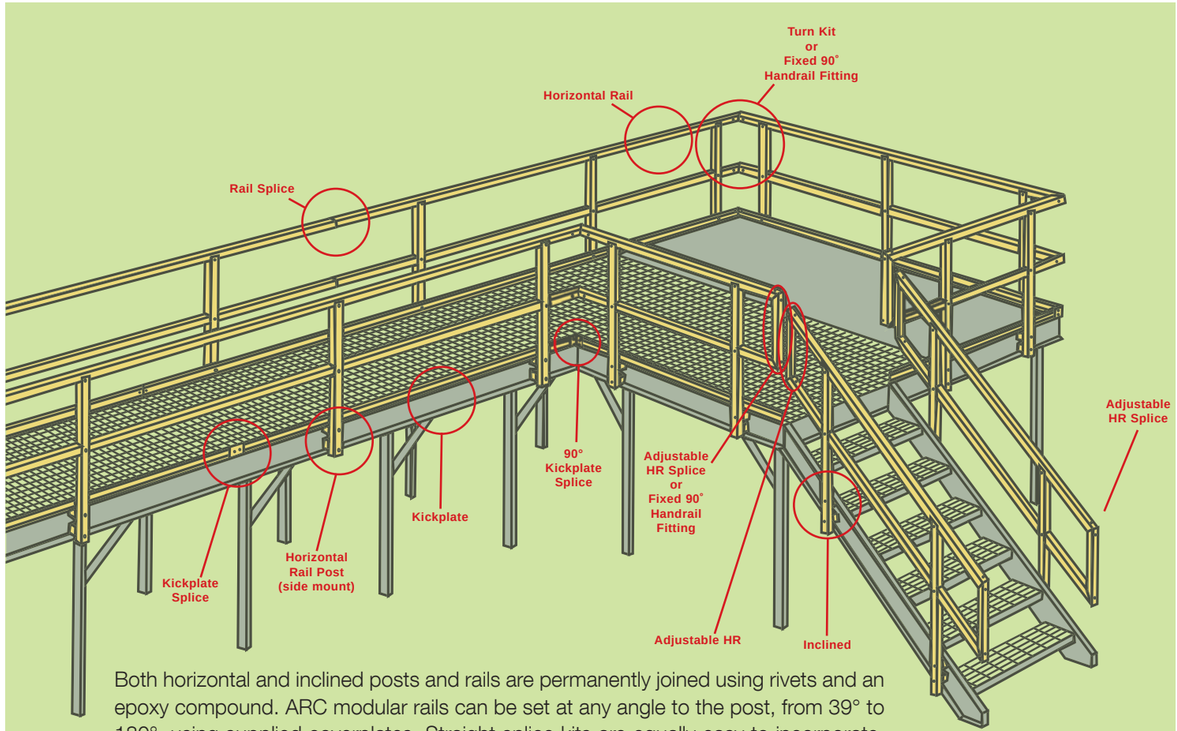
Modular ARC FRP Handrail System



Both horizontal and inclined posts and rails are permanently joined using rivets and an epoxy compound. ARC modular rails can be set at any angle to the post, from 39° to 180°, using supplied coverplates. Straight splice kits are equally easy to incorporate, joined by either a riveted connection or a nut and bolt assembly. ARC modular posts are designed for conventional sidemounting, and kits are also available for installation of either topmount bases or removable concrete-embedded bases.

RP Railing (Square)

Standard Size : 1475 mm (Length) x 1200 mm (Height)
Outer Frame : 50 x 50 Square Pultruded Frp Hollow Pole
Support Bar : 25 mm Diameter Pultruded Frp Hollow Rod
Rod Spacing : 125 mm

FRP Railing (Circular)

Standard Size : 1515 mm (Length) x 1300 mm (Height)
Outer Frame : 50 Diameter Pultruded FRP Hollow Rod
Support Bar : 25 mm diameter Pultruded FRP Hollow Rod
Rod Spacing : 125 mm

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CERTIFICATION INTERNATIONAL
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ARC
Insulation & Insulators (P) Ltd.
Manufacturer of Fiberglass Composites

ARC GRP Handrail System

ARC hand Rail system is Glass reinforced plastic (GRP) Handrail System, providing stainless steel advantages at an affordable price. These are produced from Polyester Resin, pultruded with a surface veil. The joining system is GRP cast and Maintenance Free.

ARC handrail systems are superior to conventional metallic systems. These hand rails are designed and manufactured to be easily installed with no guesswork involved. Components are lightweight and easy to fabricate.

The ARC handrail line includes everything needed to install horizontal and inclined handrail systems with either two or three rails. ARC also can provide specialty picketed handrail systems as per client designs.

FRP handrails, in combination with FRP walkway grating and stair treads, provide the ultimate in corrosion resistance for aggressive environments such as offshore oil platforms, food processing plants, Chemical Plants, Paper plants, etc. Strong yet lightweight, made from pultruded fibreglass and isophthalic polyester resin, this system can be used in the harshest of environments.

Benefits

Corrosion Resistant: ARC fiberglass handrail and ladder products are known for their ability to provide corrosion resistance in the harshest environments and chemical exposures.

Electrically & Thermally Non Conductive: Fiberglass is electrically non conductive for safety and has low thermal conductivity which results in a more comfortable product when physical contact occurs.

Low Maintenance: Products are also easily cleaned with normal water.

Fire Retardant: Flame spread rating of 25 or less, as tested in accordance with ASTM E-84.

Low Installation Cost: Due to ease of fabrication and light weight, FRP handrail and ladders eliminate the need for heavy lifting equipment. Components are also labeled with tags that correspond to engineering drawings to ensure time efficient and accurate installation.

Long Service Life: Fiberglass products provide outstanding durability and corrosion resistance in demanding applications, therefore providing improved product life over traditional materials.

UV Protection: UV inhibitors in the resin matrix, along with a synthetic surfacing veil, provides optimum protection from the structural effects of UV weathering.

Lightweight Yet Durable: Easily Fabricated & Quick and Easy to Install

Applications

- Maintenance walkways
- Industrial access platforms
- Transmission tower platforms
- Marinas, jetties, pontoons
- Oil and gas platforms
- Petroleum refining access platforms
- Water and sewage treatment plants
- Food processing plants

Materials & Fabrication

90^0 Elbow

4-way corner

Mounting Flange

End Bend

Arc Hand rails are designed to meet the configuration and loading requirements of Occupational health and safety administration- US(OSHA) Or any governing building code as applicable.

Arc Hand Rails and Posts shall be 50 mm by 50 mm & 4 mm square tube or 50mm OD by 3 mm thk round tube manufactured by the pultrusion process. The pultruded parts shall be made with a fire retardant resin that achieves a flame spread rating of 25 or less in accordance with ASTM test method E84. The resin matrix shall be select polyester or vinyl ester and shall contain a UV inhibitor. The color shall be chosen from manufacturer's standard colors.

ARC FRP standard railing system shall be fabricated into finished sections by fabricating and joining together the pultruded square tube using molded or pultruded components, epoxy bonded and connected as shown in the Drawings. Railing sections shall be fabricated to the size shown on the approved fabrication drawings.

The fabricated railing sections shall be supplied complete with fittings by the FRP manufacturer. The components used to join fabricated sections together may be shipped loose, to be epoxied and riveted at site.

Mechanical properties shall meet or exceed the values listed in Table 1.

Table 1 Standard Railing Fiberglass Pultruded Material Properties

Minimum Ultimate Coupon Properties (UN)

PROPERTIES	TEST METHOD	UNITS	SQUARE TUBE VALUES	ROUND TUBE VALUES
Tensile Stress, LW	ASTM D638	N/mm^2	207	207
Tensile Modulus, LW	ASTM D638	10^3 N/mm^2	17.2	17.2
Compressive Stress, LW	ASTM D695	N/mm^2	207	207
Compressive Modulus, LW	ASTM D695	10^3 N/mm^2	17.2	17.2
Flexural Stress, LW	ASTM D790	N/mm^2	207	207
Flexural Stress, LW	ASTM D790	$10^3 N/mm^2$	11.0	11.0
Density	ASTM D792	lbs/in^3 N/mm^3	.060 - .070 .0000163 -.0000193	.060 - .070 0.0000163 - 0.0000193
24 hr. Water Absorption	ASTM D570	% max by wt.	.6	.6

Typical values because these are shape and composite dependent tests.