

HANDRAIL SC-R™

Tailor made FRP solutions
for an array of industries
since 2004



STAIRCAREFRP
COMPOSITE DESIGN & FABRICATION



Staircare FRP Product Applications For Railway Environments

Staircare SC-R™ is the registered trade name for our FRP products and fabrication service.

About Us

Staircare was established in 2005. Staircare is based in Sydney, Australia. With more than 40 years' experience, we specialise in fibreglass profiles and offer cost and energy-efficient alternatives for building and industry. You are guaranteed high quality every time you buy our products. **Staircare HandRail** Fiberglass Reinforced Plastic (FRP) Handrail Systems are safe, compliant, corrosion resistant, virtually maintenance-free, and easy to install. Our standard industrial handrail is a 2-rail (or 3-rail) system with a kickplate fabricated from its high-strength pultruded structural shapes with UV inhibitors manufactured into the resin and synthetic surfacing veils that allow a resin-rich surface. Standard systems are produced in safety yellow, with other colours available upon request.

Handrails are available prefabricated and factory assembled or can be shipped in components for easy on-site field fabrication. A factory-applied UV coating is recommended when handrails will be utilized outdoors. For us, sustainability is about responsibility, common sense and doing the right thing. That is why we do our utmost to use our resources efficiently and to protect the environment.



Instruction

What is FRP/GRP?

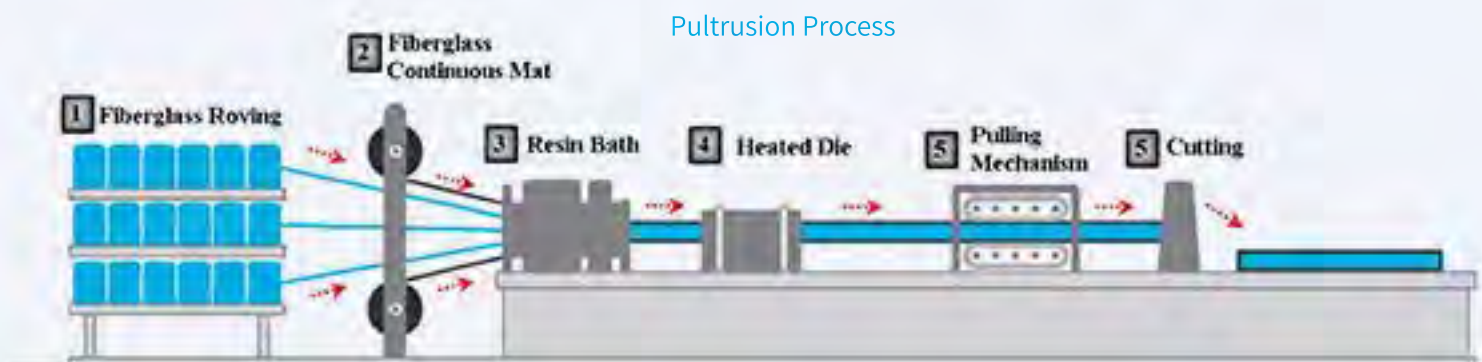
SC-R™ FRP grating, stair treads, structural shapes and handrails combine to establish a FRP system. This works to provide safe and versatile access as materials are non-conductive and produce exceptional corrosion resistance.

What is GRP made of?

GRP is made from strands of glass called fibres. These are extremely fine fibres that are woven together to create a flexible fabric. GRP is a moulded product, meaning it must be placed in or around the shape of the item it is required to take. GRP composite incorporates aluminium oxide aggregate surface, which is diamond hard, and offers high resistance to long-term wear.

How are FRP products made?

These products are pre-finished, ready-to-install plates/covers constructed from extremely robust composite FRP. All our products are bonded together in a single manufacturing process, referred to sometimes as pultrusion manufacturing, making for the strongest and most durable pedestrian safety products available today.



Benefits- Fiberglass Reinforced Handrail:

The **Staircare FRP** range is designed for both more demanding applications and general handrailing (as a quick and easy chip-resistant alternative to powder-coated structures). The robust, impact-resistant material will naturally not corrode, is non-sparking and can cope with a very wide range of chemicals, so it is frequently found in water treatment facilities, chemical processing plants, marine and offshore applications and specialist manufacturing sites, where more aggressive environments may exist.

- Ergonomic design
- High strength-to-Weight ratio
- Easy and quick installation
- **Staircare** systems are produced in lightweight standard sections that include both post and rail. Systems can be prefabricated in large sections and shipped to the site or they can also be fabricated and installed on-site with simple carpenter tools

Affordability

- Fibreglass components and an easy-to-assemble design provide savings on labour and maintenance, resulting in long-term savings and eliminating the cost and inconvenience of downtime for repairs in plant operations.



Low maintenance

- Low maintenance
 - Moulded-in colour plus an optional tough polyurethane coating will outlast aluminium or steel systems and requires virtually no maintenance



Weather resistance

Staircare recommends an optional polyurethane coating to ensure prolonged tears of colour stability in UV-intensive environments

- Low thermal conductivity
- Corrosion resistance
- Fire retardant
- Long service life

Our FRP Handrail range benefits from low electrical conductivity so are typically suited to handrails and guardrails situated close to electrical installations including railways. Low thermal conductivity is also an integral feature, avoiding the tube and fittings from being “cold to the touch” in extreme temperatures. The Staircare FRP range is fire resistant and has been tested in Australia and classified as (standard AU)

Fiberglass Handrail Material Standard

No (Australian standard) compliant worries here. All ReadyRail components meet (Australian standard) handrail guidelines for worker safety. They include UV inhibitors and fire-retardant resins, and the safety yellow colouring is integrated into the material so it can't wear off or flake away. Unlike metal railing, FRP, handrails and guardrails are electrically non-conductive and have low thermal conductivity. The safety handrails and guardrails comply with (Australian standard) railing guidelines for use on landings, platforms, mezzanines and staircases.



Material of construction

Staircare is an engineered composite consisting of:

- Continuous glass fibres
- Two continuous strand glass mats
- A synthetic surfacing veil
- Fire-retardant polyester resin this unique combination provides the ultimate in strength, stiffness and long-term corrosion and UV protection



Resin Systems

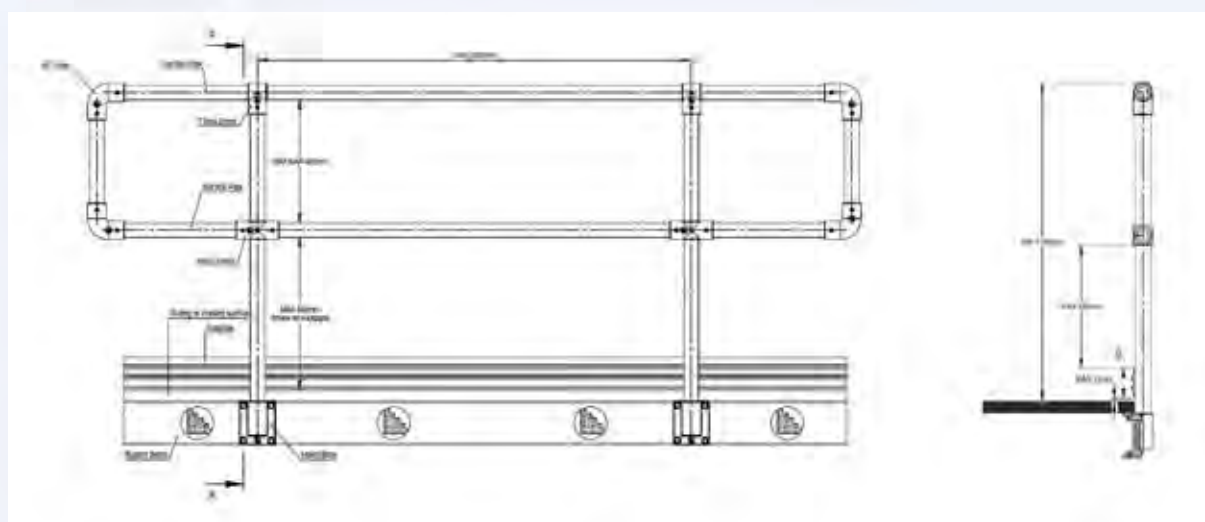
A polyester resin system is standard for the Staircare handrail systems but other resin systems are available upon request

Colors

Staircare Handrail and ladder systems are produced in a standard safety yellow colour. Other colours are available upon request

Staircare Handrail

The FRP modular handrail system utilises pultruded round tube (RT50x5). This tube forms the top rail, knee rail and stanchions. The rails and stanchions are then connected using FRP composite fittings. All components are fire retardant and contain UV inhibitors. The fittings are clamped together using stainless steel fasteners. The standard stock colour is yellow however alternative colours can be supplied depending on the quantity required.



You can choose between 50mm round tube or 50mm square tube profiles and the top of the Ergonomic handrail can be round or curved.

- Conforms to AS1657
- Premium VEFR grade FRP chemical and corrosion resistant
- Simple installation tools
- Can be secured to your existing floor support structure or as a standalone system.
- Can be supplied in pre-assembled modules or unassembled





Staircare Handrail Fitting:



St50HTB

Descriptions

50mm FRP Round tube



St50HFW

Descriptions

50mm Round tube
Flexible
FRP handrail fitting



Omega

Descriptions

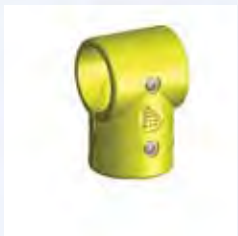
Ergonomic FRP Top Rail



St50HSF

Descriptions

50mm Round tube
Side Fit Base
FRP handrail fitting



St50H903W

Descriptions

50mm Round tube
A 3-way 90-degree
FRP handrail fitting



St50H3WA

Descriptions

50mm Round tube
A 3-Way Adjustable
FRP handrail fitting



St50H90E

Descriptions

50mm Round tube
A 90-degree
FRP handrail fitting



St50HVA

Descriptions

50mm Round tube
Adjustable
FRP handrail fitting (Variable angle)

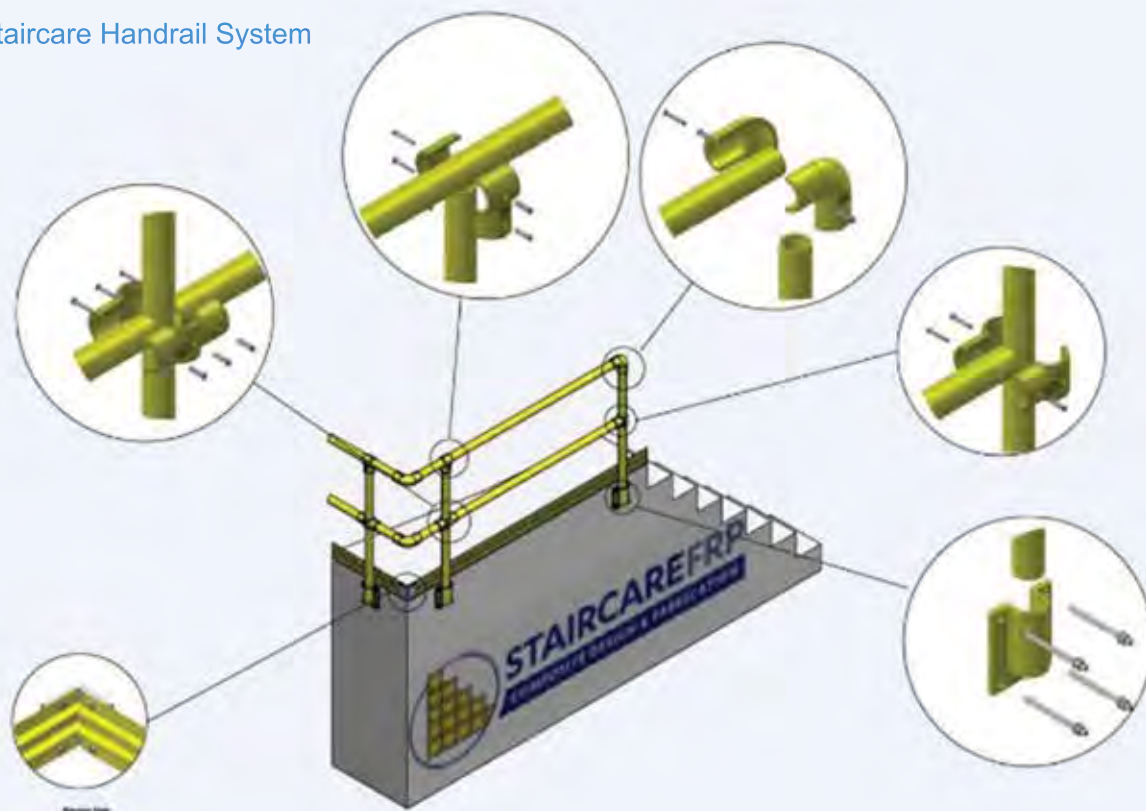


St50H904W

Descriptions

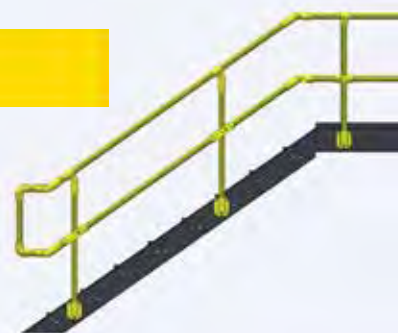
50mm Round tube
A 4-way tee
FRP handrail fitting

Staircare Handrail System

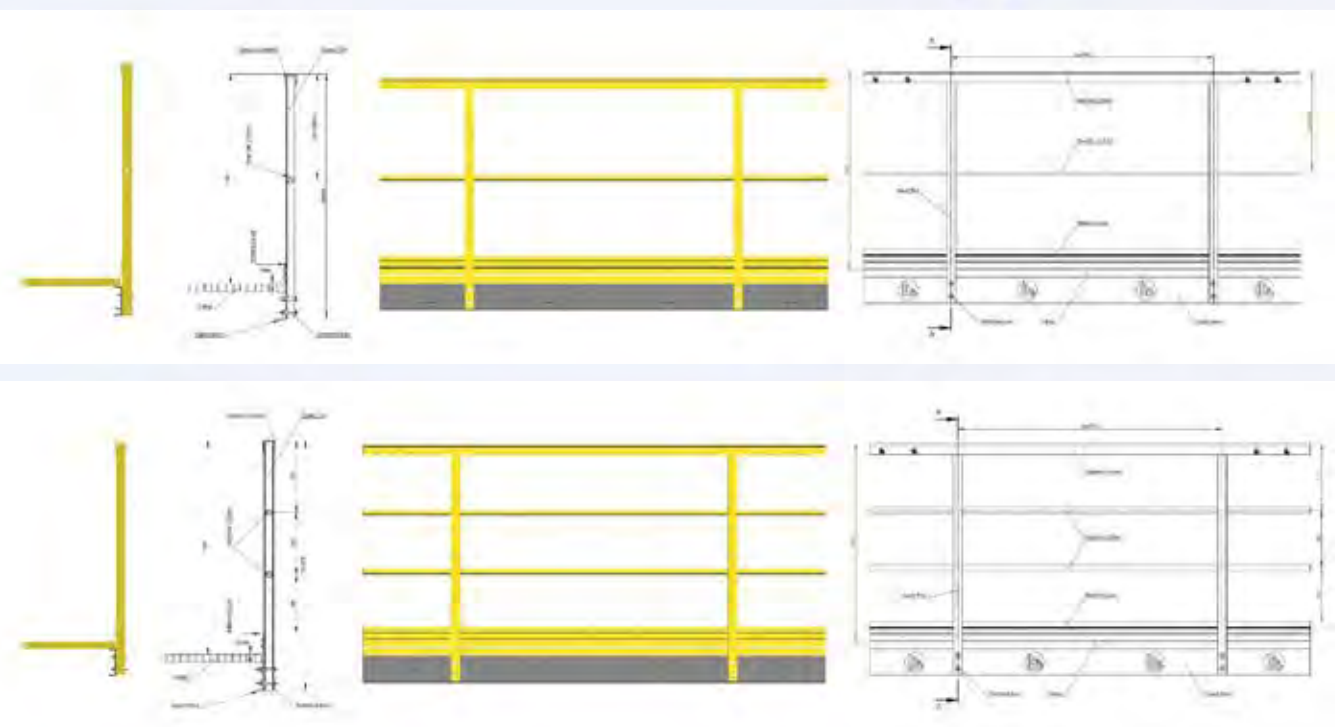


Walkway Systems

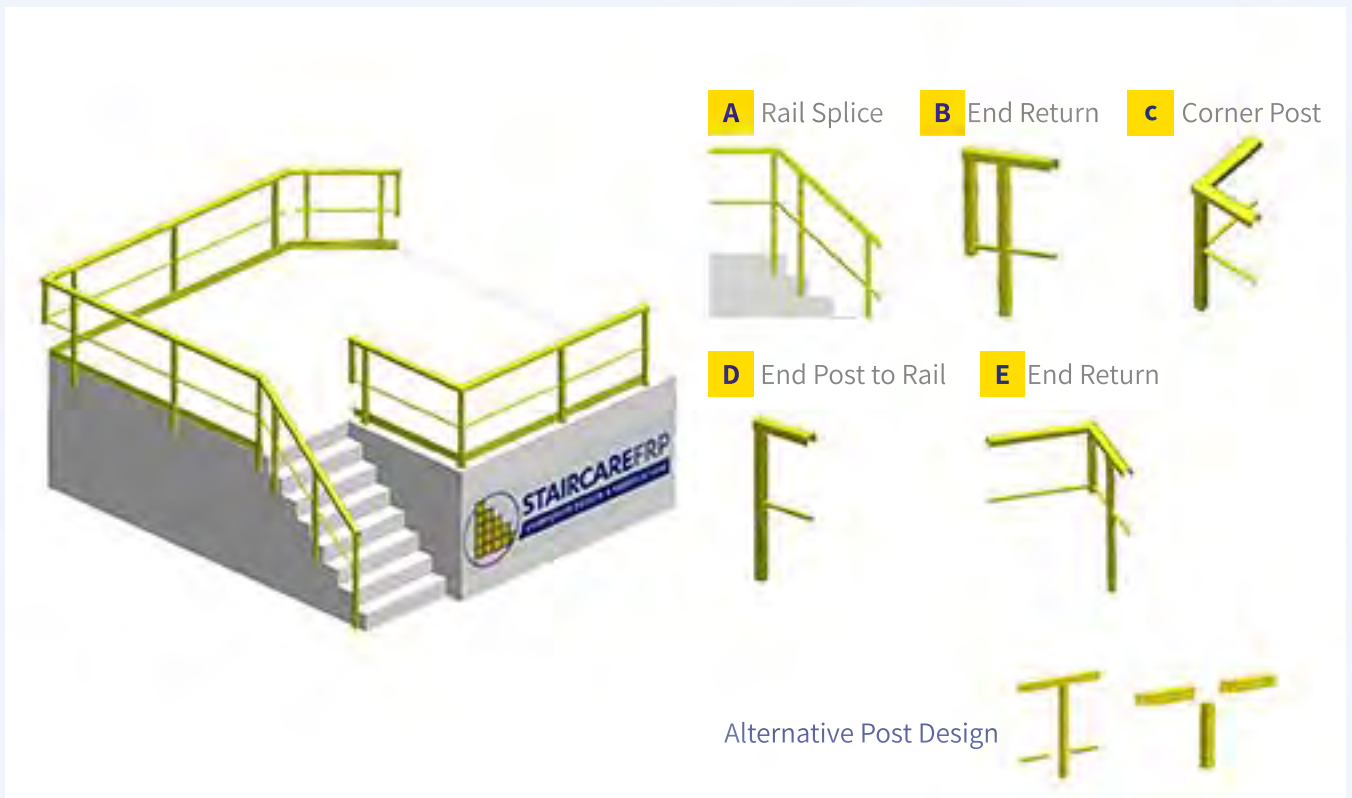
Standard fittings to suit 30° and 45° risers. Available ex stock in yellow and light grey. Other colours available upon



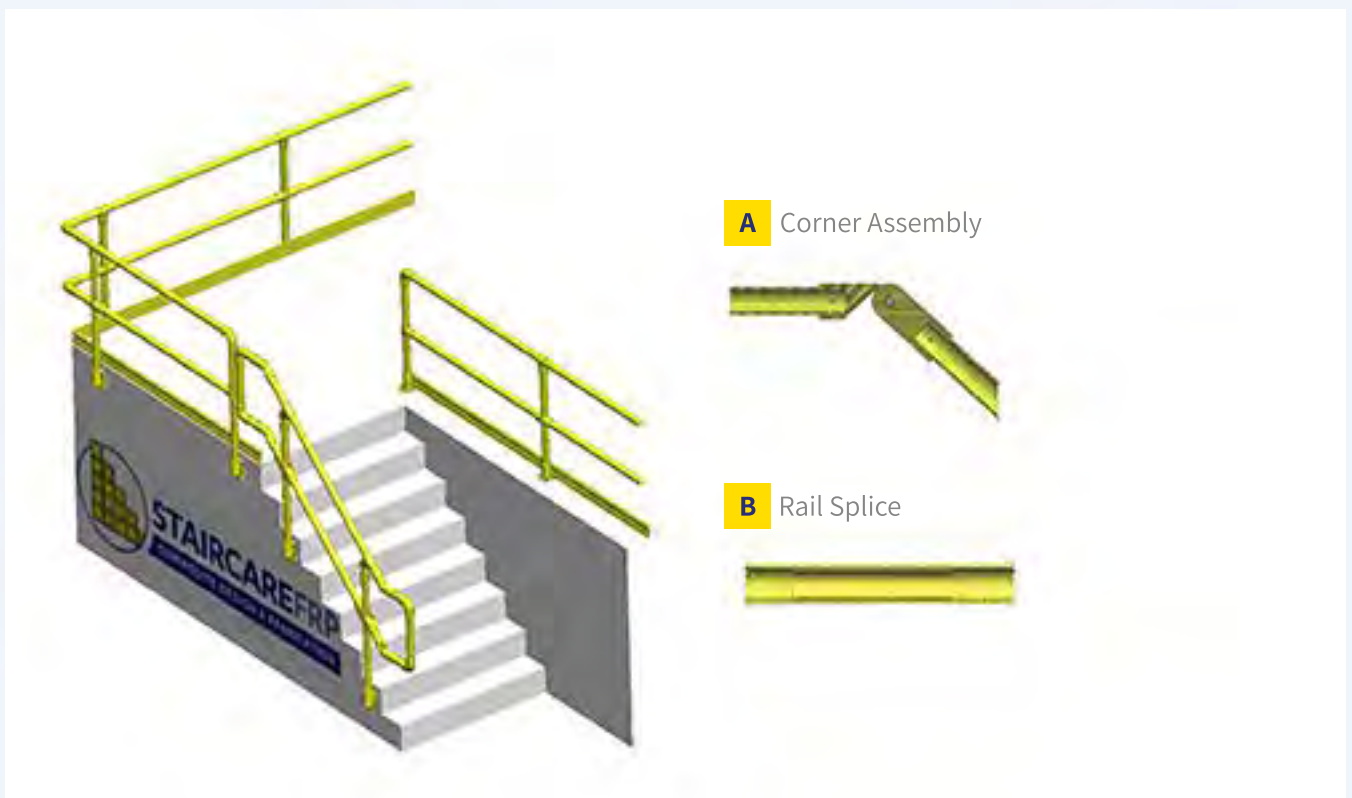
Typical Post Details



Typical Post Details



Typical Round Handrail Construction



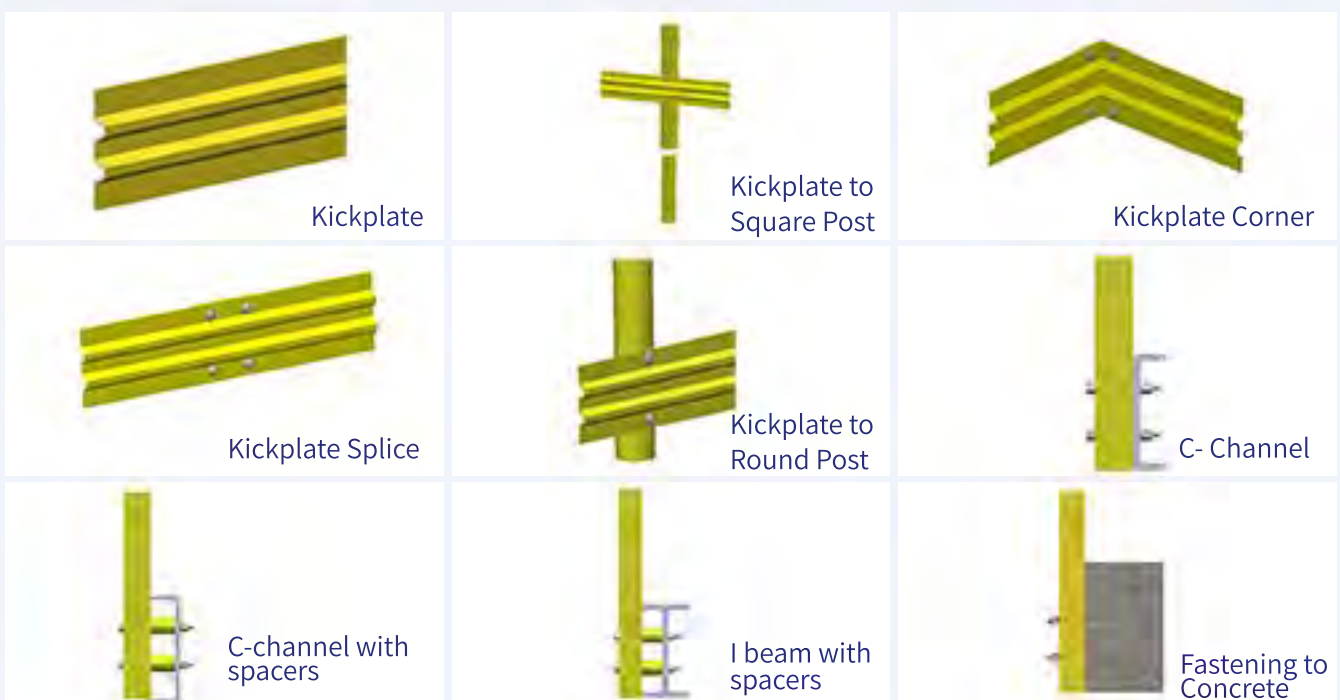
The Starcare round handrail system is a round FRP system that is ideal for any high traffic area where handrail is needed. The round rails are easy to grip and 90 molded corners eliminate sharp edges

Typical Square Handrail Construction



Properties	Test Method	Round Rail Values	Square Rail Values
Tensile Stress	ASTM D638	207 Mpa	207 Mpa
Tensile Modulus	ASTM D638	17237Mpa	17237 Mpa
Compressive Stress	ASTM D695	207Mpa	207Mpa
Compressive Modulus	ASTM D695	17237 Mpa	17237 Mpa
Flexural Stress	ASTM D790	207 Mpa	207 Mpa
Flexural Modulus	ASTM D790	11031Mpa	11031Mpa
Shear Stress	ASTM D2344	31 Mpa	31 Mpa
Density	ASTM D792	.00041-.00048 N/mm2	.00041-.00048 N/mm2
24 Hr. Water Absorption	ASTM D570	0.6% max	0.6% max
Flexural Stress	Full Section	413 Mpa	248 Mpa (typical)
Flexural Modulus	Full Section	31026 Mpa (typical)	25510 Mpa (typical)

Suggested Square Post and Kick Plate Installation



FRP Composites Fabrication Service, Profile and Grating Sales



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