

ULTIMATE SOLUTION FOR SAVING ENERGY

# HYPER-VAC

HIGH PERFORMANCE FUMED SILICA VIP

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**KD ONE**  
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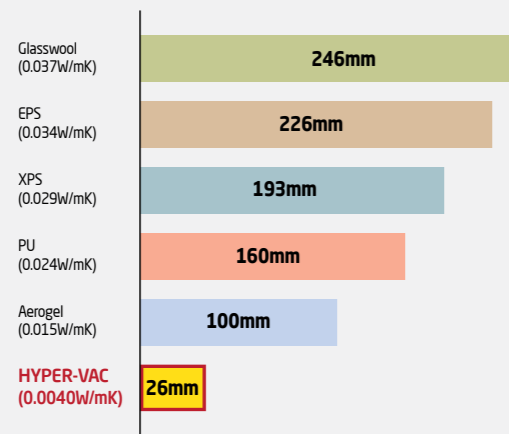
HYPER-VAC is a form of thermal insulation consisting of a nearly gas-tight enclosure surrounding a rigid core, from which the air has been evacuated. It has 8 to 10 times lower thermal conductivity than any other conventional insulation materials. HYPER-VAC can be used in any places where cooling and heating is necessary including construction, refrigerator, transportation and LNG vessel with various three-dimensional shapes.



## WHAT IS HYPER-VAC?

High performance vacuum insulation panel, HYPER-VAC is made up of a fumed silica core and covered with metalized film. It has 8 to 10 times better insulation performance than conventional insulations. Especially unlike existing fumed silica vacuum insulation panel, HYPER-VAC is made up of fumed silica and perlite which forms structure. It has characteristics of outstanding insulation performance and strength even with low density.

\* Thickness comparison according to thermal conductivity(W/mK)  
(U-value of exterior wall : 0.15W/m<sup>2</sup>K)



## FEATURES OF HYPER-VAC

### OUTSTANDING HEAT INSULATION PERFORMANCE

HYPER-VAC has thermal conductivity less than 0.0040W/mK and provides 8 to 10 times better insulation performance than conventional insulations. At the same condition, up to 85% of insulation thickness can be reduced. More space can be available and it is possible to minimize the size of products.

### OPTIMIZATION OF PASSIVE HOUSE AND REMODELING WITH MINIMIZED INSULATION THICKNESS

HYPER-VAC can be an ideal insulation solution for passive house and can provide the thinnest insulation for remodeling which should meet the strengthening insulation regulations.

### WIDE RANGE OF USE TEMPERATURE AND LONG SERVICE LIFE OF MORE THAN 30 YEARS

HYPER-VAC is applicable from -160°C up to 150°C in use temperature and it maintains long service life more than 30 years due to characteristics of fumed silica.

## APPLICATION

### Insulation solution for zero energy house

- Building's internal and external wall insulation
- Core for exterior finishing panel
- Curtain wall's spandrel insulation
- High performance fire protection door

### Appliance insulation solution for betterment of energy

- Refrigerator, freezer
- Medical use special fridge
- Vending machine, showcase, water purifier
- Medical use transportation box
- Transportation

## PICTURE



### Available in various shapes

HYPER-VAC is manufactured by KD ONE's patented technology and possible to be produced in different shapes applicable for complicated structure.

## PROPERTIES

Thermal conductivity (W/mK)	Density (kg/m <sup>3</sup> )	Thickness (mm)	Width (mm)	Length (mm)	Compressive strength (KPa)
Less than 0.0040	165~180	6~40	150~700	150~1,800	More than 150