Since its inception in 1961, TSSC, a primary member of Harwal Group, is a leading manufacturer of building materials in the Middle East and has been setting manufacturing benchmarks with its engineering excellence. With over 5 decades of manufacturing legacy, TSSC has forged a strong reputation for its quality, dependability, customer service, and has partnered in building some of the most prestigious projects in the region.

TSSC has long been a pioneer in the manufacture of polyurethane injected/laminated panels and specializes in the manufacture of PUR/PIR Preinsulated Duct Panels. These panels are an innovative technology and a suitable alternative to the traditional air duct systems.

The company follows international standards in manufacturing its diverse range of products, follows ISO 9001:2008 quality management system and the products carry individual product certificates. With state-of-the-art manufacturing facilities spread across Dubai, Abu Dhabi, and Sharjah in UAE, Riyadh in KSA, and Moscow in Russia, TSSC has one of the largest production capacity in the Middle East and maintains its leadership position with its ability to meet any volume and delivery requirements.
Product Overview

TSSC Preinsulated duct panels are the exciting latest addition to our family of insulated panels. Preinsulated duct panel is an innovative technology for HVAC ductwork system. TSSC Preinsulated ductwork system is used as an alternative for operation such as fresh air, supply, return and exhaust air ductwork for HVAC system.

These panels feature a unique sandwich construction that is the result of injecting PUR (Polyurethane) or PIR (Polyisocyanurate) as the core material laminated with aluminium facing on both sides. These panels are suitable for the construction of air distribution ducts in air-conditioning and heating systems.

TSSC Preinsulated duct panels have been specially developed for use in residential, commercial and industrial units of HVAC duct system to satisfy the thermal, fire and acoustical requirements.

Low thermal conductivity
Easy to handle
Fire resistance
Noise Protection
Easy to Install
Advantages

- Fire Classification Class “O” (as per BS 476 Part 6&7)
- Low Thermal Conductivity 0.021 W/m°C at 23°C
- Water repellent
- Excellent thermal insulation
- Chemically inert
- Foam CFC Free
- Negligible smoke obscuration
- Unaffected by air infiltration
- Prevents growth of bacteria and fungi
- Manufactured with a blowing agent that has zero ODP and low GWP
- No release of particles due to internal aluminium surface
- Higher Compressive Strength
- Ideal for HVAC ductwork in new buildings and refurbishment
- Lightweight compared to conventional ducts
- Less labour and material reduce fabrication & installation cost
Panel Types

Product Code: TS20E80 PUR/PIR Foam Panels
- Foam Thickness: 20.5mm (+/- 0.5mm)
- Aluminium Thickness: 80/80 Micron
- Aluminium Finish: Embossed/Embossed
- Density: 45 Kg/m³ (+/- 3Kg/m³)

Product Code: TS20E200 PUR/PIR Foam Panels
- Foam Thickness: 20.5mm (+/- 0.5mm)
- Aluminium Thickness: 80/200 Micron
- Aluminium Finish: Embossed/Embossed
- Density: 48 Kg/m³ (+/- 3Kg/m³)

Product Code: TS20S80 PUR/PIR Foam Panels
- Foam Thickness: 20.5mm (+/- 0.5mm)
- Aluminium Thickness: 80/80 Micron
- Aluminium Finish: Smooth/Embossed
- Density: 45 Kg/m³ (+/- 3Kg/m³)

Product Code: TS30E200 PUR/PIR Foam Panels
- Foam Thickness: 30mm (+/- 0.5mm)
- Aluminium Thickness: 80/200 Micron
- Aluminium Finish: Embossed/Embossed
- Density: 48 Kg/m³ (+/- 3Kg/m³)

Product Code: TS30E80 PUR/PIR Foam Panels
- Foam Thickness: 30mm (+/- 0.5mm)
- Aluminium Thickness: 80/80 Micron
- Aluminium Finish: Embossed/Embossed
- Density: 48 Kg/m³ (+/- 3Kg/m³)
Product Data Sheet

Description
TSSC Preinsulated duct panels feature a unique sandwich construction that is the result of injecting PUR (Polyurethane) or PIR (Polyisocyanurate) as the core material laminated with aluminium facing on both sides.

Specification

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Foam Thickness</th>
<th>Density</th>
<th>Thermal Conductivity</th>
<th>Dimension</th>
</tr>
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<tbody>
<tr>
<td>TS20E80</td>
<td>20.5mm (+/- 0.5mm)</td>
<td>45Kg/m³ (+/- 3Kg/m³)</td>
<td>0.021 W/m²K</td>
<td>4000mm X 1200mm</td>
</tr>
<tr>
<td>TS30E200</td>
<td>30mm (+/- 0.5mm)</td>
<td>48Kg/m³ (+/- 3Kg/m³)</td>
<td>0.021 W/m²K</td>
<td>4000mm X 1200mm</td>
</tr>
</tbody>
</table>

Temperature Range
TSSC Preinsulated duct panels can be used constantly in fabricated duct work installations with temperatures ranging from -25ºC to +80ºC. No substantial difference of the insulating, chemical or physical characteristics of the panel will be observed with this temperature range.

Compliance
TSSC Preinsulated duct panels comply with British & American Standards

<table>
<thead>
<tr>
<th>Properties</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT CONFORMITY</td>
<td>BS EN 13165:2012</td>
</tr>
<tr>
<td>WATER ABSORPTION</td>
<td>ASTM C 209:1998</td>
</tr>
<tr>
<td>THERMAL CONDUCTIVITY</td>
<td>ASTM C518:2010</td>
</tr>
<tr>
<td>WATER VAPOR TRANSMISSION</td>
<td>ASTM E96-00</td>
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<td>COMPRESSIVE STRENGTH</td>
<td>BS EN 826:1996</td>
</tr>
<tr>
<td>FLUXURAL STRENGTH</td>
<td>ASTM C203</td>
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<tr>
<td>FIRE CLASSIFICATION</td>
<td>BS EN 13501-1:2007</td>
</tr>
<tr>
<td>FIRE PROPOGATION INDEX</td>
<td>BS 476 PART 6</td>
</tr>
<tr>
<td>SURFACE SPREAD OF FLAME</td>
<td>BS 476 PART 7</td>
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<tr>
<td>TOXICITY INDEX</td>
<td>DEFENCE STANDARD 02-713</td>
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<tr>
<td>SMOKE GENERATION &amp; TOXIC POTENCY</td>
<td>IMO MSC 61(67) PART 2</td>
</tr>
<tr>
<td>RESISTANCE TO FUNGI</td>
<td>ASTM G21-15</td>
</tr>
</tbody>
</table>
Packaging
TSSC Preinsulated duct panels are delivered with an adequate polyethylene packaging and stacked in packs of 10 panels for 20.5mm thickness and 7 panels for 30mm thickness. The packaging should not be considered for storage and panels should be stored inside a building. If internal storage is not possible, care should be taken to stack the panels clear of the ground and cover with weatherproof tarpaulin. Panels that have been allowed to get wet should not be used.

Warnings
TSSC reserves the right to amend product specifications without prior notice. The information and date contained in the document is given in good faith and applies to the uses described. Recommendations for use should be verified as to the suitability and compliance with actual requirements, specifications and any applicable laws and regulations.
Accessories

**TSIA20/TSIA30 - Invisible Flange**
Aluminium 20/30 mm

This special patented aluminium flange permits 20 mm th. ducts to be joined with extremely low leakage.

**TSIP20/TSIP30 - Invisible Flange**
Polymer 20/30 mm

This special patented polymer flange permits 20 mm th. ducts to be joined with extremely low leakage.

**TSTA20/TSTA30 - Tee Connector Flange**
Aluminium 20/30 mm

This patented flange permits the flanging of one duct into the side of another take-offs as tap-in or plenum chamber.

**TSUA20/TSUA30 - U Profile**
Aluminium 20/30 mm

Extremely versatile aluminium section for fastening of anti-vibration joints, volume dampers, and connection to sheet metal ducts.

**TSFA20/TSFA30 - F Profile**
Aluminium 20/30 mm

Permits all accessories with fastening frames higher than 20 mm to be fastened to the ducts.

**TSCA20/TSCA30 - Chair Profile**
Aluminium 20/30 mm

Used to fasten ducts to air handling units and in the assembly of linear diffusers.

**TSHB00 - H Bayonet Polymer**

Built in shock-resistant polymer, this piece permits “invisible flanges” to be connected.

**TSCP20/TSCP30 – Covering Angle**
Polymer 20/30mm

Polymer covering angle to reinforce the duct corners externally and improve appearance.
**TSGL20/ TSGL30 - Corner Angle GI 20/30mm**

Angle bracket to reinforce the duct corners internally.

**TSFG00 – Profile Glue 500GR**

Medium viscosity adhesive for gluing of Aluminium and Polymer Profiles. Product subject to expiration.

**TSPG00 – Paint Glue 15KG**

Special Glue formulated to obtain perfect adhesion on foam. Product subject to expiration.

**TSDS00 – Duct Sealant**

Single component sealant applied in the construction of the ducts which transforms into a rubbery substance resistant to atmospheric agents, high and low temperatures. Product subject to expiration.

**TSAT02 – Aluminium Foil Tape 2”**

Self Adhesive Aluminium tape to use in the construction of the ducts and will be supplied as 24 rolls in a pack.

**TSAT03 - Aluminium Foil Tape 3”**

Self Adhesive Aluminium tape to use in the construction of the ducts and will be supplied as 16 rolls in a pack.

**TSD00 – Reinforcement Disk**

Aluminium Disk to distribute the pressure created at the centre over a wider surface to prevent damage to the panel.

**TSRB00 – Reinforcement Bar Aluminium**

Special high stiffness aluminium alloy reinforcement section bar.
Preinsulated Duct System

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