



the NEW DEFINITION to
Green Refrigeration & Air-Conditioning

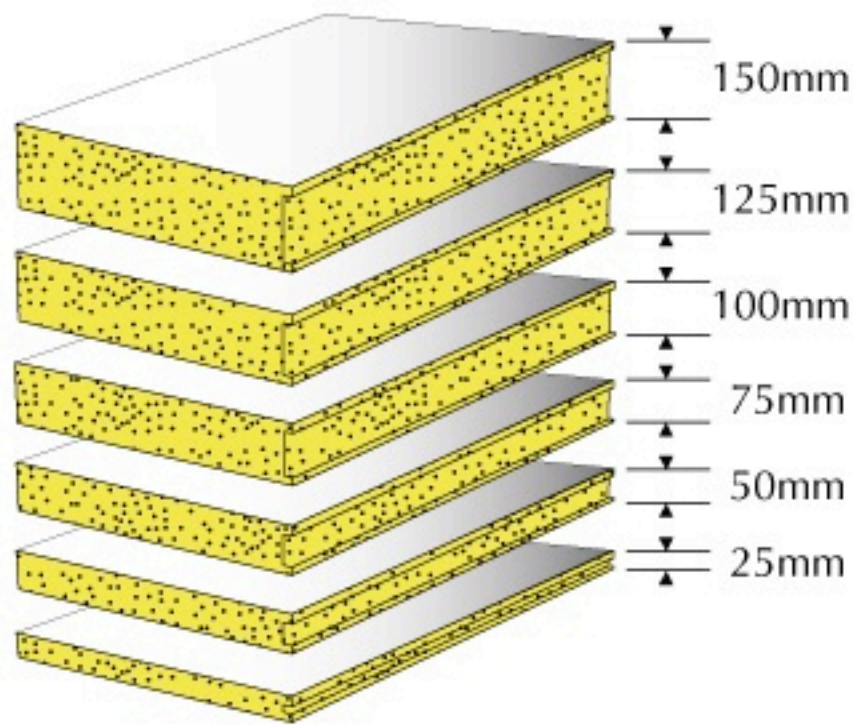
Polyurethane Panels

- Light weight
- Fire Resistant
- Weather Resistant
- Chemically stable product
- Customized size & materials



REFAC specializes in manufacturing rigid insulation panels - POLYURETHANE PANELS.

Using advanced, high technology precision injection polyurethane metering machine to produce polyurethane panels with 38-45kg/m³ density. Thus optimizing the high insulating characteristic and weight of insulating material.



The panels in variable thickness from 25mm to 150mm. Please consult our sales team for recommendation of the panel thickness.

Advantages of REFAC Polyurethane Panels

- Excellent ratio of Insulation Property-Weight
- Light weight with excellent Structural Strength
- Fire Resistant Complying to:
 - BS 476 : Part 7 – Class 1;
 - BS 476 : Part 6 – Class O
- Weather Resistant
- Chemically stable product
- Pre-fabricated to suit site condition, the panels can be customized to any size & different type of surface materials

Property & Specifications Typical Physical Properties

Property	
Injected Density	38 - 45 kg / m ³
Thermal Conductivity	0.016 w / m . K
Thermal Coefficient	0.239 - 0.151 w / sq m . K
Closed Cells	90 - 95%
Water Absorption	1.7 - 2.3 \hat{p} / V%
Compression Strength	1.7 - 2.2 kg / cm ²
Operating Temperature	-60 to 80°C

Comparison Table of Insulation Materials

K Value w/mC	Material	Thickness for equivalent insulation	Weight/100 sqm for equivalent insulation
0.016	Polyurethane	25mm	89kg
0.036	Fiberglass	45mm	633kg
0.036	Polystyrene	51mm	71kg
0.050	Foam Glass	64mm	1005kg
0.061	Fibreboard	64mm	1827kg
0.065	Expanded Perlite	70mm	1035kg

Specification Model : GPU-Series

Surface Material Standard	Panel Width	Panel Thickness	Panel Length
0.45 / 0.50 / 0.60mm plain or ribbed 'WHITE' Colorbon (pre-painted galvanized sheet) Optional : Aluminium, Stainless Steel or Galvanised Sheet	1194mm (effective)	25-200mm in 25mm increment. Other required thickness can be manufactured upon request.	Limit up to 40 ft

Guideline on Selection of GPU-Series

Temperature	Model (Colorbon Surface)	Model (Stainless Steel Surface)	Model (Aluminium Surface)	Panel Thickness
Medium 5°C	GPU-075	GPU-075-S	GPU-075-A	75mm
Low -30°C	GPU-100	GPU-100-S	GPU-100-A	100mm
Ultra Low -45°C	GPU-150	GPU-150-S	GPU-150-A	150mm



Rolling Machine



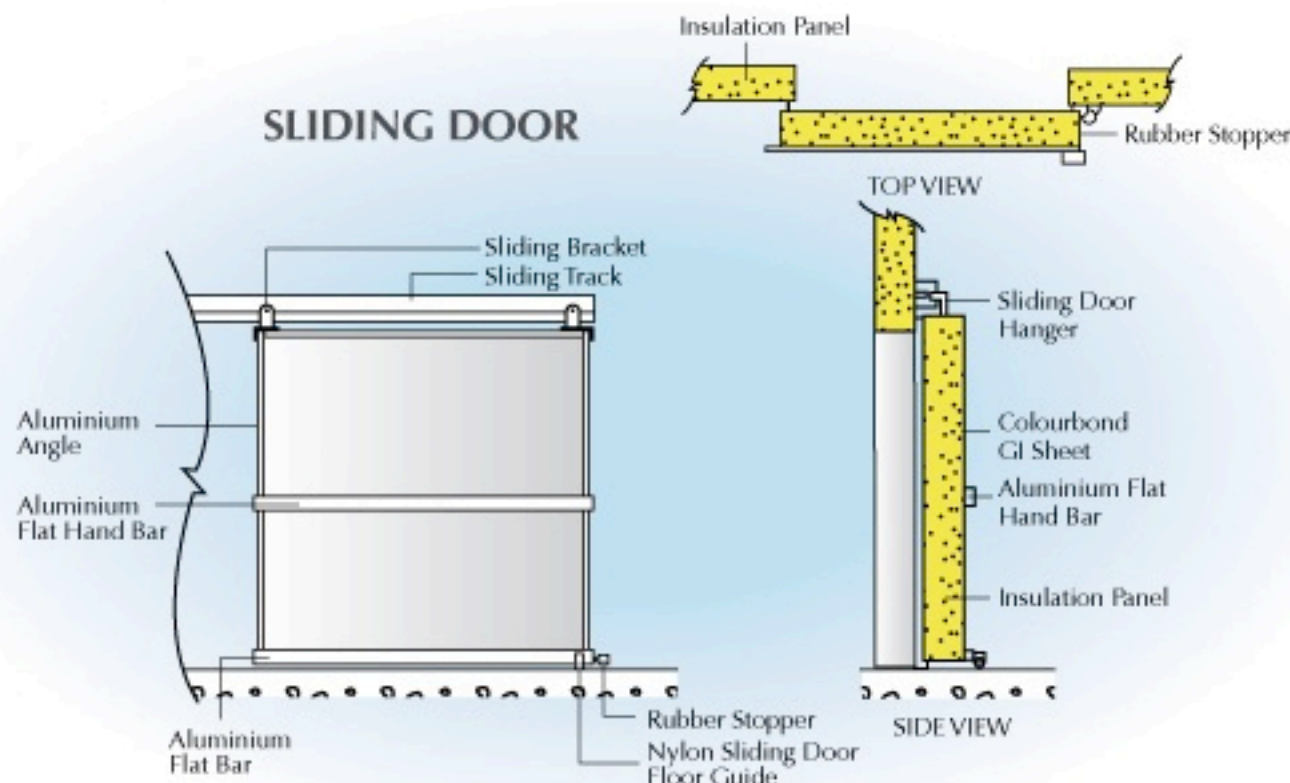
Pressing Machine

Insulated Doors & Accessories

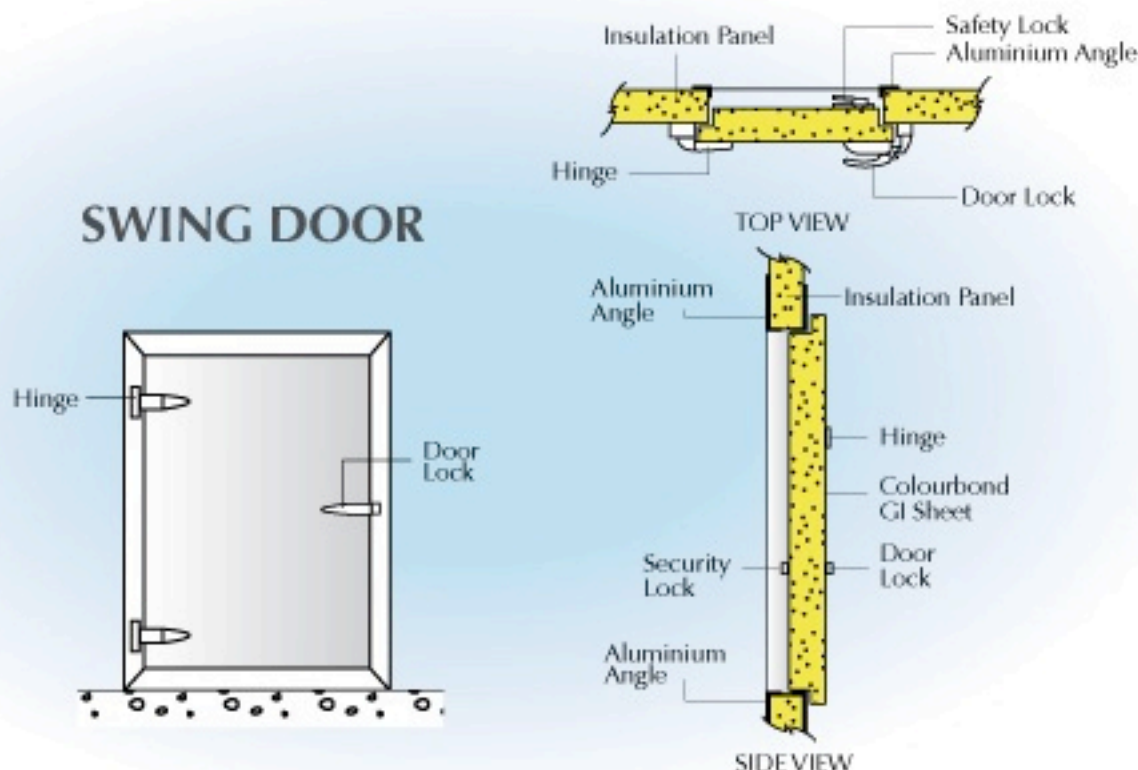
Some of the strongest insulated doors in the industry are marketed by us.

Our Swing & Sliding Doors have been highly recommended for the most demanding clients.

SLIDING DOOR

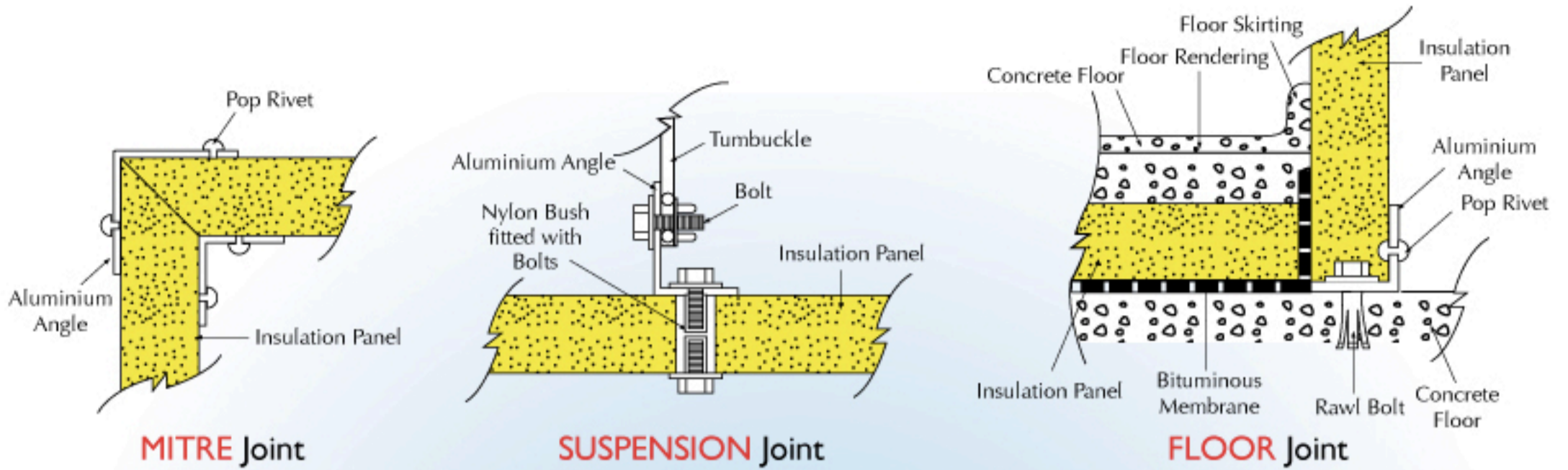


SWING DOOR



PANEL JOINT

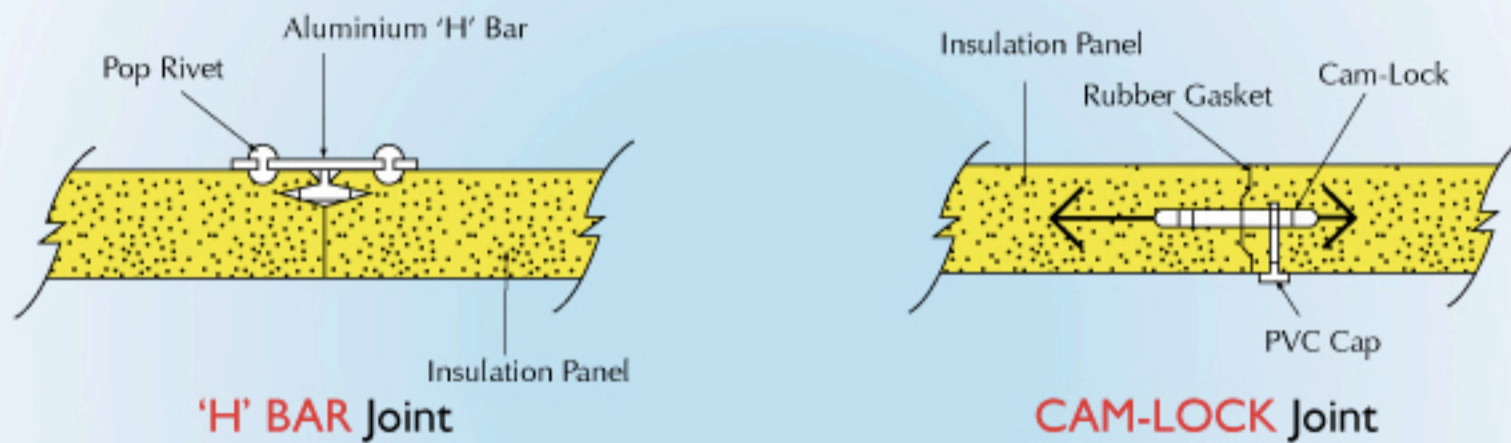
We have a wide range of superior quality joints to speed up the installation of ceiling, floors & walls. Typical examples of these joints are illustrated below.



MITRE Joint

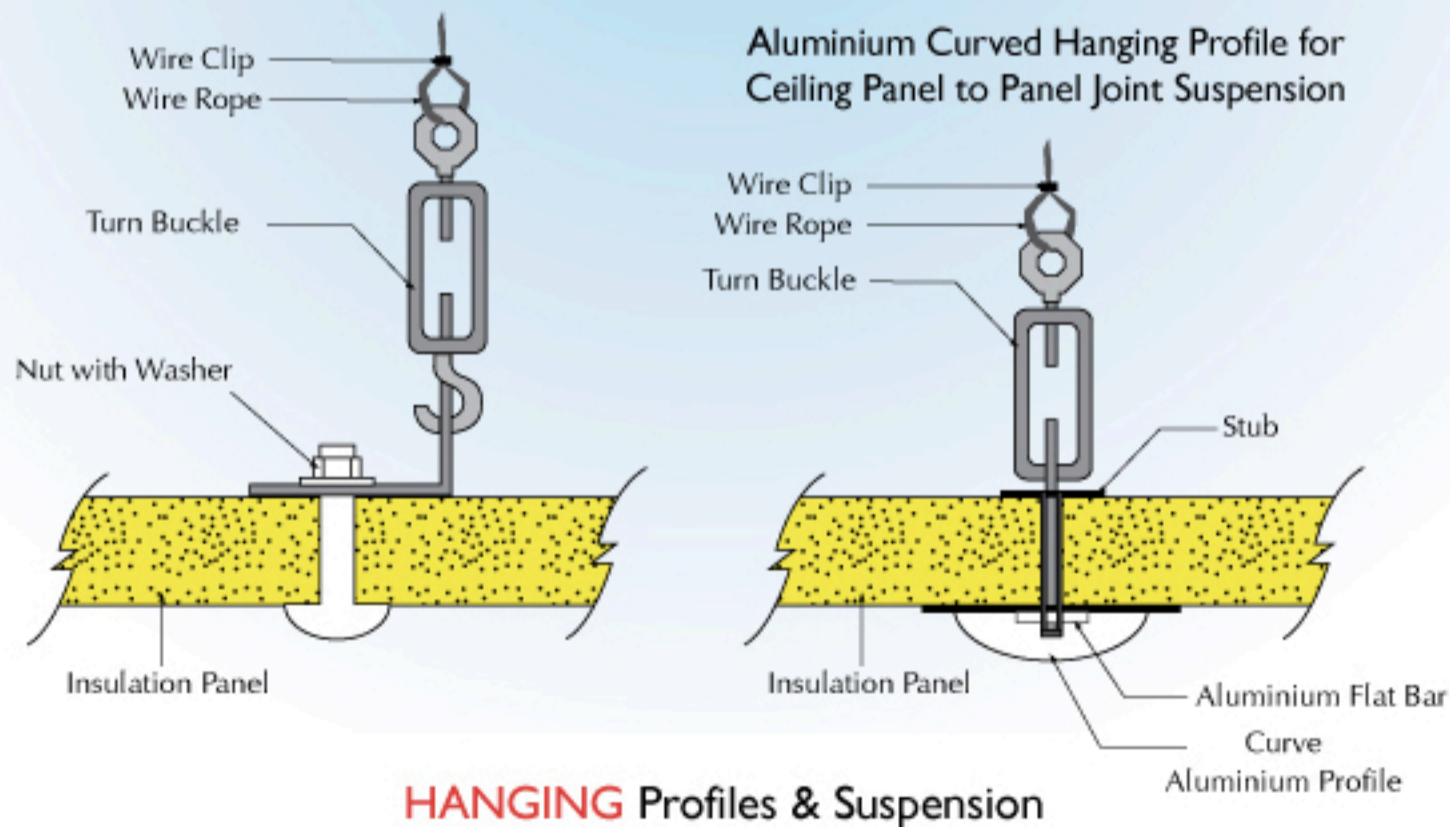
SUSPENSION Joint

FLOOR Joint



'H' BAR Joint

CAM-LOCK Joint



HANGING Profiles & Suspension

CONTACT :

grefac (M) SDN. BHD. (791843-H)

24, Jalan 6/91, Taman Shamelin Perkasa, 56100 Cheras, Kuala Lumpur. Tel : **603-9281 1323** Fax : **603-9282 4609**
email : chtan@lanhoe.com.my www.lanhoe.com.my