



PRE INSULATED
DUCT SYSTEM



UNIGULF®

يوني جلف لصناعة لجهزة التكييف ش.ذ.م.م.
AIR CONDITIONING INDUSTRIES L.L.C.

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Company Profile

UNIGULF AIR CONDITIONING INDUSTRIES LLC is one of the leading manufacturers of Pre Insulated Panels & Ready to Install Ducting systems for HVAC industry in the MENA region.

We are one of the pioneers for Pre Insulated Duct Systems in the region. Our Panel Production Unit has been operational since 2004; we have been part of some of the landmark projects in the UAE and other GCC countries.

Our Easy pre-insulated Duct System is designed to facilitate air distribution that conforms to local and international standards.

The panels, by virtue of being water based, are already free of these hydrofluorocarbons and hence are well ahead of time. These Next generation panels are formaldehyde and asbestos free. These products have an ODP of zero and their GWP is one.



Features and Benefits



Hygiene & Air Quality

- No release of particles due to internal aluminum surface
- Improved Air Quality as the aluminum surface prevents growth of bacteria and fungi.



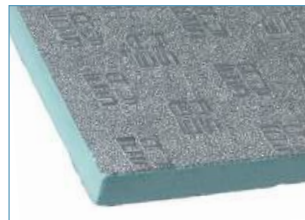
Air Seal

- Invisible flanging system ensures low level of Air Leaks when compared to conventional ducts.
- Elimination of the longitudinal leaks and the reduction of ones at the transversal junction.



Superior thermal Insulation

- High thermal insulation with closed cell structure and superior thermal conductivity @ λ 0.021 W/(m°C)

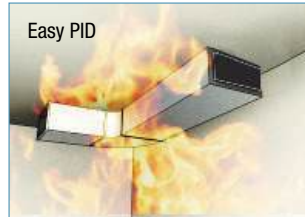


type of material	Term. Conduct λ (10°C)W/(m°C))
Fiber Glass	0.034
Nitrile Rubber	0.034
Easy Panel	0.021



Fire Resistance

- Self extinguishing properties,
- low fire participation
- No flaming droplets



Construction

- Possibilities to fabricate & repairs of ducts at workshop or directly at site.
- Ease of transport



Installation

- Lightness of Easy PID ensures easy installation and reduced weight on the structures.
- Less labor time and materials cut the cost of installation.



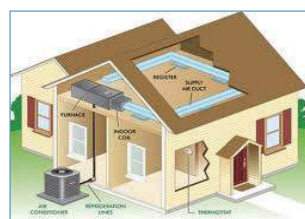
Environmental Friendly

- CFC- free production makes EASY PID environmentally friendly and eligible to green building concept.



Economical

- Low thermal values and reduced air leakage helps in Energy saving and operating cost.
- Competitive compared to traditional ducts.



Types of Panels



Conditioned Area Application



EZ-12AP21 CONDITIONED AREA PANEL

Size Of The Panel	4000 X 1200 mm
Thickness Of The Panel	20.5 mm
Thickness internal/external aluminium	80 / 80 µm
Finish Of The Aluminium	Embossed

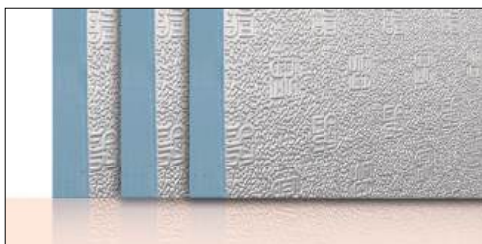


EZ-12ASP21 CONDITIONED AREA PANEL

Size Of The Panel	4000 X 1200 mm
Thickness Of The Panel	20.5 mm
Thickness internal/external aluminium	80 / 80 µm
Finish Of The Aluminium	Embossed / Smooth

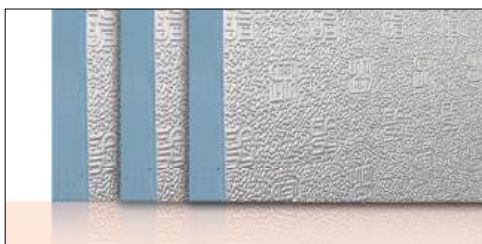


Unconditioned Area Application



EZ-12AS31 UNCONDITIONED AREA PANEL

Size Of The Panel	4000 X 1200 mm
Thickness Of The Panel	30 mm
Thickness internal/external aluminium	80 / 200 µm
Finish Of The Aluminium	Embossed / Embossed



EZ-12AR31 UNCONDITIONED AREA PANEL

Size Of The Panel	4000 X 1200 mm
Thickness Of The Panel	30 mm
Thickness internal/external aluminium	80 / 80 µm
Finish Of The Aluminium	Embossed / Embossed



EZ-12AS21 UNCONDITIONED AREA PANEL

Size Of The Panel	4000 X 1200 mm
Thickness Of The Panel	20.5 mm
Thickness internal/external aluminium	80 / 200 µm
Finish Of The Aluminium	Embossed / Embossed



Certification Available:

- British Standard 476 part 6
- British Standard 476 part 7
- NES 713 toxicity index
- Third Party supervision 'Certifier' (CF 777)
- CFC / HCFC free
- Antifungal Certified
- Dubai Central Laboratory Approved
- IMO MSC 67 (61)
- UL - 723 (ASTM E84)
- UL Greenguard
- Dubai Civil Defence

Technical Data Sheet



EZ-12AP21 / EZ-12ASP21 / EZ-12AS31 / EZ-12AR31 / EZ-12AS21

DESCRIPTION

Sandwich panels made of an insulating component in rigid PUR / PIR foam and laminated on both sides with embossed aluminium foil.

UTILIZATION

These panels are suitable for the construction of air-distribution ducts in air-conditioning and heating systems.

DIMENSION AND TOLERANCE

The standard production thickness are of 20.5 mm & 30mm with a tolerance of ± 0.5 mm (within the tolerance foreseen by ISO 1923 standard). The standard production length is of 4000 mm with a tolerance of ± 5 mm (within the tolerance specified by ISO 1923 standard).

The standard production width is of 1200 mm with a tolerance of ± 3 mm (within the tolerance specified by ISO 1923 standard). The squaring operation is carried out with an accuracy of $\pm 30^\circ\text{C}$. The fabricated duct can withstand a pressure of 1700 Pa.

INSULATING MATERIAL CHARACTERISTICS

The rigid foamed PUR / PIR of which these panels are made is a result of a chemical reaction between specifically formulated, first quality polyols and isocyanates. The polymer obtained from the specific reaction (which involves the transition from the liquid to the solid state) is physiologically and chemically inert, insoluble and unable to be metabolized.

The density of the panels with a thickness of 20mm foamed PUR / PIR is of 45 kg/m^3 with a tolerance of $\pm 3 \text{ kg/m}^3$ panels with a thickness of 30mm foamed PUR / PIR is of 48 kg/m^3 with a tolerance of $\pm 2 \text{ kg/m}^3$.

The sheathing is made up of embossed aluminium with a thickness of 80 μm and 200 μm on both sides of the panels depending on the type: this sheathing is coated

with a lacquer based on vinyl resin on one side and on the other by thermo-welding lacquer based on vinyl resin. The panels are antifungal, treated for protection against mold, fungal and bacterial growth.

SPECIFIC HEAT CONDUCTIVITY

Thanks to the high number of closed cells, exceeding 95%, the foam of the panels has a coefficient of initial specific heat conductivity, measured according to ISO 8302 standard of $0,021 \text{ W/(m K)}$ at the temperature of 10°C .

UTILIZATION TEMPERATURE

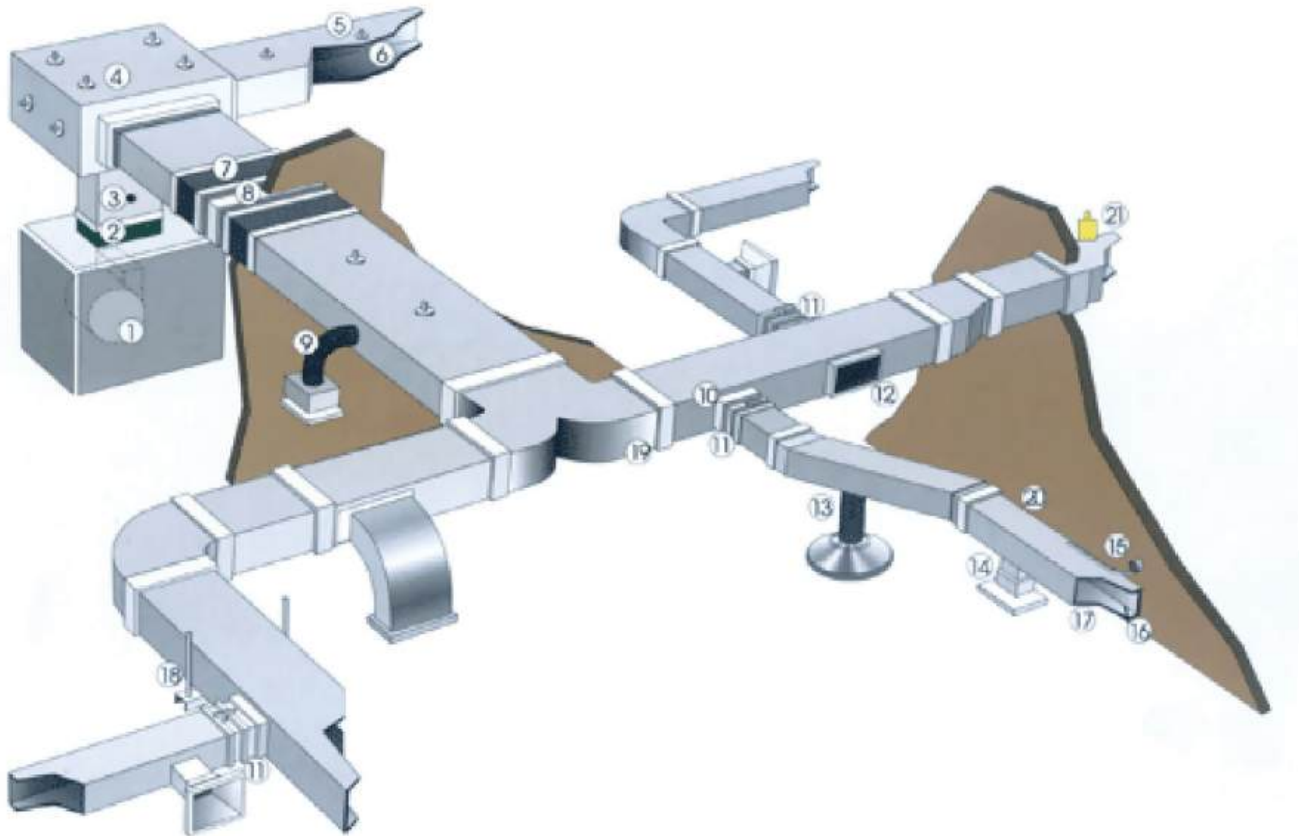
These panels can be used constantly in a temperature range from -30°C to $+65^\circ\text{C}$ without any substantial difference in thermo-ventilating insulation specifications.

PACKAGING

Delivery is made in packs of 10 panels for 20.5mm thick panels and standard packs of 7 panels for 30mm thick, packed with thermo-ventilating shrinkable polythene sheets.

WARNINGS

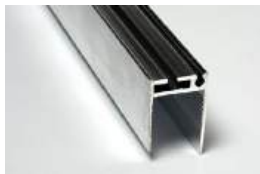
The information and data contained herein are based on the present technical knowledge and practical experience of manufacturer as well as on documentation considered reliable, but which has no binding value.



ESQ[®] Invisible flange joint and tee connector

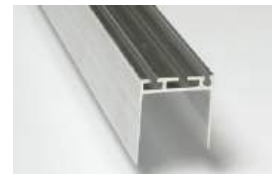
EZ-F102LO - Invisible flange joint aluminum 20 mm

This special aluminium flange permits 20 mm th. ducts to be joined with extremely low leakage. The bars are supplied in 4 meter lengths.



EZ-FI03LO - Invisible flange joint aluminum 30 mm

This special aluminium flange permits 30 mm th. ducts to be joined with extremely low leakage. The bars are supplied in 4 meter lengths.



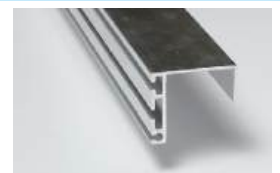
EZ-FI12LO - Invisible flange joint polymer 20 mm

This special aluminium flange permits 20 mm th. ducts to be joined with extremely low leakage. The bars are supplied in 4 meter lengths.



EZ-FT02LO / EZ-FT03LO - Tee connector flange joint 20/30 mm

This flange permits the flanging of one duct into the side of another take-offs as tap-in or plenum chamber. The bars are supplied in 4 meter length.



EZ-FH00LO - H polymer bayonet

Built in shock-resistant polymer, this piece permits "invisible flanges" to be connected. Supplied in 4 meter rods.



EZ-AP92LO / EZ-AP93LO - Covering angle 20/30 mm

Grey polymer covering angle.



EZ-AZ92LO / EZ-AZ93LO - Zinc-coated steel angle bracket 20/30 mm

1.5 mm thick zinc-coated steel angle bracket.



EZ-FU02LO / EZ-FU03LO18 - "U" Section bar in aluminium 20/30 mm

Used for fastening of anti-vibration joints, grilles and volume control dampers. Supplied in 4 meter rods.



AHU & Grilles connections

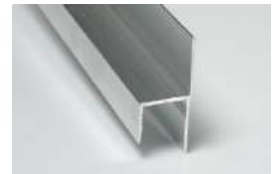
EZ-FF02LO / EZ-FF3LO - "F" section bar in aluminium - 20/30 mm

Permits all accessories with fastening frames higher than 20 mm to be fastened to the ducts. Supplied in 4 meter rods.



EZ-FC02LO / EZ-FC03LO - Chair section bar in aluminium - 20/30 mm

Used to fasten ducts to air handling units and in the assembly of linear diffusers. This section bar is supplied in 4 meter rods.



Reinforcement

EZ-FR00LO - Reinforcement section bar in aluminium

Special high stiffness aluminium alloy reinforcement section bar. Bars are supplied in 4 meters rods.



EZ-AD90LO - Aluminium shaped disk

Aluminium disk to distribute the pressure created at the centre over a wider surface to prevent damage to the panel. Disk diameter 100mm, hole diameter 10 mm.



EZ-ASC230 Self threading screws

Hexagon head self-threading screws with washer. Used to fasten reinforcement section bars, wing-profile turning vanes and splitters in elbows, etc.



VCD (Volume Control Damper)

To maintain or control the air volume inside the duct. Specifically designed for low pressure duct system.



Glues, tapes and sealants

EZ-AG 90LO - Paint glue 15 kg

Special glue formulated to obtain perfect adhesion on easy panels foam. The product is supplied ready-to-use. Dilution is possible with special solvent



EZ-AT89LO / 90LO - Easy aluminum tape

Self-adhesive aluminium tape to use in the construction of the ducts.



EZ-AS90LO - Duct sealant

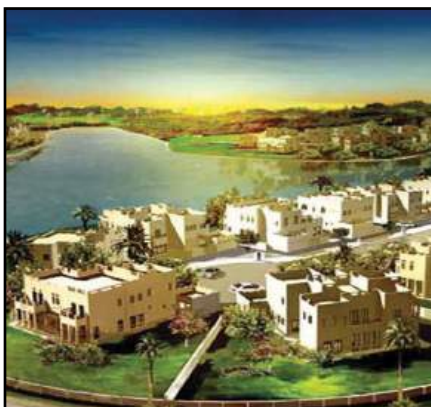
Single component silicone sealant. 280 cc stick.



EZ-AG85LO - Profiles glue

Medium-viscosity adhesive for the gluing of aluminium and Polymer section bars. 500 gr pack.





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