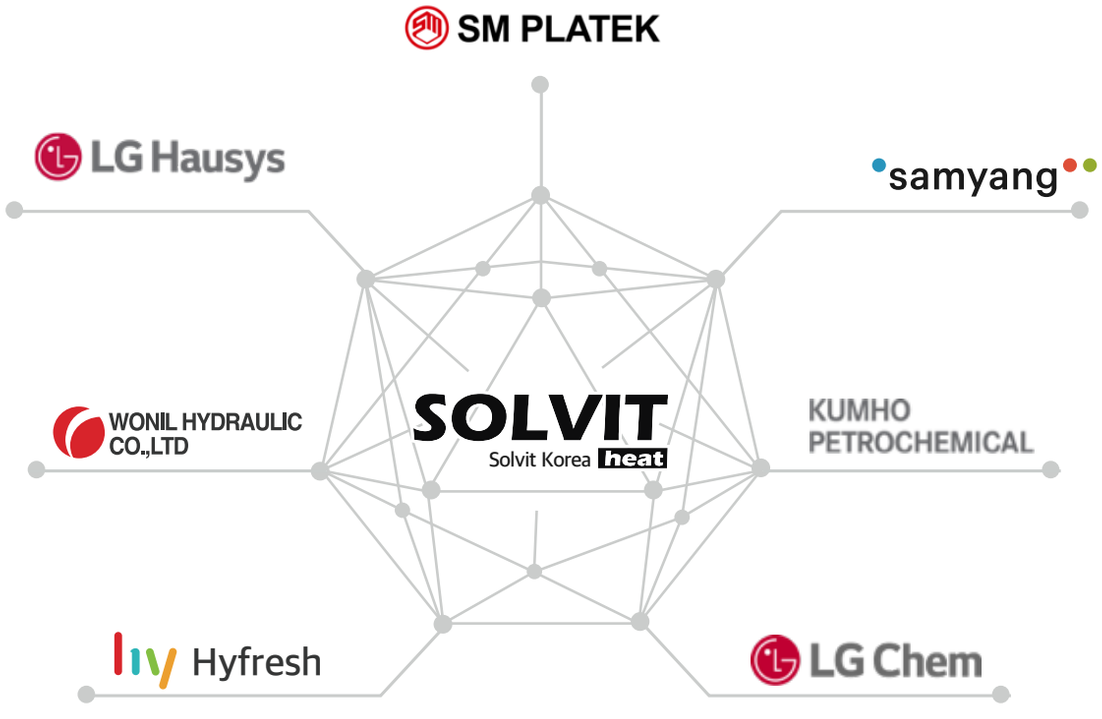
Solvit Korea heat

Solve it, change it

SOLVIT heat KOREA

Major Customer

Solvit Korea manufactures products that best meet customers' needs.
We would like to present a solution to all problems
related to insulation in the industrial field.



Analyze current plant energy loss issues

We improve energy saving rate of each plant dramatically.

Solvit korea's unique compact insulation technology solves the following problems.

Analyze current plant energy loss issues

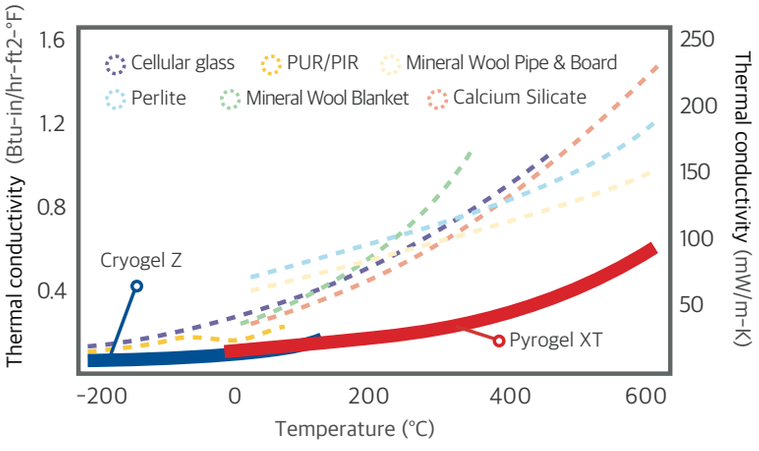
- After repairing the equipment in the insulated section, the insulation is damaged and left to be lost.
- Deterioration of insulation period, Destruction of insulation performance by immersion of water
- The section without insulation due to space constraints

We can suggest the solution above all problems.

We use Aerogel made by ASPEN USA as main insulation material

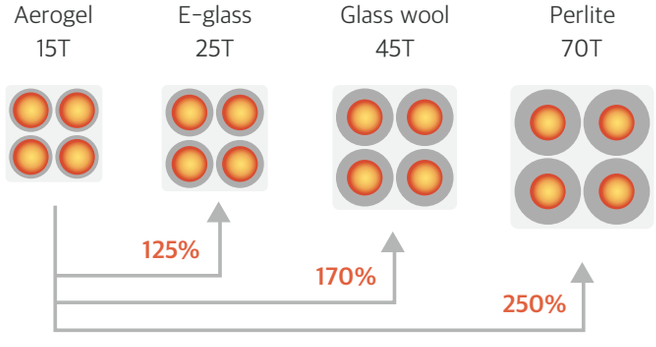
▶ Aerogel used by solvit korea VS Various insulation used by other companies

Comparing thermal conductivity

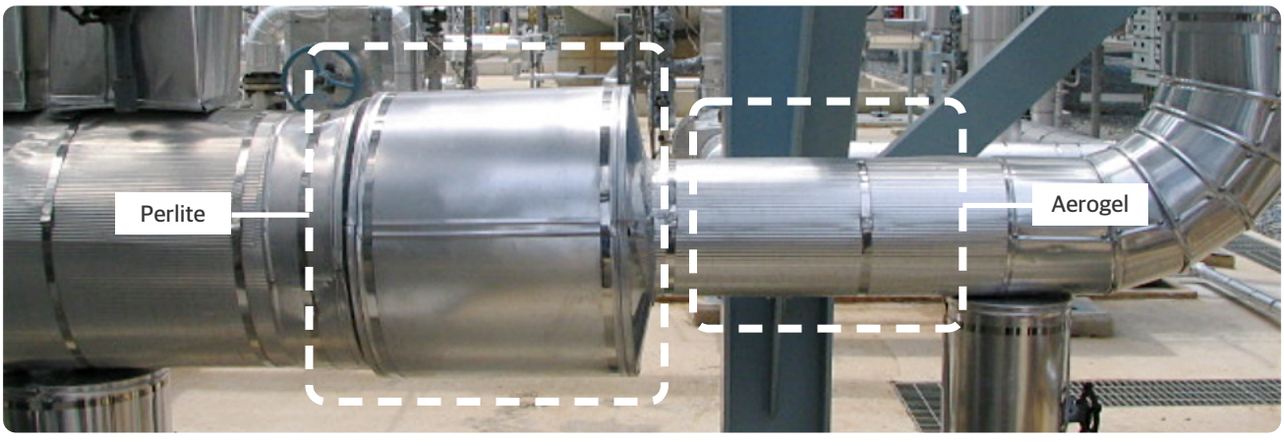


Using perlite 125T

Comparing pipe thickness 6inch pipe, 360℉, after insulation 100℉



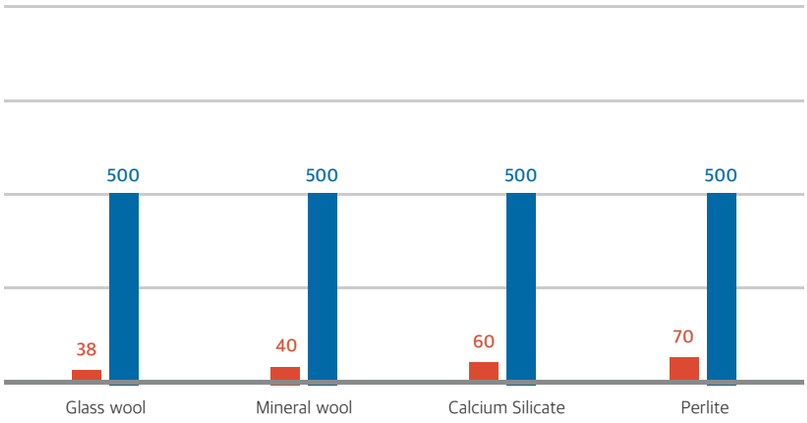
Using aerogel 30T



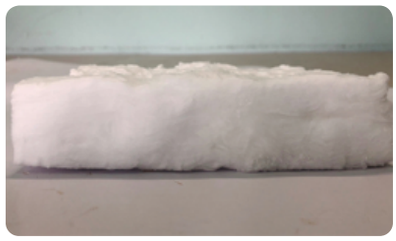
The insulation products of our company have solved the weakness of moisture.

▶ All wool type insulation has the disadvantage of absorbing moisture by capillary phoenomenon.

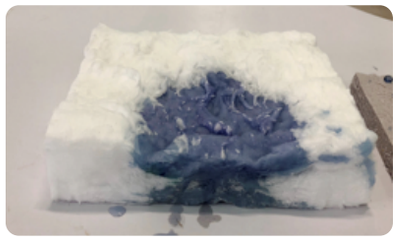
→ Significant reduction in thermal performance when absorbing moisture



All wool type insulation material increases the thermal conductivity by 500% when it absorbs water.

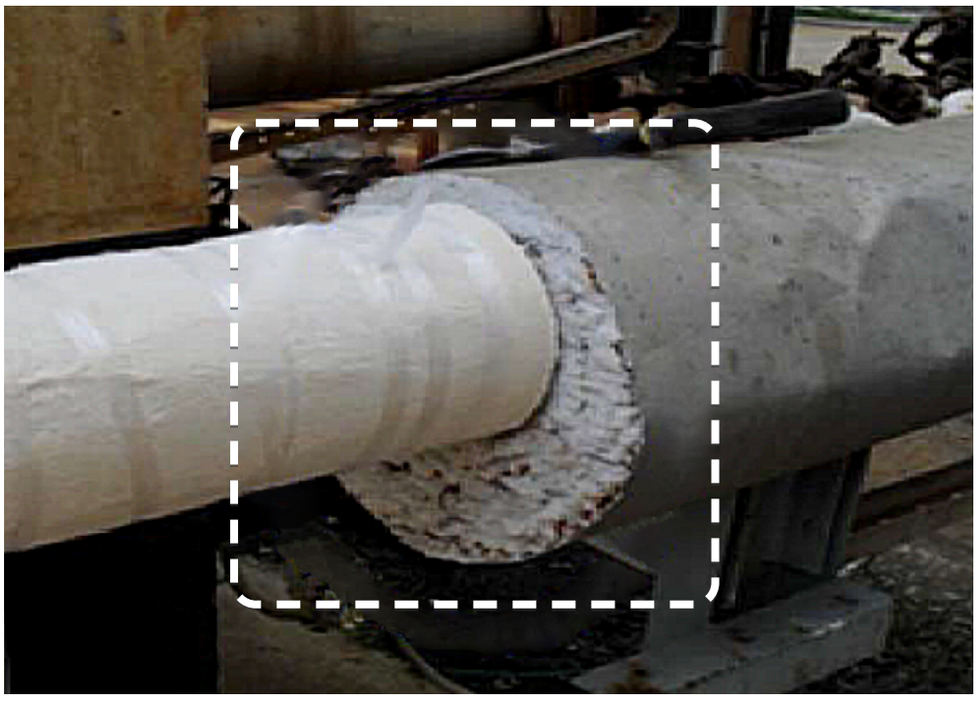


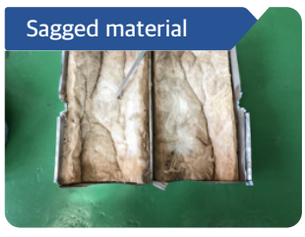
Cerak wool 25T
(Hydrophilic material)
water is absorbed



▶ Insulation material of pipe is sagged due to accumulation of moisture penetration.

※ Insulating material is not restored, insulation is lost, and insulation is lost.





CUI(Corrosion Under Insulation)

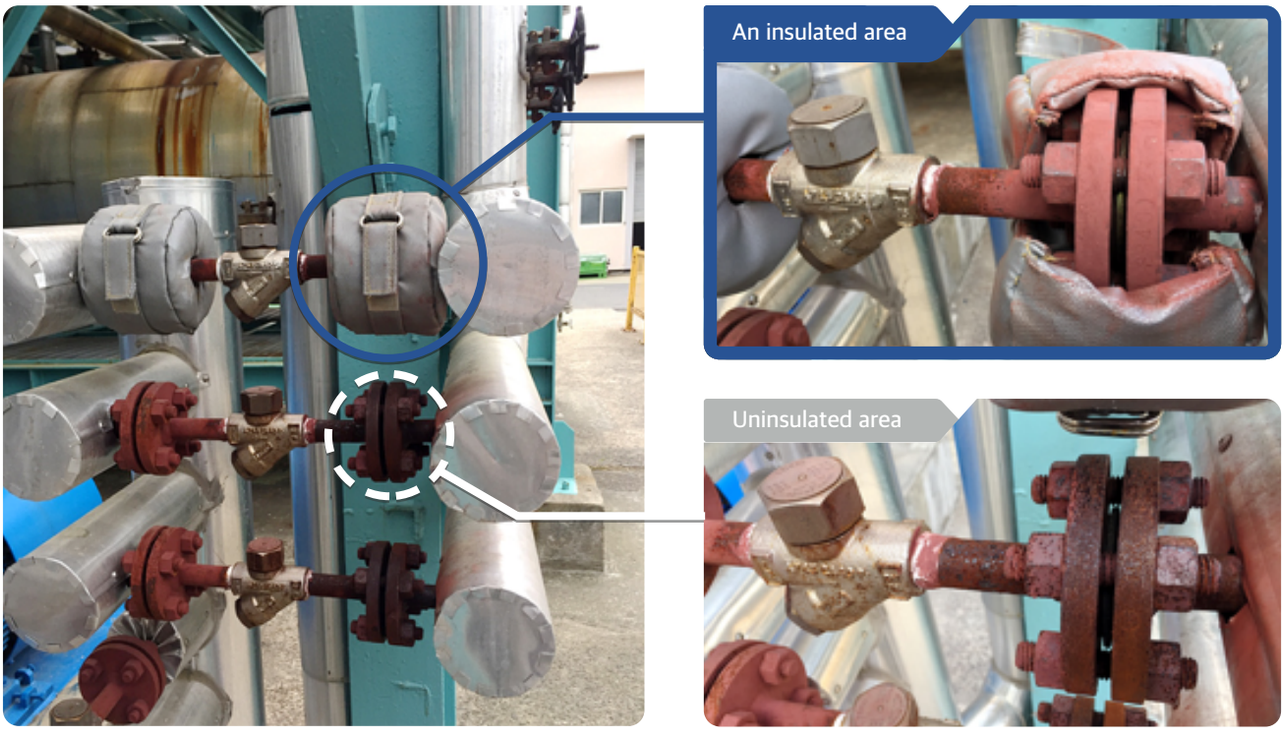
The wool type of insulation absorbs the leaking water from the valve and gradually corrodes the valve.

▶ Examples of Corrosion

▶ Corrosion of outdoor steam traps requires replacement every 5 to 8 years

Test period: 3 years

-Insulated area: Rust-free paint remains.
-Uninsulated area: paint peels off and corrosion begins



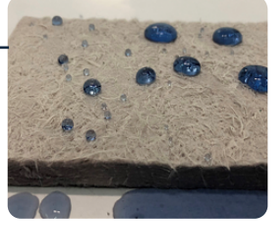
Our solution for absorbing water problem.

Sewing thread-

Teflon coated

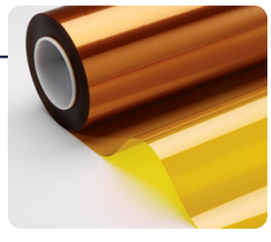
Material for jacket

Silicon coated glass fiber
or Teflon coated glass fiber
or Teflon film



Inside insulation material

Aerogel made by ASPEN USA

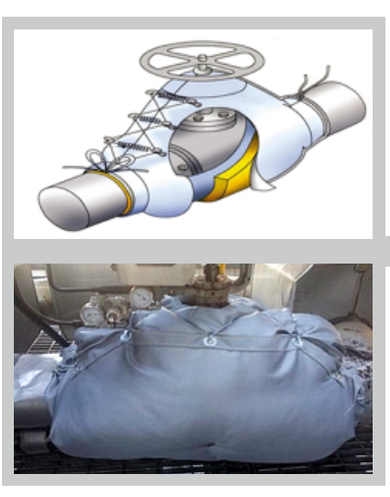


Inside insulation material

Polyamide film

Our insulation cover products are not exposed to rain or moisture even when installed outdoors.
Therefore, there is no damage or deterioration of insulation performance due to moisture penetration.

Examples of Other Insulation Products Problems



Easy removable our products apart from others



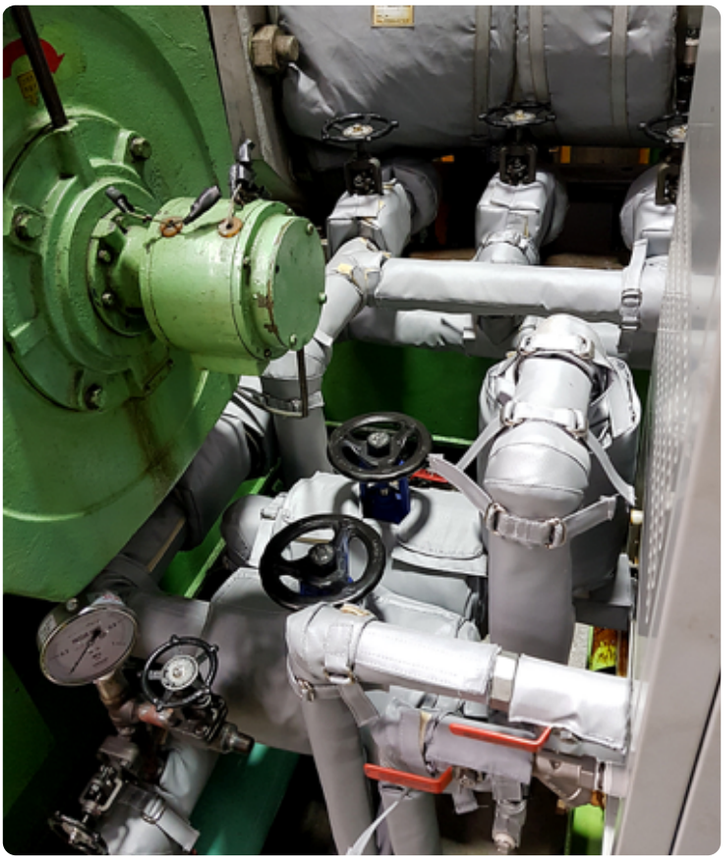


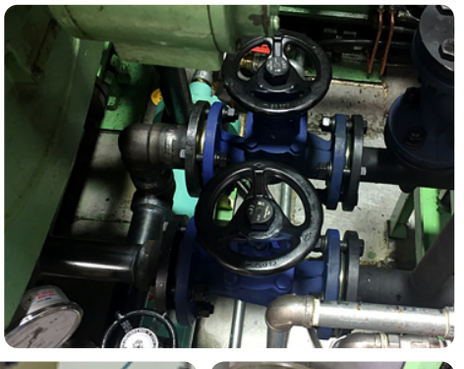


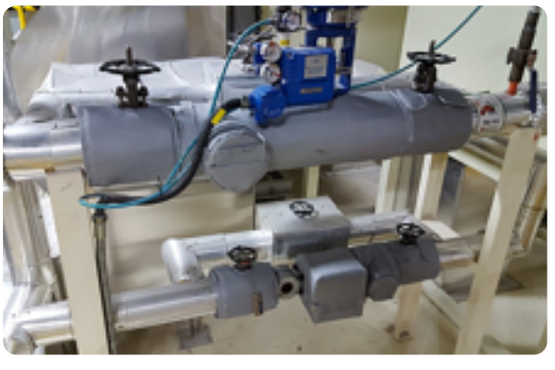




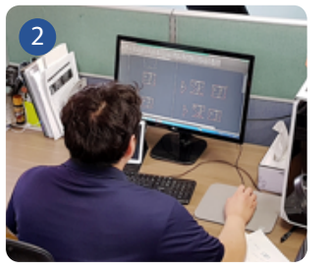

Our unique and compact construction example

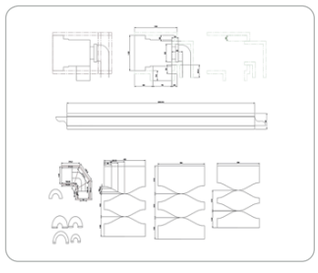




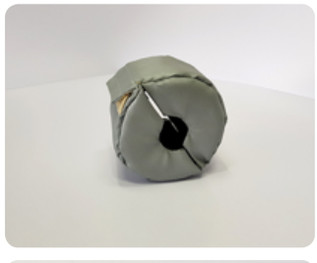


We produce customized products according to customer's usage environment.









1 Measurement → 2 Design → 3 Production → 4 Installation

Our products require very little re-installation cost.

▶ Chemical raw material hopper

Surface temperature before insulation 400℃

- Previous insulation and thickness: Glass wool 200㎜ + Metal casing type
- Repeat disassembly and re-construction for inspection and maintenance once a year
- Dust and insulation particles are scattered during disassembly and rework. Harm to working environment
- Time to dismantle and re-apply: 1 week

Changes after improvement

- Temperature after insulation 50 ℃
- Time to attach / detach: 20 ~ 30 minutes
- There is no dismantling and reworking cost that is required for maintenance every year.
- Dust and particles are not generated when attaching or detaching

▶ Prossure vessel insulation

surface temperature before insulation 150℃

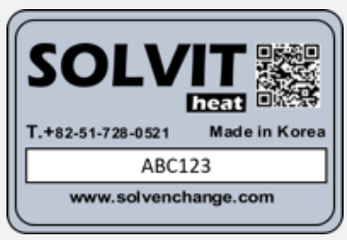
- surface temperature before insulation 150℃
- Insulation type and thickness before: Glass wool 80㎜ + Metal casing
- Disassembly and re-installation is required for replacement and maintenance of piping every 2 to 3 years
- Dust and insulation particles are scattered during disassembly and rework. Harm to working environment
- Time to dismantle and rework: 3 to 4 day

Changes after improvement

- Aerogel 20mm + Silicone coated glass fiber, after heat insulation temperature 30 ℃
- Time to attach / detach: 20 ~ 30 minutes
- There is no dismantling and reworking cost that is required for maintenance every year.
- Dust and particles are not generated when attaching or detaching

Product Warranty

However, it does not include any careless use or some flexible items.



You can conveniently receive A / S by scanning the name plate QR code attached to the product.

Comparison of insulation methods according to life cycle

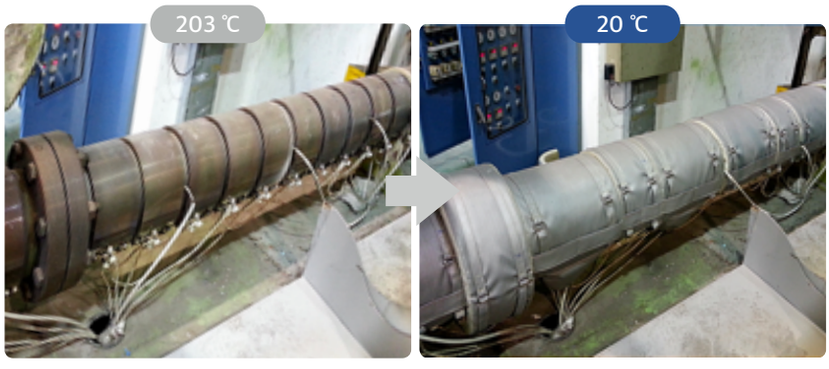
		Metal casing method	General removeable cover	Ours
Removable comfort	Rework cost	Rework each time	Difficult, specialist needed	**No need**
	Repair - maintenance cost	Always happen	It repuires very often	**No need**
Isulation failure cost	Snow, when it rains	**500 times** increase in energy cost when penetrating moisture	**500 times** increase in energy cost when penetrating moisture	**No insulation failure due to no moisture penetration**
	Loss of insulation	Insulation material likely to be lost during inspection and repair	No	**No**
Moisture penetration	Thermal efficiency degradation	Insulation degradation and non-recovery	Insulation degradation and non-recovery	**No moisture penetration**
	Corrosion by moisture	Severe corrosion on equipment during moisture penetration	Severe corrosion on equipment during moisture penetration	**No moisture penetration**
Insulation in a narrow place		Insulation is impossible	Insulation is impossible	**Possible**
Durability		Case : Dent easily Insulation : weak durability	Not available for a long time	**Semi-permanent**
Construction time		Long time, inconvenience, need specialist	Normal, need apecialist	**Very easy**

The best way to propose a solution for electricity savings to companies using injection and extruders!!

▶ Circular barrel type heater insulation

2015. 12
Size : 155㎜(Φ255×4m)
Saving Energy : 10.24kW

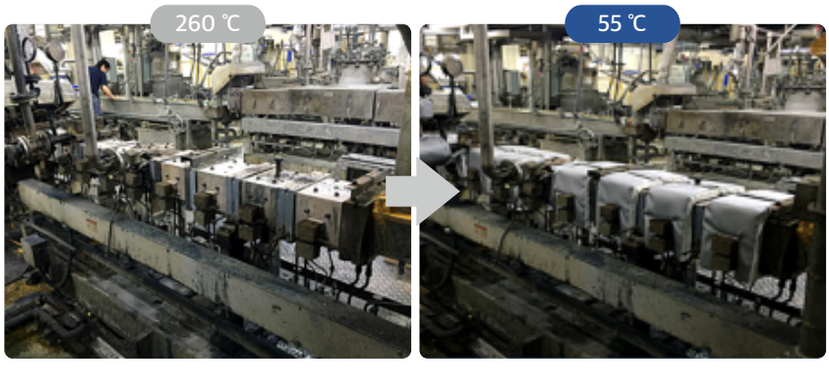
- Injection machine
- Extruder
- Cylinder



▶ Square barrel-type heater insulation

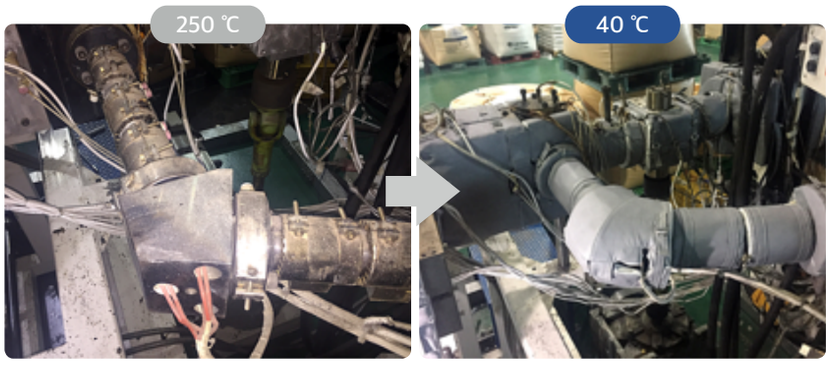
2017. 08
Size : JSW 58㎜
Saving Energy : 2.7kW

- Compound Extruder



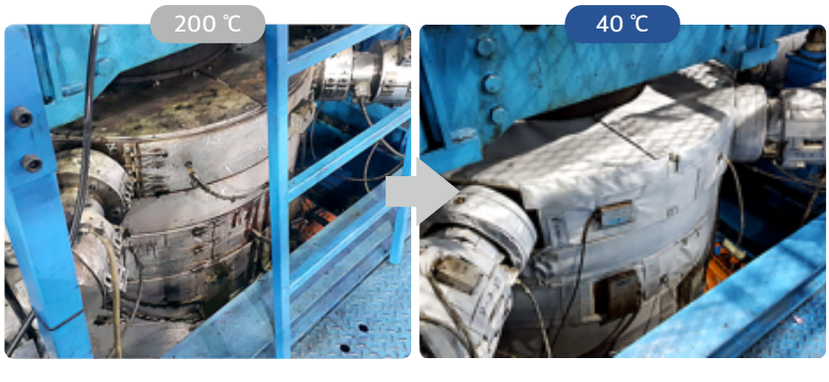
▶ Flim extruder adapter insulation

2016. 12
Saving Energy : 5.73kW



▶ Blow molding type heater insulation

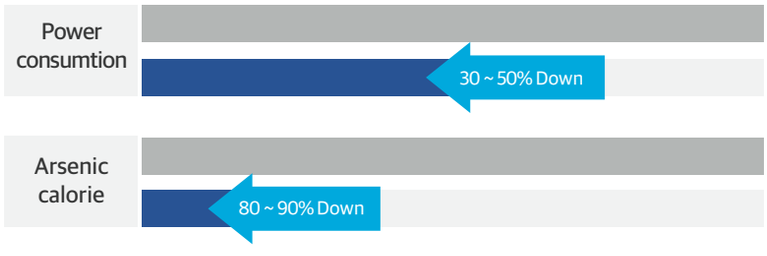
2016. 05
Saving Energy : 17.63kW

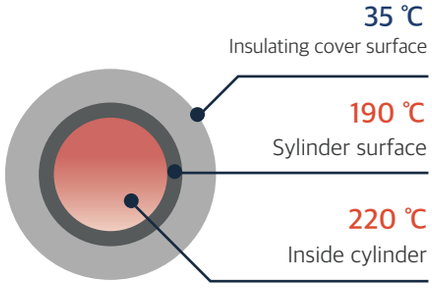


▶ Applied materials and characteristics

Jacket : Silicone coated Glass fiber(~220℃), **Teflon film(~260℃)**
Inner surface material : Silica (~1,000℃), silica coated with teflon (~400℃)
Insulation material : **Aerogel** (**Pyrogel XT**, ~600℃), Ceramic Wool (~1,000℃)
Sewing thread : Teflon coating sewing thread

▶ Energy Saving





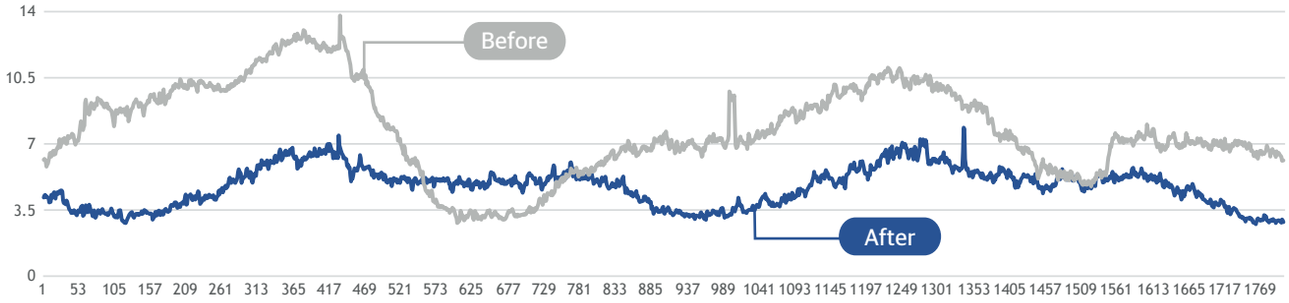
▶ Saved Expense Year

(6,600 hours per year, power rate of USD 0.1 / kWh)

	Injection Molding Machine								Extruding Machine		
Type	100 ton	300 ton	650 ton	850 ton	1300 ton	1800 ton	2500 ton	3000 ton	ReProduction	Compound	Flim Extrusion
Power save/hour	1.0KW	1.6KW	2.5KW	3.2KW	4.2KW	5.5KW	6.2KW	8.0KW	16.0KW	4.0KW	13.1KW
Saving Cost	USD 600	USD 1000	USD 1600	USD 2100	USD 2700	USD 3600	USD 4000	USD 5200	USD 10600	USD 2600	USD 8600

▶ Power Consumption Before and After Insulation Graph

(Extruder / Cylinder size ⌀155 x L1800 / Before insulation : 7.9kw After insulation : 4.9kw)



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