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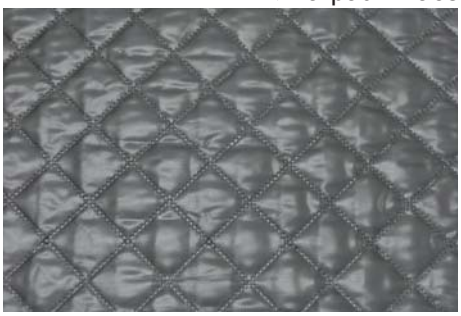
Heat insulation accordion curtain having both high heat retaining property and dew condensation prevention.

Heat insulation curtain

▲Aluminum face

▼Tarpaulin face



1:Heat conduction prevention by microfiber with advanced technology.

Microfiber with the diameter of several microns shaped in the form of cotton is used for the center part of the heat insulation sheet. These entangle in a net-like shape with high density and it confines an air as air bubble inside of each fiber by a patented technology of burst fiber method. Front surface is wrapped in a PE foam sheet with low thermal conductivity, furthermore, keeping the dead air prevents more heat conductance.

2:Easy opening and closing operation using a curtain rail.

Not only putting it on a product or a cart, it can be also used as a partition by fitting it to the curtain rail because the sheet is light. Single sliding or double sliding handle is used together, opening and closing operation can be easily done. In order to increase the sealing effect, a gap blocking sheet can be attached to the upper part of curtain rail. When the curtain is not used, it can be tied to one side with a same fabric belt. (※Option)

Thermal transmittance calculation of Heat insulation sheet

Thermal transmittance :K ＝2.17Kcal/m2・h・℃

Thermal conductivityλ1 : 0.05Kcal／m・h・℃

Heat transfer coefficient of outer surfaceλ2 : 5Kcal／m・h・℃ (in a windless state)

Heat transfer coefficient of inner surface λ3 : 7Kcal／m・h・℃ (in a gentle wind state)

Sheet thickness t: 0.003m (average)

$$K = \frac{1}{1/\lambda 2 + t/\lambda 1 + 1/\lambda 3}$$

＊Attention

①Thermal transmittance of heat insulation sheet is greatly influenced by inner/outer wind velocity of the partition material.
The test calculation mentioned above was in the state of one side was windless, the other side was gentle wind.
When both sides were windless, K=2.17Kcal/m2・h・℃
When both sides were gentle wind, K=2.89Kcal/m2・h・℃

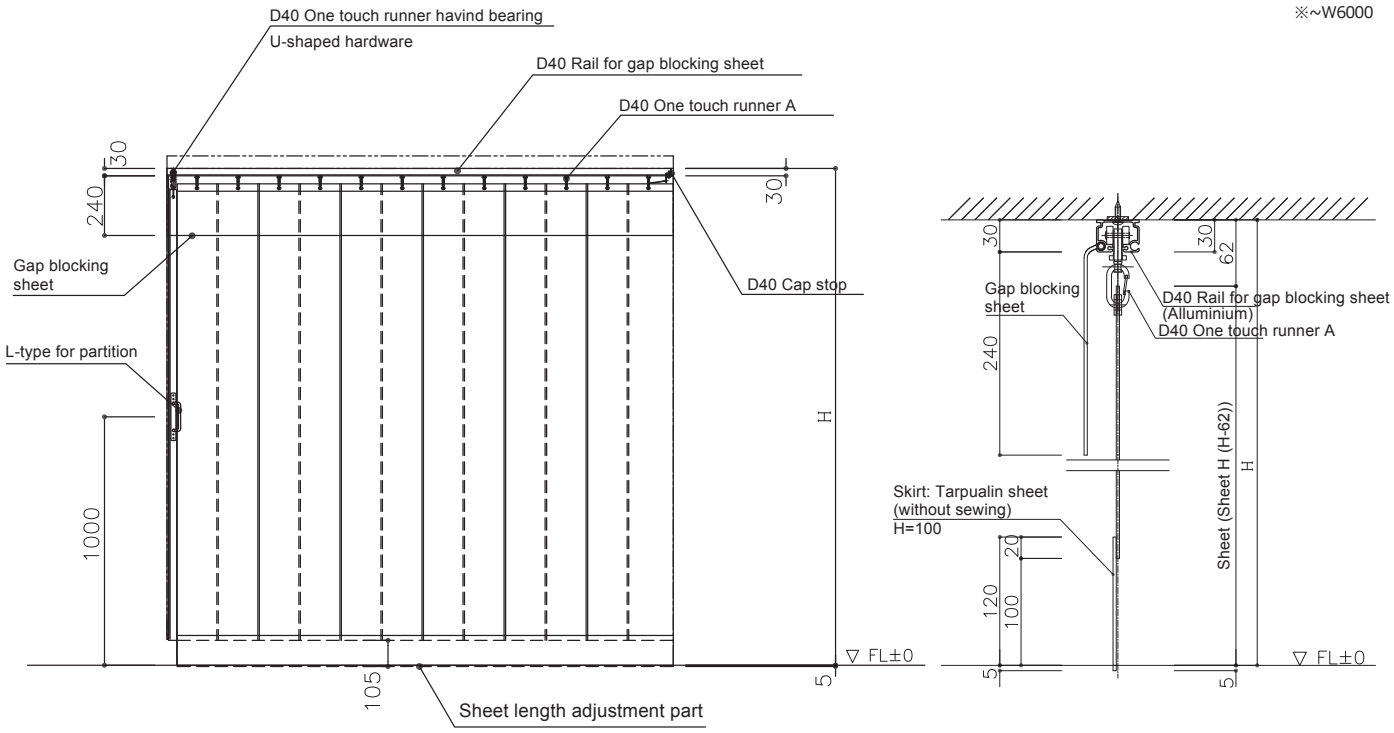
②The thickness of heat insulation sheet varies. It is thin at the stitching part in which is about 1mm and the thickest part is 6mm.
Thermal transmittance changes depending on this. Calculated average value to set was 3mm.
Thermal transmittance of the stitching part K=2.44Kcal／m・h・℃ （When both sides were windless）
Thermal transmittance of 6mm thickness part K=1.93Kcal／m・h・℃（When both sides were windless）

③Thermal transmittance at the stitching part is big, therefore dew condensation easily occur on the front surface.

④Dew condensation on the front surface needs attention when the temperature difference is large. Dew condensation is liable to occur on a high temperature surface.
In order to prevent occurrence of dew condensation, make less humid, or exposure to wind on a high temperature surface can reduce the development of dew condensation. On the contrary, exposure to wind on a low temperature surface and the high temperature side is windless, dew condensation is liable to occur.

Heat insulation sheet in which reasonably combines 2 kinds of thermal insulation material, an aluminum film and an air layer.
It cuts off ultraviolet ray and proposes that creating an environment in which reduces the development of dew condensation, even when the temperature difference is 15℃.

Detailing drawing (Example)



Structure of material

AA-1 Aluminium specifications on both sides

1st layer Aluminium sheet
2nd layer non woven fablic
3rd layer Izak
4th layer Aluminium sheet with foam

TK-1 Tarpaulin on one side
Polyester specification on one side

1st layer Tarpaulin (flame retardant)
2nd layer Cotton (flame retardant polyester)
3rd layer Non woven fabric
4th layer Polyester cloth (flame retardant)

TA-1 Tarpaulin on one side
Aluminium specification on one side

1st layer Tarpaulin (flame retardant)
2nd layer Cotton (flame retardant polyester)
3rd layer Non woven fabric
4th layer Aluminium sheet

●Structure of material of gap blocking sheet and skirt are tarpaulin.

Option


Stopper / Bracket


Simplified L-type handle for partition


Gap blocking sheet

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