

Energy Consumption of ALPOLIC/fr

1. Energy required for production

Generally speaking, aluminum metal requires huge amount of electricity. But total energy required for the production of ALPOLIC/fr is rather small. It is smaller than that of solid aluminum panel of the equivalent rigidity, because ALPOLIC/fr has higher rigidity than solid metal. For example, ALPOLIC/fr 4mm thick consists of two sheets of 0.5mm aluminum (1.0mm thick in total), but its rigidity is equivalent to 3.3mm thick solid aluminum panel. High rigidity of ALPOLIC/fr derives from moment of inertia of the section.

Total energy consumption of ALPOLIC/fr can be outlined as follows. As shown in the table, the energy consumption of ALPOLIC/fr is less than 50% of solid aluminum panel.

Table. Total energy consumption for production

ALPOLIC/fr		Solid aluminum panel of equivalent rigidity	
Thickness	Energy for production	Thickness	Energy for production
3mm	60 KWH/m ²	2.7mm	130 KWH/m ²
4mm	70 KWH/m ²	3.3mm	150 KWH/m ²
6mm	80 KWH/m ²	4.5mm	200 KWH/m ²

2. Energy saving

When ALPOLIC/fr is used as external panel, ALPOLIC/fr will help to save the energy consumption of the building. ALPOLIC/fr has low thermal conductivity, and when it is installed on wall, the still air layer composed between wall and ALPOLIC/fr panel will work as good insulation. Actually, significant reduction can be confirmed in heat transmission coefficient (U value) calculation with ALPOLIC/fr cladding.

3. Recycling

ALPOLIC/fr can be recycled. Scraps generated from ALPOLIC plants are collected to the recycling facility located in the same plant site. There are nominated recycling companies in Japan for scraps generated in customer's workshops. We are ready to sell the recycling machine of our design for local use. We will be able to inform our customers of the optimal recycling methods in the future.