



KUMHO ENERPOR

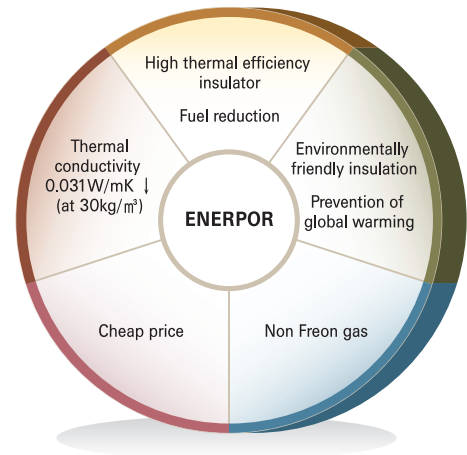
Leading the World Petrochemical Industry



Characteristics of Kumho Enerpor

Kumho Enerpor introduces the absorption concept of the radiant heat to conventional expanded polystyrene, which dramatically improves insulation performance.

Kumho Enerpor is the new concept insulation agreeing perfectly with energy saving and environment protecting in high oil price age.



“The new green material born from the new technology - **Enerpor**”

Characteristics of Enerpor

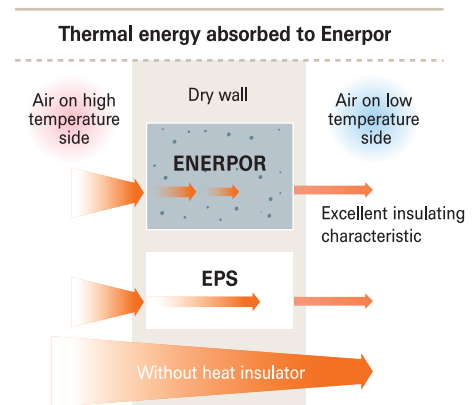
“Thermal insulator that nature first feels, Enerpor”

Slim structure and style, environmentally-friendly material with excellent insulation properties as well as anti-bacterial effect, Enerpor, environmentally-friendly insulation material, will change your place into a high-class interior space.

Enerpor's insulation effect

Insulation effect can be expressed by thermal conductivity which is a constant to show transferring degree of thermal energy. Lower thermal conductivity represents higher prevention of thermal energy transfer which means better insulation performance.

Kumho Enerpor is the new technology product that improves thermal insulation performance by 10%~20% compared to conventional expanded polystyrene in the same specific gravity.

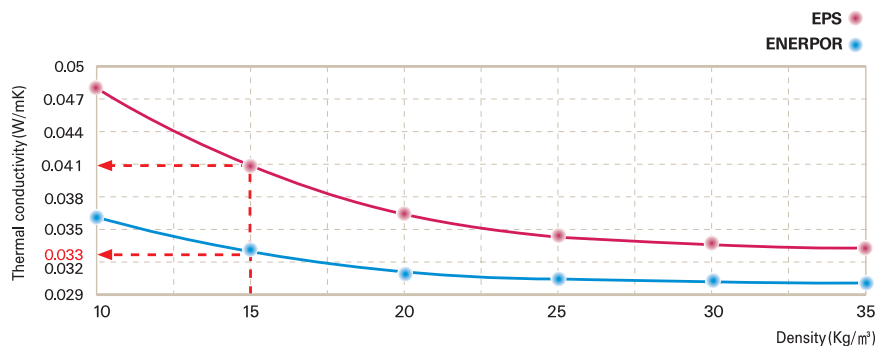


Enerpor's performance and property of matter

Enerpor's insulation performance

• Thermal Conductivity

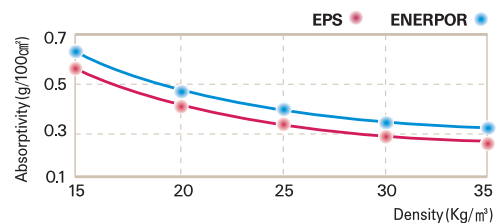
Kumho Enerpor developed with our own technology is the high-tech material that improves thermal insulation performance by 10%~20% through combining graphite into conventional expanded polystyrene.



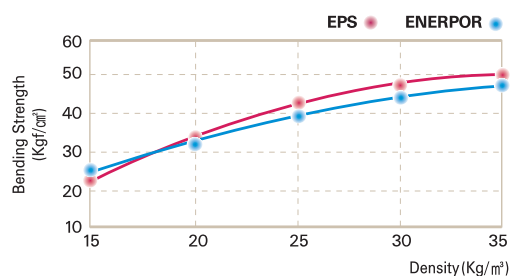
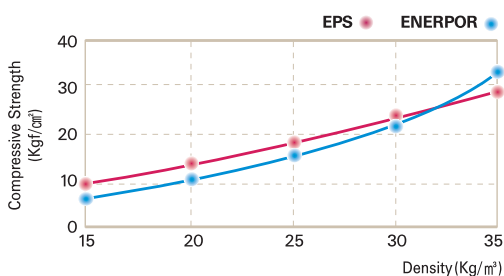
Enerpor's property of matter

• Absorptivity

Kumho Enerpor is differentiated from the similar black EPS by keeping the fine closed cell structure, which is the characteristic of conventional expanded polystyrene. Therefore, Kumho Enerpor has the similar properties with EPS for compressive strength and bending strength including absorptivity that is the essential part of foam insulation.



• Strength



Merit of Enerpor compared to conventional insulation

01

Kumho Enerpor is the environmentally friendly insulation.

By improving 10~20% insulation performance compared to conventional expanded polystyrene, Kumho Enerpor reduces carbon dioxide discharge through energy saving and fuel reduction in high oil price age.

02

Kumho Enerpor uses only green additives.

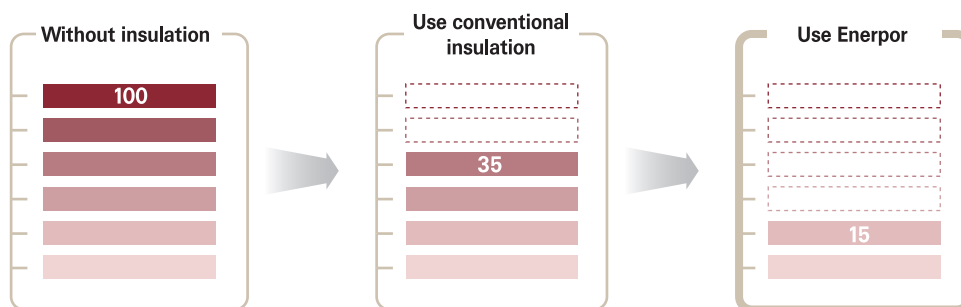
Kumho Enerpor does not use any Freon based blowing agent which is the main cause of ozone layer destruction and it will not affect global warming.

03

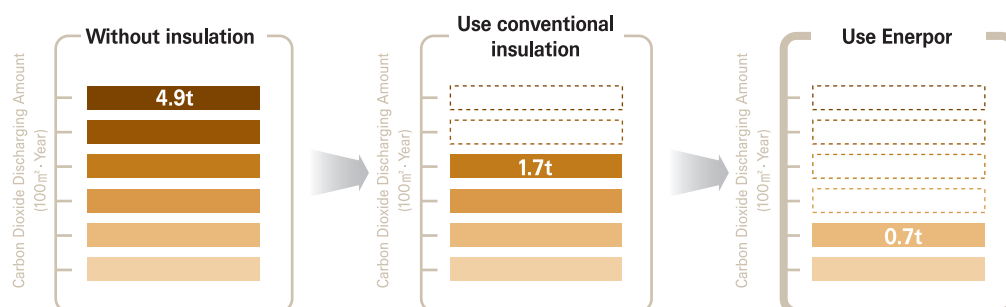
Kumho Enerpor is the environmentally friendly wellbeing insulation.

Because Kumho Enerpor possesses a low absorptivity, it is safe against a germ and a corrosion.

Energy consumption reduction effect



Carbon dioxide discharging amount



Enerpor's application fields

Insulation

The world pays attention to "zero carbon green home"...

Now, green growth age is started.

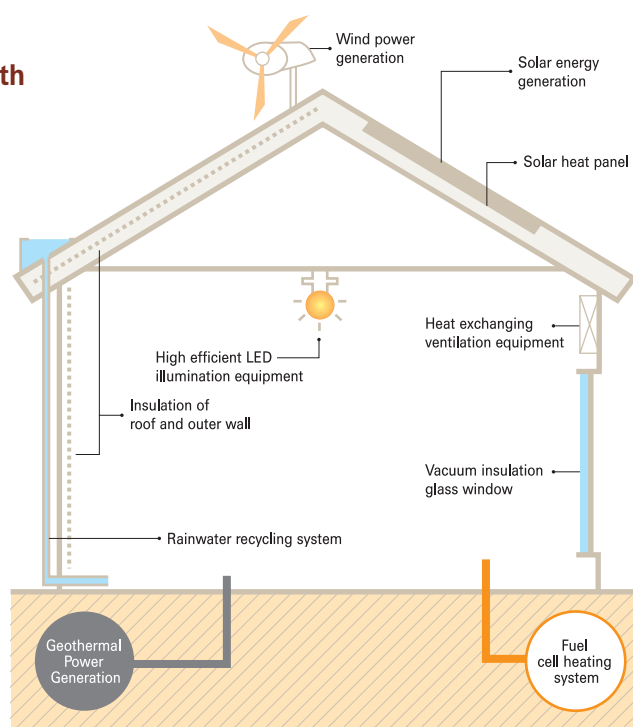
Kumho Enerpor will lead the green growth in the world economy.

The housing sector consumes 25% of the world's energy.

In the world economy, a new topic of conversation has emerged "zero carbon emission houses" so-called "Green homes".

Kumho Enerpor satisfies the essential condition of "Green homes" by completely insulating through maximizing energy efficiency and minimizing absolute energy usage.

It can be used universally on all places such as exterior, interior, between floors, and ceiling insulation.



Damping material between floors

Kumho Enerpor effectively blocks impact sound between apartment house's floors.

Floor impact sound is occurred from human's walking, dropped things, child's running or jumping, and furniture movement.

Kumho Enerpor as a damping material shows excellent performance to block a impact sound of floor structure including a standard floor structure.

In addition, its superior ability as thermal insulator helps to reduce fuel consumption.

Enerpor's Grade

Description

Enerpor is an expandable polystyrene granulate which can be processed into foam boards and moulded parts with reduced thermal conductivity. Enerpor contains a flame retardant agent.

Typical properties

Property	Unit	Test Method	Grade	
			EPOR 20 I	EPOR 16 S
Bead Size Class	mm	Kumho	0.7~1.5	0.9~2.0
Blowing Agent	wt %	Kumho	≐ 5.2	≐ 5.3
Residual Styrene Monomer	wt %	Kumho	≤ 0.4	≤ 0.4
Normal Molded Density Range	g/l	Kumho	20~25	14~17

Packaging and storage

Enerpor is supplied in Gambobags.

In order to obtain the desired properties of Enerpor, the raw material should be stored below 15°C and be used up within a month from the date of dispatch.

Safety instructions

Flammable pentane air mixtures may be generated during storage and processing of Enerpor.

Adequate ventilation must be ensured for this reason.

All conceivable sources of ignition must therefore be kept away and the generation of electric charges prevented.

Research and Development

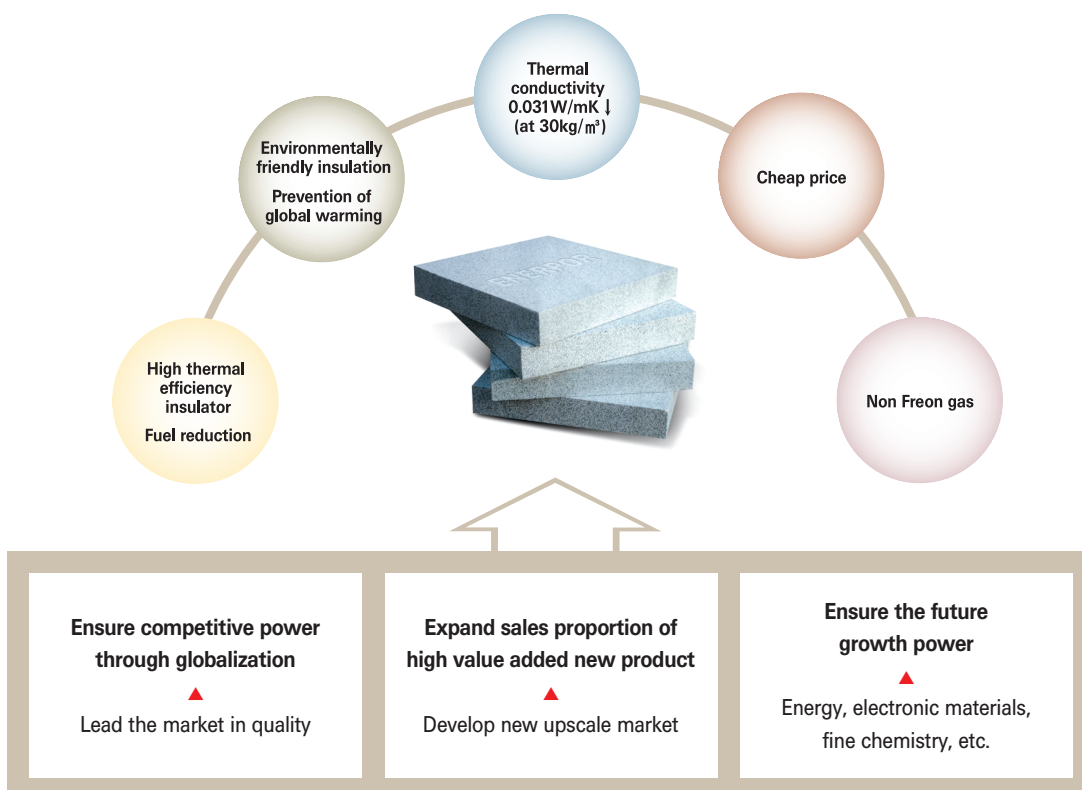
EPS resin was first produced in Korea by Kumho Petrochemical Co., Ltd., the pioneer of the Korean domestic synthetic resin producers.

Kumho EPS has been widely utilized in various purposes such as packing material, insulation, fish box, and cup vessel, etc.

Especially, we develop and sell special-purpose products such as Enerpor, PE/PS foam, low foaming product and color product. We also lead the market in quality.

In the future, our company will answer our customer's demand by producing environmentally friendly and high functional products including new process development.

Development of new concept EPS that show excellent insulating characteristics



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**KUMHO
PETROCHEMICAL**



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