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We are our customer’s partners in progress. We know they have complex challenges and many responsibilities. As they are conceptualizing and executing projects, Pre-Engineered Steel Buildings (PEB) are just one part of their responsibilities, however when it comes to the Kirby PEBs, we ensure that our customers are worry-free.

From ensuring customized engineering designs that optimize efficiencies, to accurate drawings and project planning and using of SAP to plan inventories and meet targeted timelines, we are devoted to exceeding our customer’s expectations every time.

Our experienced and talented team works with our client partners to give them pre-emptive solutions that go beyond ordinary specifications to ensure efficiencies for our partners. We can handle complex requirements and often deliver innovative engineering solutions that add tremendous value for our customers.

We bring over 40 years of experience as pioneers in the category, across manufacturing, retail, transportation and logistics to create bespoke solutions for our partners.

We have worked with clients globally and have an extensive presence in the Middle East & Africa, India, South East Asia and Europe.

With an annual capacity of over 400,000 MT, we are the undisputed leaders and pioneers in the industry and are capable of handling any project. While we deliver steel structures at one level, what we truly believe we deliver at a fundamental level – is total peace of mind for our clients.
Kirby Building Systems established in 1976 is a global leader in the design and manufacturing of pre-engineered steel buildings and structures, offering customers a wide range of customized, cost-effective steel building solutions. Kirby’s global spread extends across Middle East, Africa, Asia, Indian subcontinent and South East Asia with production capacity of 425,000 MT annually, operations across 70 countries and workforce of 4,000 people.

Kirby globally offers one of the most comprehensive product portfolios ranging from Pre-Engineered Steel Building, Structural Steel and Storage Solutions. We offer a wide range of steel solutions tailored to our customers’ specific needs including Pre-Engineered Steel Buildings, Storage Solutions/Industrial Racking Systems, and broad array of our steel building products that cover applications in major market segments including but not limited to heavy industry, infrastructure, high-rise buildings, warehouse, factories, oil and gas and leisure structures.

Our commitment to excellence provides unmatched product quality, coupled with speed, safety and superior sales services.

VISION
At Kirby, we believe in going above and beyond our clients’ expectation to deliver outstanding service and quality, everytime. Customer delight is the cornerstone of each action we take and building the future together.

MISSION
We are the world’s No.1 choice for PEBs due to our commitment to excellence in quality and engineering design and we want to pre-empt our customer’s needs in design, innovation and delivery.
CERTIFICATIONS
PRE-ENGINEERED BUILDINGS

PEB is a steel structure built over a structural concept of primary members, secondary members, and the cover sheeting connected to each other. The structural members are custom designed to be lighter in weight and high in strength. It can be fitted with different structural additions like trusses, mezzanine floors, fascia, canopies and crane systems as per user requirements.

There are many advantages of PEB as mentioned below:
- Single source responsibility
- Faster installation
- Economical
- Factory-controlled quality (ISO 9001 Certified)
- Practically maintenance free
- Clear spans exceeding 90 M
- Flexibility in expansion
- Energy efficient roof and wall systems
- Earthquake-resistant
There are various applications of PEB as mentioned below:

- Factories
- Warehouses
- Supermarkets
- Aircraft Hangar
- Metro Stations
- Shipyards
- Showrooms, Workshops, Offices
- Schools, Hospitals, Site Offices
- Stadiums
- Fuel Stations, Bus Shelters, Car Parks
- Cold Storages
- Shopping Malls / Hypermarkets
Building Components

1. Kirby Roof Panel
2. Kirby Wall Panel
3. Canopy
4. Roll Up Door (Manual/Electrical)
5. Double Slide Door
6. Rake Trim
7. Sky Light (Translucent Panel)
8. Ridge Ventilator (With Bird Mesh)
9. Power Ventilator
10. Eave Gutter
11. Louver With Bird Mesh
12. Masonry Trim
13. Window With Insect Screen
14. Downspout
15. Single Walk Door
16. Curved Eave
17. Sandtrap Louver
18. Corner Trim
19. Eave Trim
20. Flush Fascia
21. Strip Skylight
22. Roof Monitor
23. Double Walk Door
24. Roof Extension
25. Return Downspout
26. Brick Wall
27. Wall Light (Translucent Panel)
28. Curved Cantilever Fascia
Building Components (contd.)

1. Concrete Footing
2. Anchor Bolts
3. Base Plate
4. End Wall Girt
5. Portal Bracing
6. Main Frame Straight Column
7. Wall Bracing (Angle/Rod/Cables)
8. Framed Opening (Window/Louver)
9. End Wall Wind Column
10. Roof Bracing (Angle/Rod/Cables)
11. Main Frame Rafter
12. Jack Beam
13. Main Frame Tapered Column
14. Cantilevered Fascia Frame
15. Lean To Frame
16. Crane Beam
17. Crane Column
18. EOT Crane
19. Roof Purlin
20. Flange Brace
21. Sag Rod
22. Eave Strut
23. Side wall Girt
24. Flush Fascia Frame
25. Cage Ladder
26. Deck Panel with Steel Mesh
27. Hand Rail (Steel)
28. Staircase (Checker plate/C channel)
29. Crane Bracket
Structural systems are the main load carrying and support members of a pre-engineered building. The shape and size vary based on application and requirements.

The main frame members are the main load carrying member of a structural system which include columns, endwall posts, rafters and other main support members.

All structural steel sections and welded plate members shall be designed in accordance with the applicable sections, relating to design requirements and allowable stresses, of the latest edition of the American Institute of Steel Construction “Specification for the Design, Fabrication and Erection of the Structural Steel for Buildings”

General guidelines on recommended frame types for different widths are given below:

Main Frames

- **L-CANOPY (L-CAN)**
  - Suggested width range (meters) for most economical buildings
  - Standard Eave Height: 3M-8M; Std Bay Spacing: 6M/7.5M/9M;
  - Standard Loadings: Live Load: 0.5/0.6/1.0 KN/M², Wind load: 0.75/1.0/1.25 KN/M²
Mezzanines

Standard Mezzanine Floor Systems consist of galvanized profiled steel deck, joists, beams and intermediate support columns. Main beams can span in lateral directions and joists in longitudinal directions.

Fascias

Fascias are used for architectural purposes to conceal the gable of the building. A variety of Fascias either straight or inclined can be provided. Fascias are cantilevered from the main frame columns on the sidewall and from the wind columns on the endwall. Flush Fascias or parapets Fascias can also be provided.

Kirby provides Fascias specially designed to your requirements. These Fascias can have vertical, horizontal or curved sheeting to enhance the architectural look of your building.

Crane Support Systems

Buildings can be designed to support any required crane system. Generally, overhead travelling cranes up to 15 MT are supported on brackets. For higher capacities, an independent support system is provided. Crane support for overhead travelling cranes includes brackets, beams and bracings. In addition, buildings can be designed to carry JIB-Carnes, Mono Rail Cranes, Wall Travelling Cranes, Semi-Gantry Cranes as well.

Canopies

Wall canopies over doors and windows at sidewall or endwall are available.

Sidewall canopies are supplied without soffit panel and endwall roof extension canopies are supplied with K.R. soffit panel unless noted otherwise.

Endwall roof extension canopies are not to be supplied with soffit panel if the building remains open all around. Canopy brace angle should be supplied for bay spacings over 7000 mm or as required.
Trusses

The KIRBY Truss System is one of the company’s most popular and highly economical products. It is a rigid structure, ideal for large span roof systems, multiple bay buildings and as mezzanine floor framing. Significant reductions in building heights are possible by running service pipes/ducts through the trusses. Foundation costs also are reduced due to fewer columns being required to support larger spans.

The KIRBY Truss System structures are individually designed to meet the specific requirements of each building and are fabricated utilizing high quality efficient fixtures. The system allows for easy erection as all connections are field bolted. Except for field splices on very large spans, no site welding is required.

Curved Beams (Segmental or Continuous)

Kirby provides curved sections with variable depth and tapered members and capability of providing the curvature in 3 dimensions.

Flange ranges from 125mm x 5mm to 400 mm x 16mm, and Depth ranges from 200mm to 1200mm.
SECONDARY MEMBERS

Secondary structural framing refers to purlins, girts, eave struts, wind bracing, flange bracing, base angles, clips and other miscellaneous structural parts.

Purlins, girts and eave struts are cold form steel members which have a minimum yield strength of 345 MPa (50,000 psi) and will conform to the physical specifications of ASTM A1011 (Grade 50) or ASTM A-653 (Grade 50).

Purlins & Girts

Purlins and girts are roll formed Z sections, 200 mm deep with 64 mm flanges shall have a 16 mm stiffening lip formed at 45° to the flange.

C - Section

C-Sections are 200mm deep with a 100mm flange. The flanges are perpendicular to the web and have a 24mm stiffening lip.

Curved Eaves

Curve Eaves can transform the look of any building. Curved canopies and walkways provide an inviting entryway into commercial establishments. Curved eaves eliminate seam lines and provide a smooth line for the eye to follow. Our crimping-curving process increases the rigidity of the Curved panels making this choice of panels not only visually appealing but also practically durable.

Eave Strut

Eave struts are 200 mm deep with a 104 mm wide top flange, a 118 mm wide bottom flange, both are formed parallel to the roof slope. Each flange has a 24 mm stiffener lip. Structural members are located along the sidewall; at the intersection of the planes of the roof and wall. It is constructed from cold formed ‘C’ sections and is rolled to suit the roof slope. This member transmit longitudinal wind force on the end walls from roof brace rods to wall brace rods.
Open Web Joists

The Open Web Steel Joist is a secondary steel truss member fabricated from crimped angles welded onto top and bottom chords. The elements of the open web joist are made of hot rolled as well as cold formed Grade 50 steel. Open Web Steel Joists are used as mezzanine joists, roof purlins, among others.

Advantages

1. Offers an economical solution for long span carrying heavy load or light load compared to conventional steel structure.
2. Allows more clearance to the building by minimizing the mezzanine overall depth by designing beam at the short direction and the joists at the long direction without increasing the weight.
3. Ducts and mechanical accessories can be installed in between the web openings.
4. Cambering prevents tiles, partitions or any other delicate finishing from cracks by maintaining the finish floor level straight.

Rod Bracing

Rod bracing shall have a minimum yield strength of 250MPa (36,000 psi) and will conform to the physical specifications of ASTM A-36 or equivalent.

Angle Bracing

Angle Bracings are used to withstand the actions of longitudinal forces (tension only). These angles shall have minimum yield of 250 Mpa(36,000 psi) or 345 Mpa(50,000 psi)

Cross Bracing Systems

Cable Bracing

This member is designed to ensure the stability of the building against forces in the longitudinal and lateral direction due to wind, cranes, and earthquakes. It is made of a cable which is forged into a rod terminal and this arrangement is then fixed on a structure using a hill side washer, nut washer and a nut.
**Panel Profiles**

Kirby offers five types of affordable, durable and easy-to-install cladding panels to enhance the visual appearance of our customers’ buildings.

**Kirby Roof (KR)**

Kirby Roof profile is strong and cost effective and was developed specifically for roofing applications. The bearing leg design permits easier installation and maintenance, supports thicker layers of insulation and allows easier curvature for a visually appealing finish.

Coverage Area: 1000mm
Rib Depth: 32mm

**KR 250/28 with 28mm depth** *(India region only)*

**Kirby Wall (KW)**

Kirby Wall is a cost effective, partially concealed fastener panel with a sculptured valley shape between the major ribs for a superior architectural look for external walls.

Coverage Area: 1000mm
Rib Depth: 26mm
Kirby Cladding Systems (KCS)  
(Middle East & Africa region only):

KCS profile offers extra strong resistance to wind & gravitational loads and can be used for roofing, wall and decking applications. KCS was developed by Kirby specifically to meet more stringent design load requirements.  
Coverage Area: 1000mm  
Rib Depth: 40 mm

Kirby Concealed Fastener  
(Middle East & Africa region only)

The concealed fastener single skin cladding type KC is used for exterior wall cladding and internal wall and roof liners. The panels have interlocking tongue and groove joints.  
Coverage Area: 1000mm

Standing Seam Roof Systems  
KSS 600 (India region only)

Kirby Standing Seam Panel systems (KSS-600), with double lock standing seam, eliminates the risk of leakage at fasteners at side and end laps due to the concealed fastening system and provides excellent protection in all weather conditions. It assures consistent weather tightness with virtually maintenance free performance for many years. The KSS-600 roof system is the most specified standing seam roof system in the market since many years. Kirby’s KSS-600 Standing Seam Roof System has received the prestigious Factory Mutual Approval (FM approval) from USA. The FM approval is a certification for the high product quality and reliability of these roof systems.
Kirby Deck

Kirby Deck Panels are used in high rise buildings, office buildings and mezzanine floors in industrial buildings and warehouses. These decks can be used as a permanent shuttering to support the wet concrete and help in creating composite slabs and floor beams. The continuous flange stiffeners and deep embossments increase the load carrying capacities. They provide for a stable and rigid working platform without any need of propping. These panels are roll formed from hot dip galvanized coils of 345 MPa with thickness starting from 0.6 mm to 1.2 mm.

With 55 mm depth (South East Asia region only)

With 40mm and 41mm depth (Middle East & Africa region only)
Kirby Standard Colors

Kirby offers a wide range of top coats including polyester, silicone-modified polyester and Polyvinylfluoride (PVF2) in six standard color options. We can support requirements for RAL colors on request.

### Middle East & Africa/Southeast Asia region

<table>
<thead>
<tr>
<th>Sun Gold</th>
<th>Autumn Green</th>
<th>Galvalume/AluZinc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arctic White</td>
<td>Caribbean Blue</td>
<td>Desert Beige</td>
</tr>
</tbody>
</table>

### India region

<table>
<thead>
<tr>
<th>Arctic White</th>
<th>Cottage Green</th>
<th>Autumn Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tile Red</td>
<td>Desert Beige</td>
<td>Traffic Blue (RAL 5017)</td>
</tr>
<tr>
<td>Sky Blue (RAL 5012)</td>
<td>Caribbean Blue</td>
<td></td>
</tr>
</tbody>
</table>

With 54 mm depth & Kirby Deck with 75 mm depth (India region only)
Insulation

Mineral Wool

Mineral wool is supplied in 2 types i.e. Glass Mineral Wool and Stone Mineral Wool. They are produced by our associate company under KIMMCO-ISOVER brand.

Glass Mineral Wool also known as Ecobuild contains natural resources such as sand, soda etc, and up to 80 % post-consumer recycled glass cullet and has a unique natural color. It is a big contributor in reducing energy consumption of buildings, either in winter or summer, for cooling or heating.

Stone Mineral Wool products are made from natural stone (Basalt + Dolomite). Stone Mineral wool offers superior thermal, acoustic and fire safe properties. The products are ideally suitable for all types of Pre-Engineered Buildings which demand high fire safety & product rigidity.

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>GLASS MINERAL WOOL (Eco Build)</th>
<th>STONE MINERAL WOOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (kg/m³)</td>
<td>10 - 64</td>
<td>30 - 200</td>
</tr>
<tr>
<td>Thickness (mm)</td>
<td>25 - 100</td>
<td>25 - 220</td>
</tr>
<tr>
<td>Length (mm)</td>
<td>1000 - 45000</td>
<td>500 - 10000</td>
</tr>
<tr>
<td>Width (mm)</td>
<td>1200</td>
<td>1200</td>
</tr>
<tr>
<td>Fire Class (Core material)</td>
<td>Euro class ‘A1’</td>
<td>Euro class ‘A1’</td>
</tr>
<tr>
<td>Service Temperature Range (°C)</td>
<td>-50 to 232</td>
<td>-50 to 650</td>
</tr>
<tr>
<td>Water Vapor Sorption (%)</td>
<td>&lt; 1 (by volume)</td>
<td>&lt; 1 (by volume)</td>
</tr>
</tbody>
</table>

Air Bubbles (South East Asia region only)

Air bubbles is made of typical polyethylene bubbles warps sandwiched between two layers of pure aluminum. The light silver surfaces reflect radiant heat while the bubbles prevent heat conduction and support fast heat emittance. Besides, the bubble warps system sound wave, simultaneously get rid of reflective sound wave due to the hill surfaces and unstable shapes.

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>4 mm</td>
</tr>
<tr>
<td>Thermal Insulation (FIB)</td>
<td>46.6°C / 25.2°C</td>
</tr>
<tr>
<td>Sound Insulation (FIB)</td>
<td>94 dB/48.1 dB (1000 Hz)</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-50°C - 110°C</td>
</tr>
<tr>
<td>Roll Width</td>
<td>155 cm</td>
</tr>
<tr>
<td>Roll Length</td>
<td>40 m (*)</td>
</tr>
<tr>
<td>Water Vapor Permeability</td>
<td>0.0 g/m²/24hrs</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>23 (Min) - 29 (Max) Kg/mm²</td>
</tr>
<tr>
<td>Elongation</td>
<td>90% (Min) - 130% (Max)</td>
</tr>
<tr>
<td>Thermal Shrinkage</td>
<td>1.1% (Min) - 1.7% (Max)</td>
</tr>
</tbody>
</table>
Polyethylene Foam
South East Asia region only

Polyethylene foam is an elastic product consisting of all properties: thermal insulation (with three modes: blocking heat, reflecting 97% radiant heat, convection heat), noise insulation and strong.

It is produced from polymerization processing and MDI as main ingredients, they have closed cell structure.

Dimension of closed cell is very small and this leads to excellent thermal and sound insulation, negligible water absorption.

This closed cell have more outstanding thermal insulation properties in comparison with glasswool, air bubbles, vulcanized rubber or other insulation.

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
<th>UNIT</th>
<th>B3 CLASS</th>
<th>B2 CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>3mm - 100mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>31.2 Kg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissipation of smoke</td>
<td>30m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal conductivity</td>
<td>0.032 W/mK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature range</td>
<td>-50 °C +/- 100 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to ignite</td>
<td>500 °C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roll width</td>
<td>100cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roll length</td>
<td>50 - 100m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water vapor permeability</td>
<td>0.0 g/m²/24hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tensile strength</td>
<td>325kPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elongation</td>
<td>90% (min) - 130% (max)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal shrinkage</td>
<td>1.1% (min) - 1.7% (max)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Polyurethane Foam

Polyurethane Foams (PUR or PU) are used worldwide as insulation against temperature extremes. In the Middle-East, the building industry has adopted polyurethane insulation as one of the best materials to resist heat on building interior and to save energy. Polyurethanes are used in the manufacture of nonflexible, high resilience foam seating such as Kirby’s insulated sandwich panels.

Kirby’s rigid polyurethane foam is manufactured by combining polyol mixture and di- or polyisocyanate components by the press injection method between facings. It has excellent thermal conductivity and very high compressive strength as compared to other insulation materials.

<table>
<thead>
<tr>
<th>POLYURETHANE FOAM PROPERTIES</th>
<th>UNIT</th>
<th>B3 CLASS</th>
<th>B2 CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moulded density</td>
<td>kg/m³</td>
<td>40-42</td>
<td>42-44</td>
</tr>
<tr>
<td>Compressive stress @10% relative deformation</td>
<td>kPa</td>
<td>&gt; 100</td>
<td>&gt; 90</td>
</tr>
<tr>
<td>Thermal conductivity (K-Value) @ 25 °C</td>
<td>W/m°K</td>
<td>0.020</td>
<td>0.022</td>
</tr>
<tr>
<td>Dimensional stability +70°C &amp; -30°C for 24 Hours</td>
<td>%</td>
<td>1% max</td>
<td>1% max</td>
</tr>
<tr>
<td>Flammability (Fire Rating)</td>
<td>As per DIN 4102-1</td>
<td>Class B3</td>
<td>Class B2</td>
</tr>
</tbody>
</table>
Kirby Insulated Sandwich Panels

Kirby insulated sandwich panels are a cost effective solution for long lasting, modular construction of roofing, exterior wall and internal partitions. Strong and versatile, Kirby insulated sandwich panels allow for fast on-site assembly and simple retrofit of existing buildings. Further, Kirby Insulated Sandwich Panels deliver substantial savings on equipment and operation for the heating and cooling of buildings. Finally, Kirby insulated sandwich panels are durable and resistant to harsh weather conditions, reducing the recurring maintenance cost of the building.

Polyurethane Insulated Panel

Kirby sandwich panels use high pressure injected polyurethane foam that is CFC free, self-extinguishing, can withstand intense heat, contains extreme low temperature and offers very low rates for water absorption and vapor transmission. The injected foam also provides excellent adhesion to the panel’s sheeting.

Insulation Material - Properties and Performance

<table>
<thead>
<tr>
<th>INSULATION DATA: THERMAL CONDUCTIVITY AT 25 °C MEAN TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLYURETHANE</td>
</tr>
<tr>
<td>Density</td>
</tr>
<tr>
<td>BTU/ft²h.°F</td>
</tr>
<tr>
<td>KCAL/m²h.°C</td>
</tr>
<tr>
<td>W/m.K</td>
</tr>
</tbody>
</table>
Product Range

Kirby Insulated Sandwich Panels offer highly durable, light weight, sound proof panels which are quick to install or re-arrange.

Kirby Insulated Sandwich Panels can be applied to new metal building constructions, to existing substructures, or over an existing roof or wall that is in need of repair and also provide higher insulation values.

It provides smooth visual finish for your external and internal walls.

We offer five profiles of insulated sandwich panels - Kirby Roofing Insulated Panel (KRIP), Kirby Wall Insulated Panel (KWIP), Kirby Concealed Fastener Insulated Panel (KCIP), Kirby Fiber Glass Insulated panel (KFGIP) and Kirby Cladding & Sheeting Insulated panels (KCSIP).

The insulated sandwich panels use the regular Kirby panel profiles, and are available in Aluminum and Steel material and Kirby standard colors.

Kirby Roof Insulated Panel (KRIP)

This panel offers long life, low maintenance and excellent weather tightness. Overlap joints eliminates the possibility of water leakage along side joints. Larger panel size reduces the number of joints. These can be applied on new metal building construction or even applied on a substructure, over an existing conventional roof.

| THERMAL HEAT TRANSMISSION (U-VALUE) FOR POLYURETHANE INSULATED PANEL |
|---------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                         | KRIP 40 | KRIP 50 | KRIP 60 | KRIP 75 | KRIP 100 |
| BTU/ft\cdot h.\cdot °F | 0.085   | 0.070   | 0.059   | 0.048   | 0.037   |
| KCAL/m\cdot h.\cdot °C | 0.414   | 0.340   | 0.288   | 0.234   | 0.179   |
| W/m²\cdot K          | 0.482   | 0.396   | 0.335   | 0.273   | 0.208   |

Kirby Wall Insulated Panel (KWIP)

These are used where creation of a cost efficient controlled environment is valued. KWIP can be used as external walls for commercial buildings or industrial applications, with new metal building construction or overlaid on to existing conventional construction to produce a renovated appearance and provide additional higher insulation values.

| THERMAL HEAT TRANSMISSION (U-VALUE) FOR POLYURETHANE INSULATED PANEL |
|---------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                         | KWIP 40 | KWIP 50 | KWIP 65 | KWIP 75 | KWIP 100 |
| BTU/ft\cdot h.\cdot °F | 0.071   | 0.060   | 0.049   | 0.043   | 0.043   |
| KCAL/m\cdot h.\cdot °C | 0.347   | 0.293   | 0.238   | 0.211   | 0.211   |
| W/m²\cdot K          | 0.404   | 0.341   | 0.277   | 0.246   | 0.246   |
Concealed Fastener Sandwich Panel Cladding Type ‘KCIP’

The Kirby concealed fastener insulated panel cladding system ‘KCIP’ consists of insulated panels with generally flat outer and inner facings. The panels have interlocking tongue and groove joints with fasteners concealed within the joints. The specification of the panel facings is same as for single skin KC panels. This system has very low heat transmission values, a high strength to weight ratio and are quick to assemble, hence provide a cost effective solution on a wide range of cladding applications.

| THERMAL HEAT TRANSMISSION (U-VALUE) FOR POLYURETHANE INSULATED PANEL |
|-------------------------|-------------------|-------------------|
|                        | KCIP 50           | KCIP 60           | KCIP 100          |
| BTU/ft²h.°F            | 0.077             | 0.065             | 0.038             |
| KCAL/M²°K              | 0.378             | 0.315             | 0.189             |
| WATT/M²°K              | 0.440             | 0.367             | 0.220             |

Trims / Flashing

Kirby Standard trims & flashing match the same specification as panel materials. They are furnished for rakes, corners, eaves, and framed openings to provide weather tightness and a smooth finished appearance.

We also supply a wide range of coordinated accessories for complete insulated panel roof and walls installations, consists of translucent panels, ventilators, roof curbs, roof jacks, doors (personnel, sliding and roll-up), windows and louvers.

Panels can be specially ordered to meet a wide range of base metal specification, coating, finish, color and thickness.
SKYLIGHTS AND WALL LIGHTS
Made of translucent GRP to match Kirby roof and wall panels, with an estimated light transmitting capacity of 60%.

POWERED VENTILATORS
Kirby ‘C’ whirlwind low silhouette extract ventilator with spun aluminum non-return shutter and one piece base and throat. Mounted on GRP roof curb moulded to suit Kirby Roof panels.

ROOF JACKS
Enclosure for pipes or stacks projecting from the roof; 2mm thick GRP to fit Kirby roof panel.
Available in opening sizes for 50 mm to 300 mm diameter.

ROOF CURBS
Enclosure for ducts or other roof projections. 2 mm thick glass fibre reinforced plastic fitting Kirby Roof panels.
Available in opening sizes 600 mm, 900 mm and 1200 mm squares.

RIDGE VENTILATORS
These are available with bird screen and with a standard length of 3000mm and can be supplied as single or continuous modules.
Throat widths are available in 300mm with mechanical damper and 600mm without damper.

ACCESSORIES

Roofing Accessories
Windows and Louvers

LOUVERS
Adjustable louvers are with overlapping blades allowing free air flow. Size is 1 m x 1 m. incorporating insect screen, hand crank and blade adjustment lever.

SAND TRAP LOUVERS
This louver consists of different form of flashings arrangement in a predetermined manner in order to create a sand trap. The dual advantage of the sand trap louver is not only to help in natural ventilation but also act as a sand trap at the same time sizes is 1 m x 1.0 m and 2 m x 1.0m

ALUMINIUM WINDOWS
Designed for installation with Kirby wall panel, double slide, self flashing with pre-glazed clear glass and removable half insect screen. Standard size is 1 m x 1 m. Multiple windows can be formed by joining the jamb fins together.

Doors

SLIDING DOORS (SINGLE OR DOUBLE LEAF)
3 m, 4 m and 5 m wide and 3 m to 5.5 m high. Other sizes are available on special order.

WALK DOORS (SINGLE OR DOUBLE)
915 mm or 1830 mm wide x 2134 mm high made of 20 gauge electrogalvanised steel with a core of polyurethane insulation. Door fixture is provided.

AIRCRAFT HANGAR DOORS
Kirby provides solutions for special applications such as aircraft hangars, customized hangar doors and framing, customized support systems for special equipment and maintenance cranes.

Other Accessories

PRIMARY & SECONDARY BOLTS
High strength bolts used for main connections are manufactured as per ASTM A-325M. Material finish is Electro-Galvanized, yellow passivated. Mild steel bolts used for secondary connections are as per ASTM A-307, provided in plain finish.

SHEETING FASTENERS
Self-drilling screws are No.14 Type A, with 19mm EPDM sealing washers with hardened drill points. Screws are available in carbon steel or stainless steel (bi-metal). Material specification for the steel wire is as per ASTM A510 –minimum grade 1018.

SEALANTS
Silicon sealant and rope sealants are used to provide a weather seal and has excellent gap-filling properties. These offer excellent adhesion, long life, airtight and water tight sealing solutions to all our accessories.
PROJECTS-PEB

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RENAULT NISSAN AUTOMOTIVE FACTORY, INDIA

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