

# STAIRCASE AND LANDING SC-R™

Tailor made FRP solutions  
for a large range of  
industries since 2004



**STAIRCAREFRP**  
COMPOSITE DESIGN & FABRICATION



## **FRP Composites, Fabrication Service, Profile & Grating Sales**

Working together  
to fabricate custom made-  
FRP structures  
for your specific application.

## Staircare SC-R™ FRP Composite Staircase Systems.

### Material Sales and Fabrication Service.



**Staircare SC-R** combines FRP grating, flooring, stair treads, structural shapes and handrails to an FRP system that provides non-corrosive, non-conductive resilient safe and versatile access.

#### Benefits

- Exceptional corrosion and chemical resistance
- High slip resistance, embedded silicon carbide anti slip grit
- High impact tolerance, does not deform
- Light weight, high strength to weight and no need for heavy lifting equipment
- No welding or need for hot work permits
- No electrical and thermal conductivity
- UV resistant with fire retardant
- Custom colours and finishes
- Low maintenance, no re painting, easily cleaned with water pressure for a long service life.



## Resilient, low maintenance FRP fibreglass

### reinforced polymer staircases built to measure.

#### ■ Staircare SC-R™ FRP Composite Staircase Systems

##### FRP Product supply only.

Staircare supply staircase components in full lengths or cut to size including

- SC-R stair treads with solid nose and silicon carbide anti slip grit over the entire tread surface
- SC-R grates for landing or pathways to match stair nosing
- SC-R structural shapes including FRP C-profiles for stringer and FRP angles for tread support. FRP square hollow sections (SHS) for additional support columns.
- SC-R handrails, entire FRP materials including square or round profiles with omega style handrail and base saddles.

##### FRP Stair Component Fabrication.

- SC-R complete stringers with angle tread supports and fixing plates
- SC-R complete stringers , angle and handrail
- SC-R stair treads with solid nose supplied cut to size including kick plate
- SC-R staircase, complete assembly including stainless steel SS316 fixings

##### FRP staircase design, fabrication and installation to AS1657:2018

- Staircare offer a design , construction and installation service within the Sydney metro area

#### ■ SC-R™ Product Supply for FRP Staircase Systems

##### FRP Stair Treads

Staircare offers 3 different versions of FRP stair treads:-

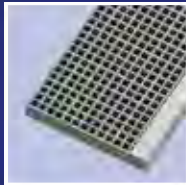
- **1.** SC-R mini mesh stair treads with a solid colour contrasting nosing strip and silicon carbide anti slip grit and UV protection. Standard tread size is 287mm going x 38mm thick with an aperture of 12x12mm. Length can be up to 4 meters in on piece.
- **2.** SC-R micro mesh stair tread with a solid nose that can be in a contrasting colour on request and silicon carbide anti slip grit with UV protection. Standard tread size is 287mm going x 38mm thick with an aperture of 8x8mm, length can be up to 4 metres in one piece.
- **3.** SC-R 38 x 38 square mesh stair treads with a solid colour contrasting nosing strip and heavy duty silicon carbide anti slip grit with UV protection as standard, for industrial use. Standard size is 272mm going x38mm thick with an aperture of 31x31mm,



We recommend a maximum 900mm clear span that would allow for a 1000mm wide stair treads requiring 50mm angle support on either side of “side fitted stringers”. Stair width can be increased to 1380mm using 2 x underslung stringers (see stringer underslung design notes) there can be as many underslung stringers as required to achieve your desired stair width. Staircare can supply custom made stair tread sizes on request.

**SC-R Stair Tread and Landing Platform Performance Information.**

Australian Standard for stair and landings require a design uniform distributed load of 4Kpa (400kg/m<sup>2</sup>) and point load of 1.8Kpa (180kg) Deflection L/250. Recommendation for pedestrian comfort is maximum 5mm deflection

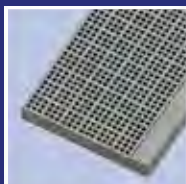


**SC-R 20 X 20 /40 X 40 Mini Mesh Stair Tread With Solid Nose, Silicon Carbide  
Anti-Slip Grit and UV Protection**

Max. recommended Span mm	Tread width mm	going mm	thickness mm	tread support mm	aperture mm	open rate %
900	995	287	38	50 x 6.4	12 x 12	42

**Load and Deflection at Max. Recommended Span of 900 mm**

uniform load Kpa ( deflection in mm )			Concentrated point load kg		
span	2.5 kPa	4.0 kPa	span	200 Kg	400 Kg
900	1.45	2.4	900	2.42	4.84

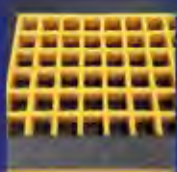


**SC-R 13 x13 /40x 40 Micro Mesh Stair Tread With Solid Nose , Silicon Carbide  
Anti-Slip Grit and UV Protection**

Max. recommended Span mm	Tread width mm	going mm	thickness mm	tread support mm	aperture mm	open rate %
900	995	287	38	50 x 6.4	8 x 8	30

**Load and Deflection at Max. Recommended Span of 900 mm**

uniform load Kpa ( deflection in mm )			Concentrated point load kg		
span	2.5 kPa	4.0 kPa	span	200 Kg	400 Kg
900	1.40	2.36	900	2.28	4.80



**SC-R 38 x 38 Square Mesh Stair Tread with Heavy Duty Silicon Carbide  
Anti-Slip Grit and UV Protection**

Max. recommended Span mm	Tread width mm	going mm	thickness mm	tread support mm	aperture mm	open rate %
900	995	272	38	50 x 6.4	31 x 31	68
Load and Deflection at Max. Recommended Span of 900 mm						
uniform load Kpa ( deflection in mm )			Concentrated point load kg			
span	2.5 kPa	4.0 kPa	span	200 Kg	400 Kg	
900	1.71	2.58	900	2.60	6.1	

■ **FRP Stair Landing and Platforms**

Stair landings or platforms are made to measure from SC-R grating in the same finish to match stair treads, that is: SC-R mini mesh, SC-R micro mesh or SC-R 38 x 38 square mesh with silicon carbide anti slip grit, fire retardant and UV protection.

The landing lead in edge is fitted with a solid colour contrasting nosing strip to match the stair treads.

■ **SC-R Structural FRP Profiles**

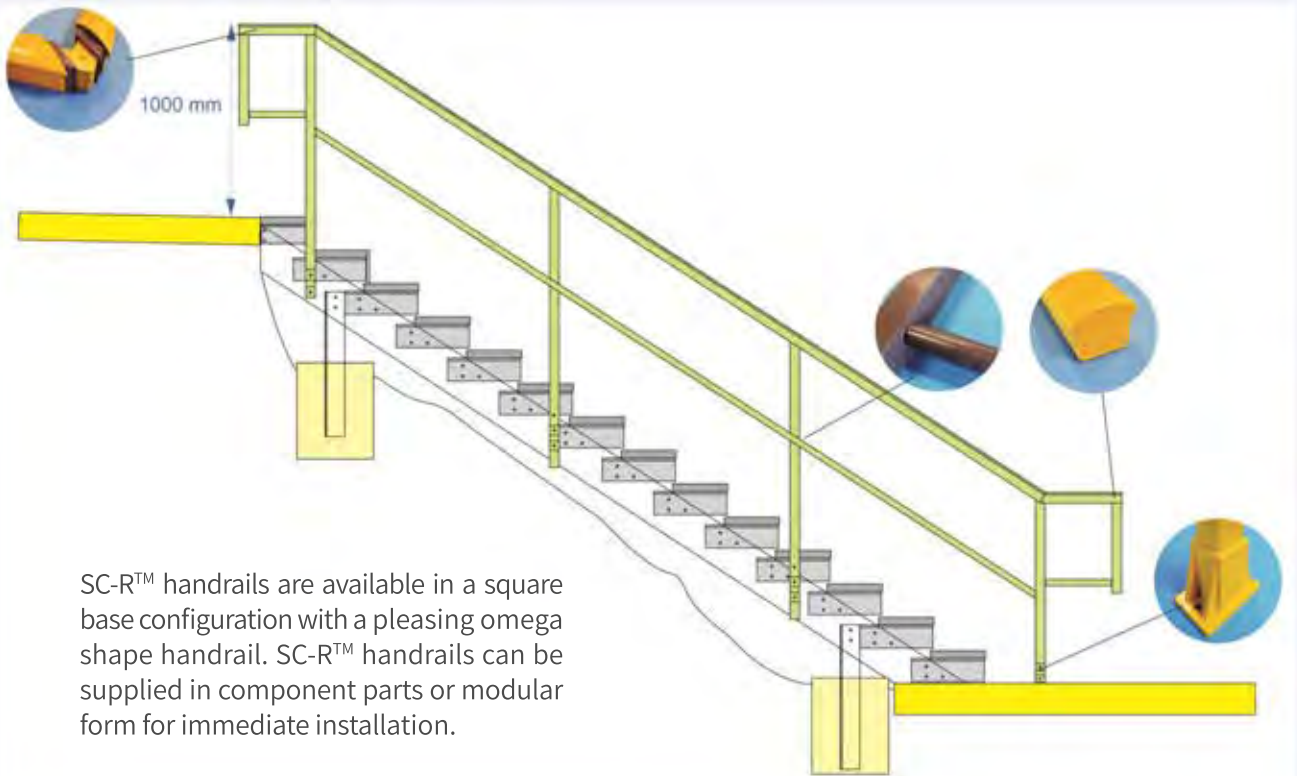
The table below offers a list of preferred FRP structural profiles for staircase construction. (Other profiles are available on request).

SC-R STRUCTURAL FRP PROFILES	
PROFILE TYPE	SIZE IN MM
Equal Angle	50x50x6.4, 101x101x9.5, 152x152x12.7
C-Channels	152x43x6.4, x203x56x9.5, 254x70x12.7
Square Hollow Sections (SHS)	50x50x6.4, 76x76x6.4, 101x101x6.4
Wide Flange Section	152x152x9.5
Round Tube	32x6.0
Corrugated Tube	50x6.35
Flat Strip	102x6.4

## FRP Handrail and Guardrails

Staircare FRP handrail SC-R™ offer strength, durability, versatility and ease of installation with many advantages over traditional materials. It is a lightweight modular system with multiple use.

Staircare FRP Handrail SC-R™ have been tested to AS1657-2018. The load testing confirmed the suitability of SC-R™ as handrail or guardrail systems. Guardrails would be in combination with SC-R™ kick plates.



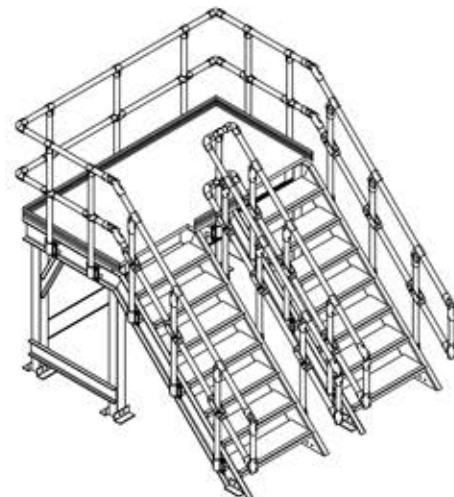
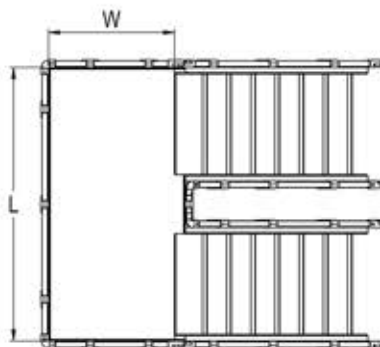
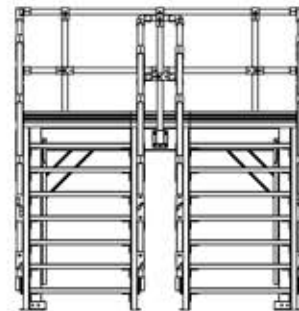
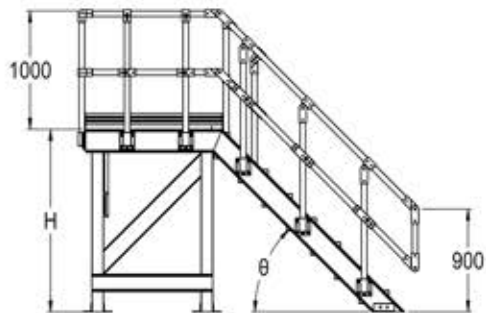
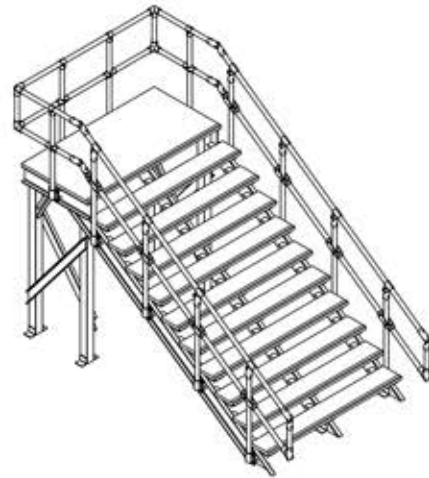
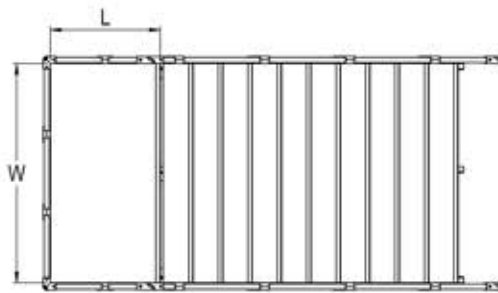
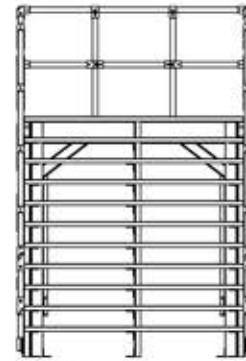
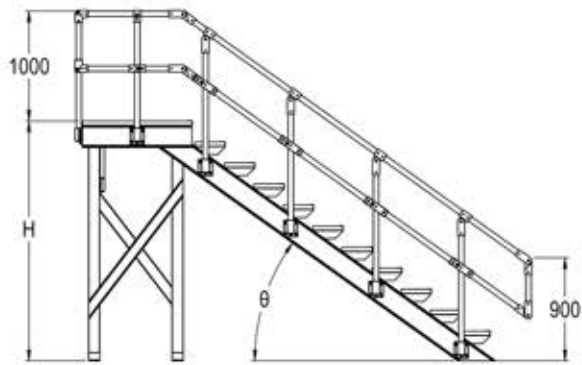
SC-R HANDRAIL ITEMS



SC-R STRUCTURAL SHAPES FOR STAIRS



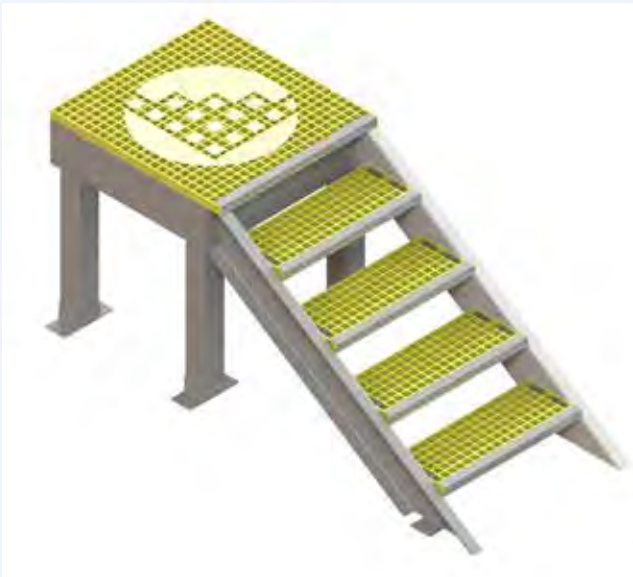
## FRP Handrail and Guardrails



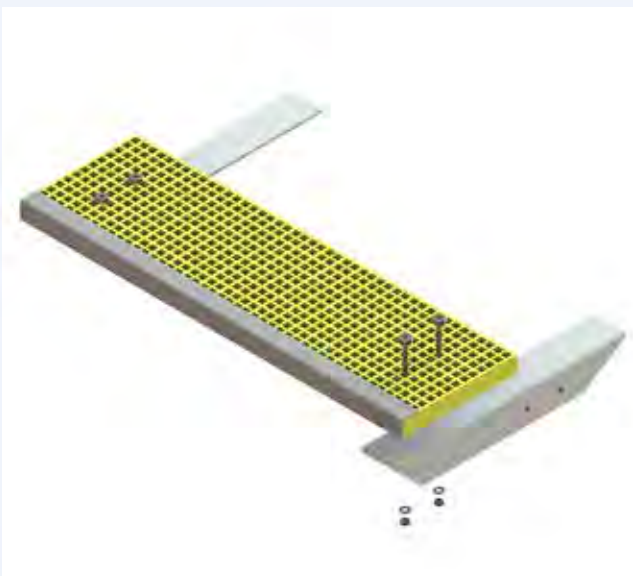
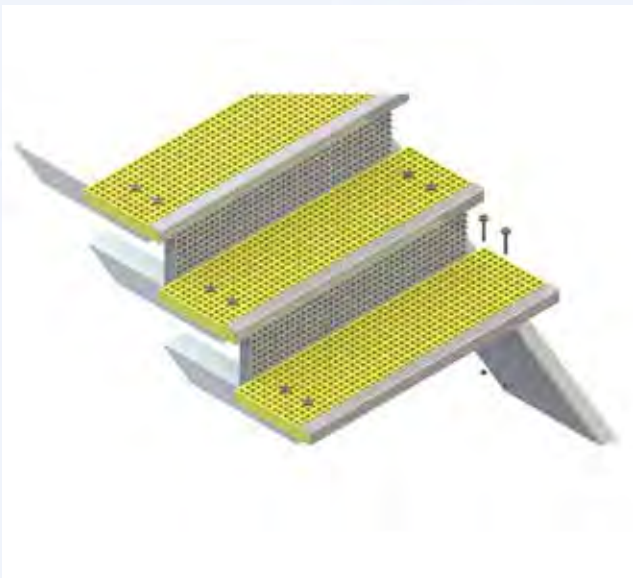
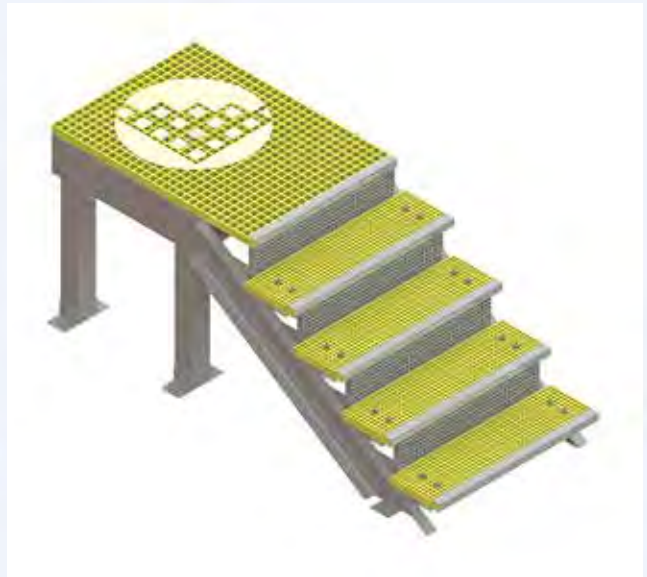


## Assembly of typical Stair and Landing

STRINGER SIDE FITTED WITH PLATFORM



STRINGER UNDERSLUNG WITH PLATFORM



■ **SC-R Staircase Design Notes**

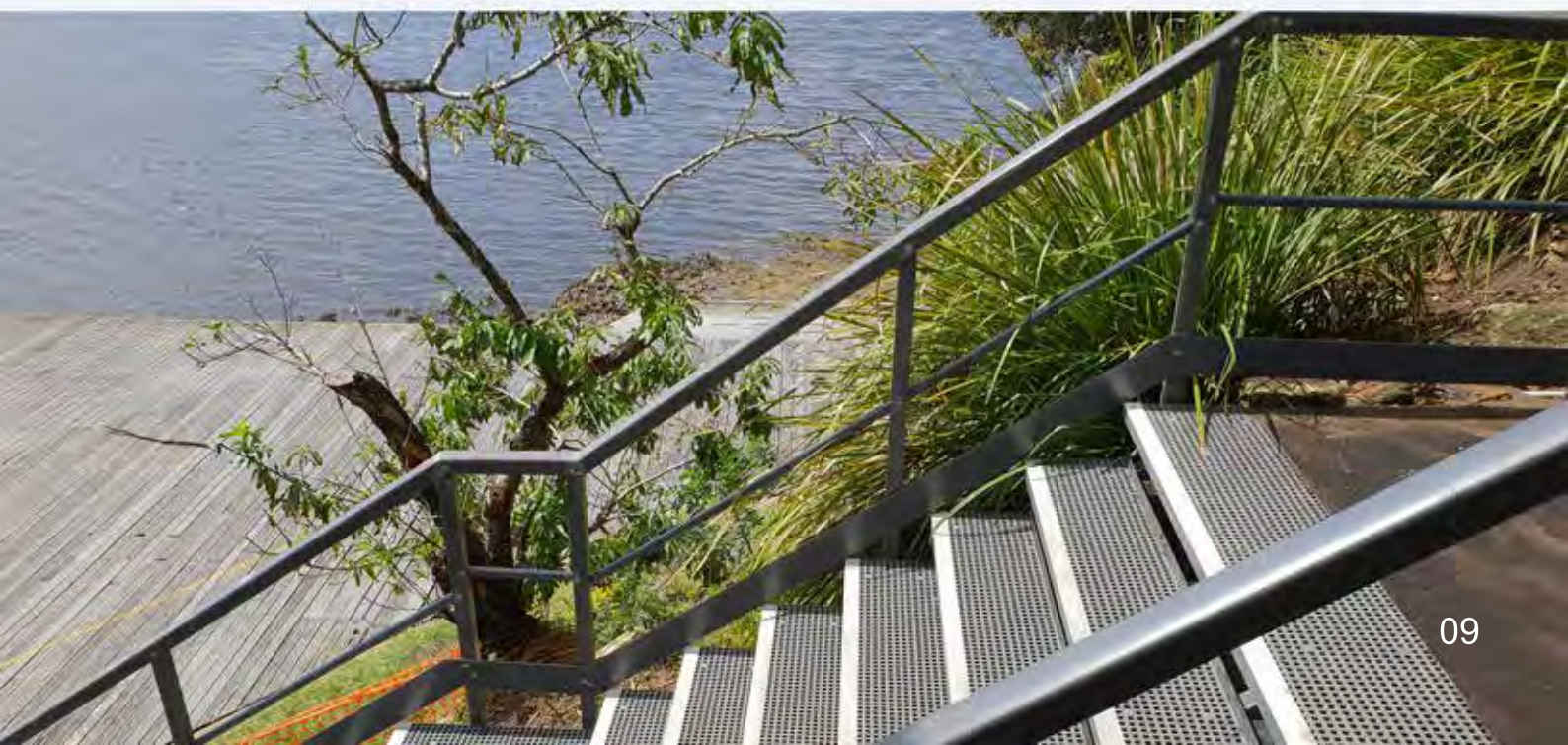
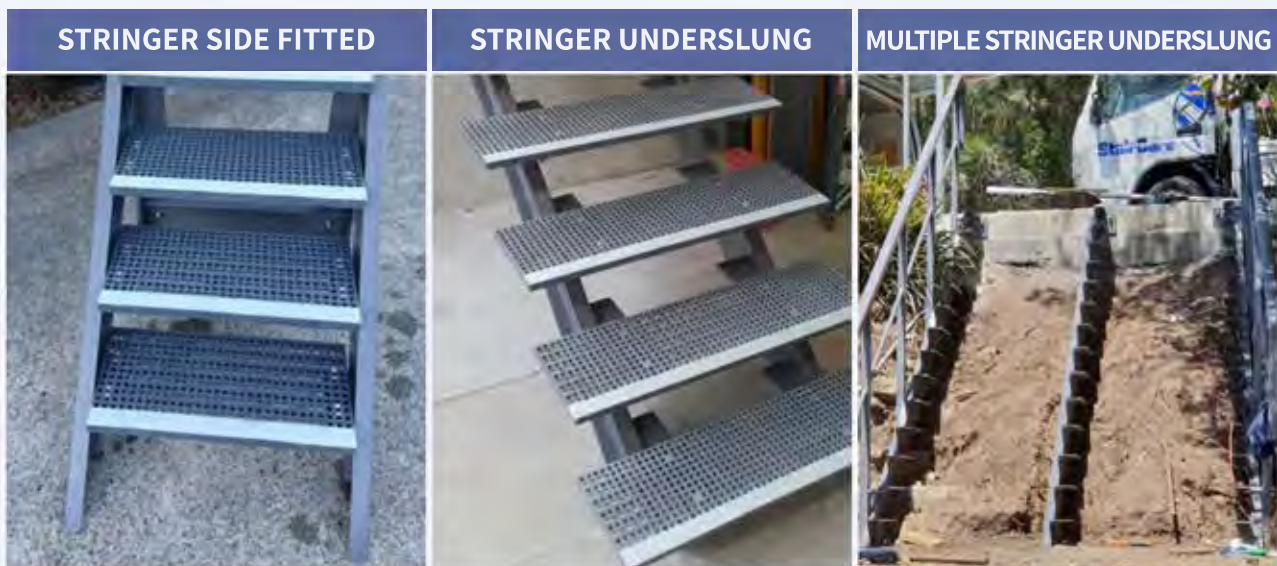
Staircare FRP C-Channels type SC-R152, 203 and 254 are used as stringers with the flanges outward and FRP angle glued and screwed as tread supports

■ **Stringer Side Fitted**

For shorter or narrow (up to 1 meter wide) stairs SC-R152 or SC-R203 C-Channel stringers can be side fitted using 50x50x6.4mm thick angle for stair tread support . Tread support angles are glued and screwed with M12 bolts to C-Channel stringer. Therefore, a 1000mm wide step would have an acceptable 900mm stair tread clear span with a suitable deflection of less than 5mm for pedestrian comfort.

■ **Stringer Underslung**

Wider stairs require stringers with a larger support angle fitted under the stair tread “underslung”. SC-R203 C-Channel stringer are fitted using a larger 101x101x9.5mm thick angle tread support, glued and screwed with M12 bolts. SC-R stair treads can be cantilevered to a maximum distance of 240mm to the side of the angle support. There can be as many stringers as required to achieve the desired width of the staircase; clear span between stringers should not exceed 900mm.



■ **General Notes**

Any flight of stairs must not have more than 18 risers nor less than 2 risers. If more treads are required, a minimum landing of 750 mm<sup>2</sup> must be incorporated into the stair design. All risers and all goings in the same flight shall be of uniform dimensions within a tolerance of +/- 5 mm

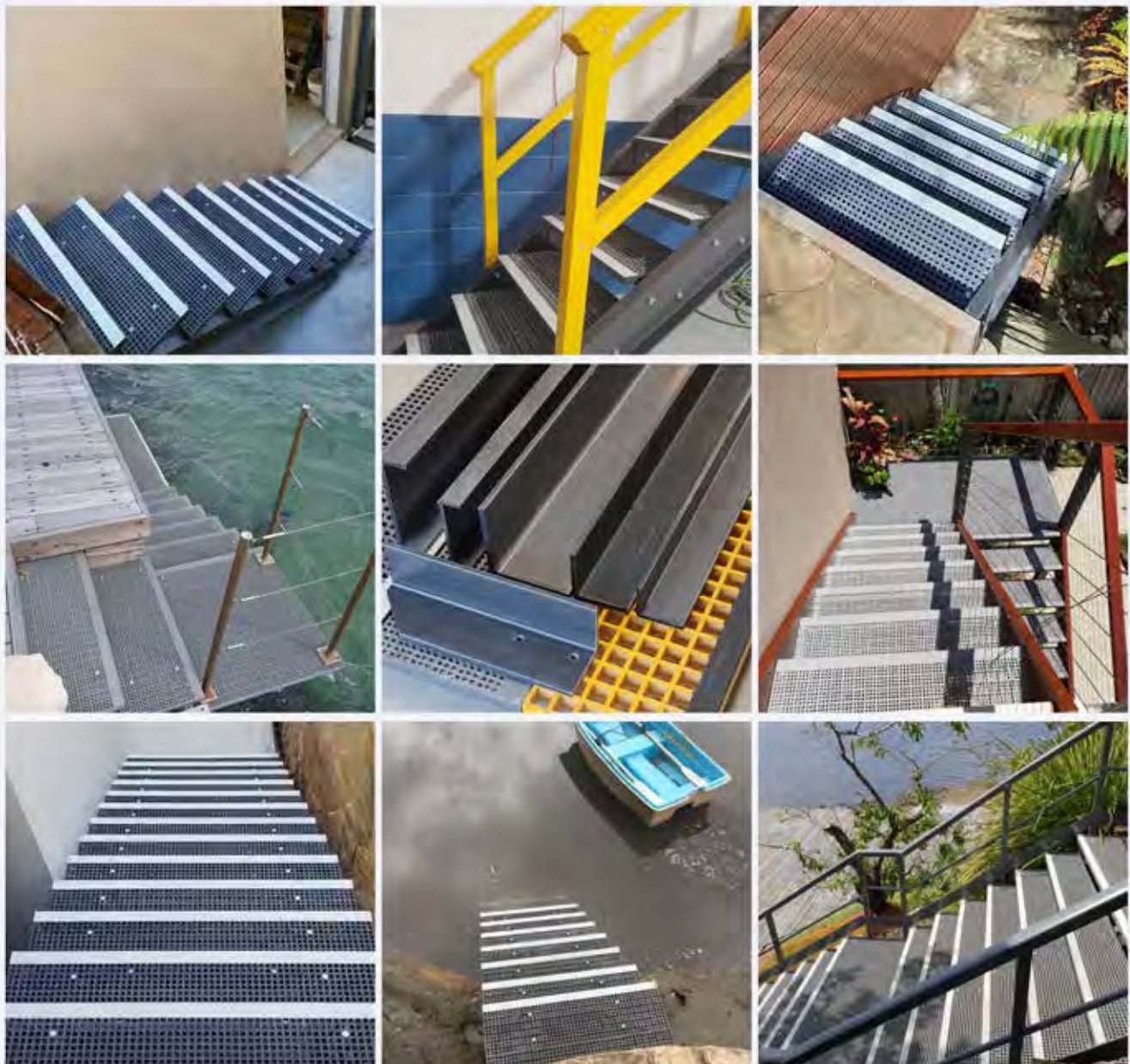
Staircases must slope at an angle of 20° to 45°, however, between 30° and 38° is recommended.

**GENERAL DIMENSIONS FOR RISERS AND GOINGS**

STANDARD	RISERS	GOINGS
BCA recommendation	115-190mm	240-355mm
AS1657:2018	130-225mm	215-355mm

Open rise construction must not allow a 125mm sphere to pass through.



All **Staircare treads** and landings can be fitting with suitable kickboards to comply with this requirements.



# FRP Composites Fabrication Service, Profile and Grating Sales



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