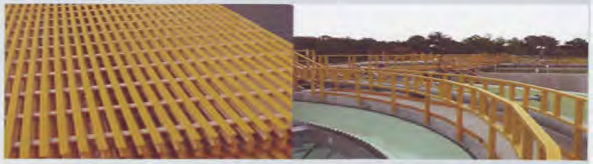
StronGrate®

NANTONG STRONGWORLD FRP PRODUCTS CO.,LTD.

We Produce Pultruded Products

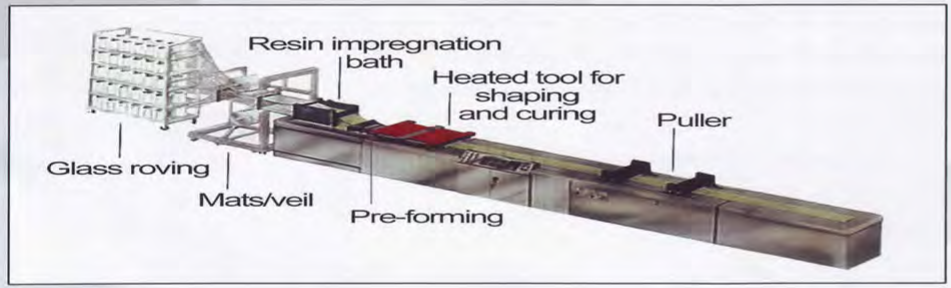
Content



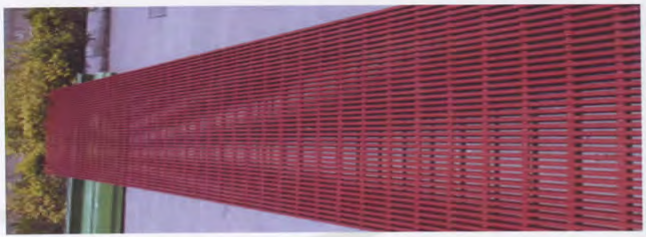
StrongSpan™ Pultruded Grating

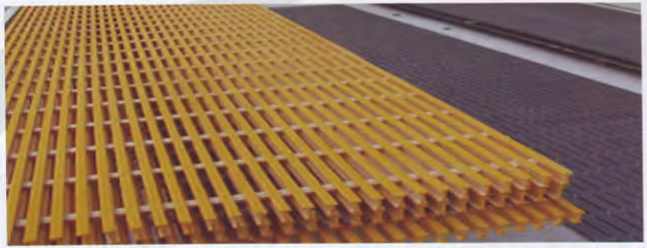
Pultrusion is a continuous molding process in which glass roving, glass matting, and a synthetic surface veil are literally "pulled" simultaneously through a polyester or Vinyl ester resin bath. Desired geometric shape are formed and solidified as they are pulled through a heated steel die.

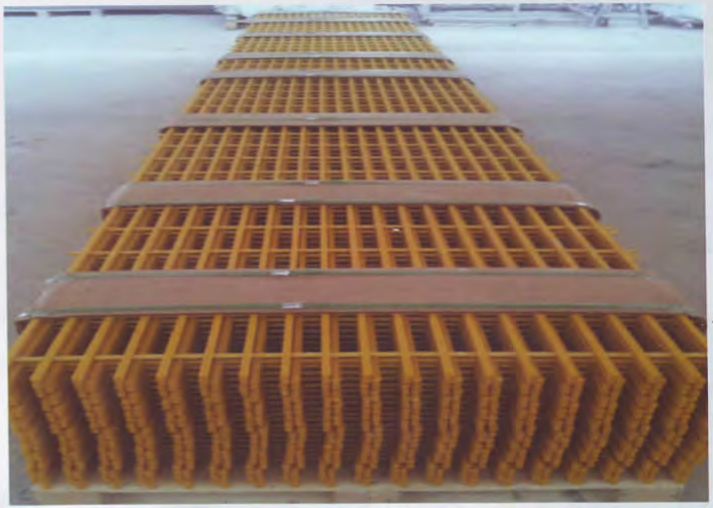
Strongworld's StrongSpan™ Pultruded grating is manufactured by pultrusion with every panel of grating subjected to sequence of quality assurance inspections ensuring complete sealing of all joints,full wet-out of the glass rovings,consistent resin-to-glass ratios,and consistent non-skid features, complete traceability of resin batches and glass utilized in every panel is standard operating procedure.



StrongSpan™ Pultruded Grating is lightweight,strong,chemical and UV resistant,and reduces costly maintenance. StrongSpan™ Pultruded Grating is particularly well suited for highly corrosive environments and offers extended life, eliminating periodic maintenance and replacement costs, thus making StrongSpan™ Pultruded Grating the preferred alternative to conventional steel gratings.







StrongSpan™ Pultruded Grating Advantages

Higher stiffness

StrongSpan™ Pultruded Grating posseses approximately 65% glass and 35% resin content by weight, giving it a very high strength to weight ratio.Load beaing bar capacity can be tailored to the application by modifying the glass content, fiber orientation, and combination of mat and roving reinforcement.

Chemical Resistance

StrongSpan™ Pultruded Gratings offer superb chemical resistance to variety of acids and caustics.StrongSpan™ is offered in an array of corrosion resistant resins designed for any environment, from light or moderately corrosive environments to extremely corrosive applications. StrongSpan™ Pultruded Grating is offered in either premium Isophthalic polyester or Vinyl ester. Phenolic resin is available upon request.

Light Weight

StrongSpan™ Pultruded Gratings weigh much less than comparable steel gratings-as much as 50%-75% weight saving can be realized depending on the bearing bar configuration. For weight sensitive structures, such as a tension-leg platform(TLP) for an offshore deepwater facility, the use of StrongSpan™ Pultruded Grating offers significant weight savings, thereby reducing the overall cost of the project.

Ultra-violet Resistance

All StrongSpan™ Pultruded Gratings are manufactured with resins containing UV inhibitors. UV resistance is enhanced with the use of a synthetic veil, creating a "resin-rich" surface, and further strengthening StrongSpan™ pultruded grating resistance to ultra-violet attack. For optimum UV resistance, StrongSpan™ Pultrued Grating can be coated for custom orders.

Impact Resistance

StrongSpan™ Pultruded Gratings offer better impact resistance than conventional steel gratings.

Thermally and Electrically Non-Conductivity

StrongSpan™ Pultruded Grating is both thermally and electrically non-conductive, two features that make it desirable product in any application such as those involving electrical and fire hazards. The thermal non-conductivity feature of StrongSpan™ pultruded Grating protects individuals from the heat radiation that occurs on traditional steel grating during fires-firefighters can get and stay closer to the fire source for longer periods of time.

Fire Retardancy

All StrongSpan™ Pultruded Gratings are designed to exhibit a flame spread rating of 25 or less when tested in accordance with ASTM E-84 Tunnel Test, comparable to UL 723,ANSI/NFPA No.255 and UBC No.8-1,and meet the self extinguishing requirements of ASTM D-635. A variety of resins are available offering an array of flame spread ratings and smoke densities.

Non-Skid and Safety

All StrongSpan™ Pultruded Gratings are equipped with a durable and permanent gritted surface on topside of all bearing bars, thus providing superior slip resistance as compared to traditional steel grated walking surface.

Low Maintenance/Maintenance Free

With resin and pigment blended throughout StrongSpan™ Pultruded Grating, you never need to coat or paint the product---it simply ones not rust. Coupled with our 316SS stainless steel attachment systems, StrongSpan™ Pultruded Grating offers " Maintenance-free" walkway systems. You install it and forget about it !

Industries Using Fiberglass Grating

- Offshore & Marine
- Petro-chemical & Refining
- Communications
- Water/Wastewater
- Transportation & Transit
- Aerospace
- Automotive
- Pulp & Paper
- Mining
- Meral Plating
- Food & Beverage
- Electrical & Power Generation
- Computer and Hi-tech
- Recreational Water Parks & Pools
- Zoos and Aquariums
- Military
- Medical
- Shipping
- Textile
- Many others

Resin Selection

Nantong Strongworld manufactures pultruded grating in a variety of resins, each with its own unique performance characteristics. The resin selection is critical in determining the corrosion resistance of the finished product. Please consult the Nantong Strongworld Chemical Resistance Guide for assistance in selecting the proper resin for your application, or call Nantong Strongworld for technical assistance.

Nantong StrongWorld's resin designations are comprised of two components: the resin type and its ASTM E -84 flame spread rating.

StrongSpan™ VEFR-25 is a premium vinyl ester resin with a flame spread rating of 25 or less. StrongSpan™ VEFR-25 is our most chemical resistant pultruded grating, designed to withstand the harshest chemical environments over a broad range of acids and caustics, it is primarily used in petrochemical, wastewater, mining,and plating applications where the grating is subject to frequent and direct contact with harsh chemicals.The standard color is yellow, but it is also available in dark gray.

StrongSpan™ IFR-25 is a premium isophthalic polyester resin with a flame spread grating of 25 or less. StrongSpan™ IFR-25 pultruded grating provides an intermediate level of chemical resistance and is the correct resin choice for grating subject to splash and spill contact with harsh chemicals, and is a very good general purpose resin at a reduced cost compared to the premium vinyl ester resin. The standard color is yellow, but it is also available in dark gray.

StrongSpan™ Pultruded Grating Selection

StrongSpan™ Pultruded Grating Available

Unit:mm

Type	Panel Height	Bearing Bar Center	Cross Bar Center	Open Area %	Approx. Wt. kg/m²	Max.Panel Size	Category
T1210, ♿	25	43.4	152.4	12	14.5	1524x6100	I
T1810, ♿	25	50.8	152.4	18	13.8	1524x6100	I
T2510, ♿	25	50.8	152.4	25	12.3	1524x6100	I
T3310	25	61	152.4	33	11.2	1524x6100	I
T3810	25	61	152.4	38	10.2	1524x6100	I
T1215, ♿	38	43.3	152.4	12	19.6	1524x6100	I
T2515, ♿	38	50.8	152.4	25	16.7	1524x6100	I
T3815	38	61	152.4	38	14.2	1524x6100	I
I4010, ♿	25	25	152.4	40	17.1	1524x6100	II
I5010	25	30	152.4	50	14.2	1524x6100	II
I6010	25	38	152.4	60	11.2	1524x6100	II
I40125, ♿	32	25	152.4	40	19.8	1524x6100	II
I50125	32	30	152.4	50	17.4	1524x6100	II
I60125	32	38	152.4	60	13.5	1524x6100	II
I4015, ♿	38	25	152.4	40	22.0	1524x6100	II
I5015	38	30	152.4	50	19.1	1524x6100	II
I6015	38	38	152.4	60	16.1	1524x6100	II
T3320, ♿	50	38	152.4	33	20.3	1524x6100	II
T5020	50	50.8	152.4	50	15.7	1524x6100	II
HI4710	25	30.2	152.4	47	27.6	1524x6100	III
HI4715	38	30.2	152.4	47	40.0	1524x6100	III
HI4720	50	30.2	152.4	47	54.5	1524x6100	III
HI4725	64	30.2	152.4	47	61.6	1524x6100	III
HI4730	76	30.2	152.4	47	73.6	1524x6100	III
HI5810	25	38.1	152.4	58	21.0	1524x6100	III
HI5815	38	38.1	152.4	58	31.8	1524x6100	III
HI5820	50	38.1	152.4	58	42.5	1524x6100	III
HI5825	64	38.1	152.4	58	48.9	1524x6100	III
HI5830	76	38.1	152.4	58	58.6	1524x6100	III
HL4020, ♿	50	25	152.4	40	70.4	1524x6100	III
HL5020	50	30	152.4	50	52.2	1524x6100	III
HL6020	50	38	152.4	60	43.5	1524x6100	III
SI7310	25	30.2	152.4	73	13.2	1524x6100	IV
SI7315	38	30.2	152.4	73	18.6	1524x6100	IV
SI8310	25	47.6	152.4	83	8.5	1524x6100	IV
SI8315	38	47.6	152.4	83	12.0	1524x6100	IV

Note:StrongSpan™ Pultruded grating could come up with cover gritted top or checkered plate top upon request.

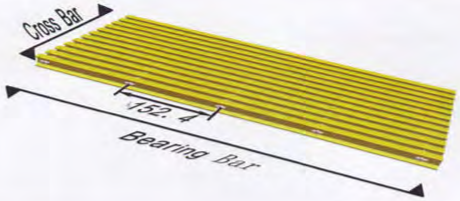
Category I , StrongSpan™ Pultruded Pedestrian Series Grating

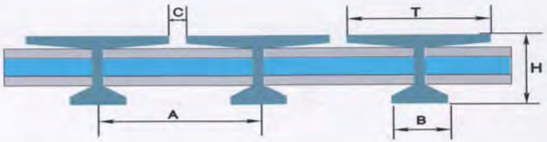
StrongSpan™ pultruded pedestrian fiberglass grating is specifically designed for pedestrian foot traffic. Manufactured from wide "T" bars,StrongSpan™ pedestrian pultruded grating is available in 25mm and 38mm thick in several configurations and panel sizes. 25mm thick StrongSpan™ pedestrian pultruded grating is designed for access areas and walkways where pedestrian traffic is the heaviest load. 38mm thick StrongSpan™ pedestrian grating is approximately three times stiffer than the 25mm thick version and is used for applications where wider span up to 1800mm or lower deflection criteria are required. You will also find that many of these fiberglass gratings are ADA (Americans with Disabilities Act of 1990) and DDA(Disability Discrimination act in UK)compliant (designated in the table below by the symbol ♿).

Unit:mm

Type	Panel Height	Bearing Bar Center	Cross Bar Center	Open Area %	Approx. Wt. kg/m²	Max.Panel Size
T1210, ♿	25	43.4	152.4	12	14.5	1524x6100
T1810, ♿	25	50.8	152.4	18	13.8	1524x6100
T2510, ♿	25	50.8	152.4	25	12.3	1524x6100
T3310	25	61	152.4	33	11.2	1524x6100
T3810	25	61	152.4	38	10.2	1524x6100
T1215, ♿	38	43.3	152.4	12	19.6	1524x6100
T2515, ♿	38	50.8	152.4	25	16.7	1524x6100
T3815	38	61	152.4	38	14.2	1524x6100

Specification	
T-1210 25mm high,12% open area	
Bearing Bars Meter of Width	23
Bearing Bar Width,T/B	38/15
Bearing bar Center,A	43. 4
Cross bar Center	152. 4
Opening, C	5. 4
Approx.Weight kg/m²	14. 5
Engineering Properties Per Meter of Width	
A	1.59x10³ mm²
I	1.33x10⁵mm⁴
S_t	1.54x10⁴mm³
S_b	8.03x10³mm³



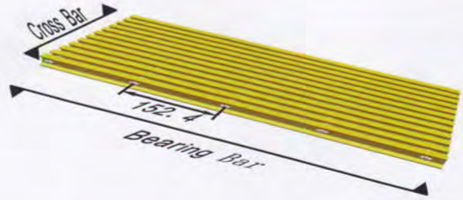


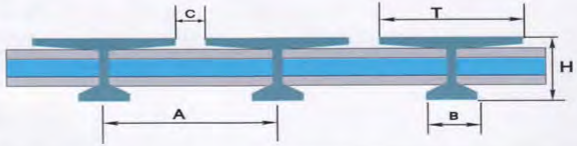
Standard panel size

MAX

1524x6100

Specification	
T-1810 25mm high,18% open area	
Bearing Bars Meter of Width	19
Bearing Bar Width,T/B	41. 3/15
Bearing bar Center,A	50. 8
Cross bar Center	152. 4
Opening, C	9. 5
Approx.Weight kg/m²	13. 8
Engineering Properties Per Meter of Width	
A	6.03x10³ mm²
I	4.18x10⁵mm⁴
S_t	4.85x10⁴mm³
S_b	2.49x10⁴mm³





Standard panel size

MAX

1524x6100

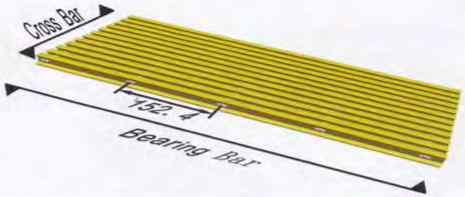
Specification

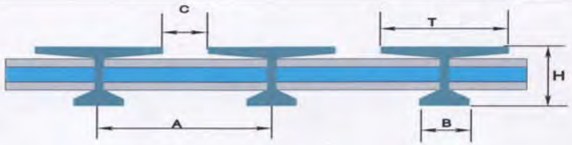
T-2510 25mm high,25% open area

Bearing Bars Meter of Width	19
Bearing Bar Width,T/B	38/15
Bearing bar Center,A	50. 8
Cross bar Center	152. 4
Opening, C	12. 7
Approx.Weight kg/m²	12. 3

Engineering Properties Per Meter of Width

A	1.36x10³ mm²
I	1.12x10⁵mm⁴
S_t	1.29x10⁴mm³
S_b	6.88x10³mm³





Standard panel size

MAX

1524x6100

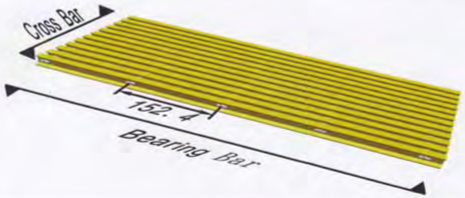
Specification

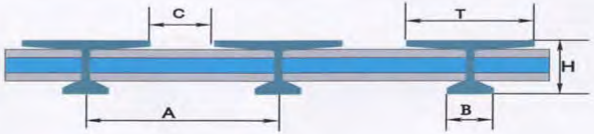
T-3310 25mm high,33% open area

Bearing Bars Meter of Width	16
Bearing Bar Width,T/B	41. 3/15
Bearing bar Center,A	61
Cross bar Center	152. 4
Opening, C	19. 7
Approx.Weight kg/m²	11. 2

Engineering Properties Per Meter of Width

A	1.64x10³ mm²
I	1.22x10⁵mm⁴
S_t	1.34x10⁴mm³
S_b	8.03x10³mm³





Standard panel size

MAX

1524x6100

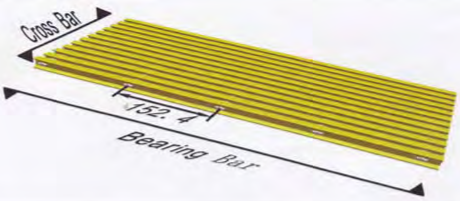
Specification

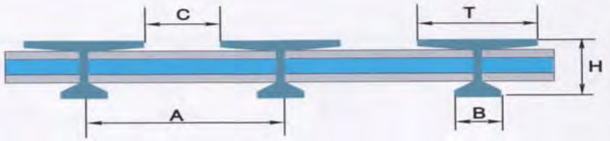
T-3810 25mm high,38% open area

Bearing Bars Meter of Width	16
Bearing Bar Width,T/B	38/15
Bearing bar Center,A	61
Cross bar Center	152.4
Opening, C	23
Approx.Weight kg/m^2	10.2

Engineering Properties Per Meter of Width

A	$1.14x10^3\ mm^2$
I	$9.57x10^4 mm^4$
S_t	$1.07x10^4 mm^3$
S_b	$5.74x10^3 mm^3$





Standard panel size

MAX

1524x6100

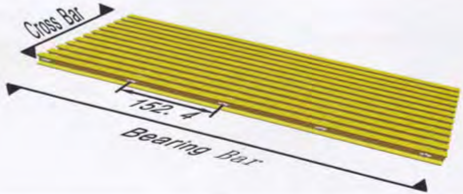
Specification

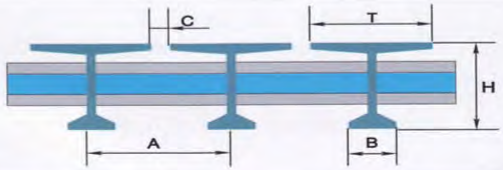
T-1215 38mm high,12% open area

Bearing Bars Meter of Width	23
Bearing Bar Width,T/B	38/15
Bearing bar Center,A	43.3
Cross bar Center	152.4
Opening, C	5
Approx.Weight kg/m^2	19.6

Engineering Properties Per Meter of Width

A	$2.06x10^3\ mm^2$
I	$3.87x10^5 mm^4$
S_t	$2.82x10^4 mm^3$
S_b	$1.59x10^4 mm^3$





Standard panel size

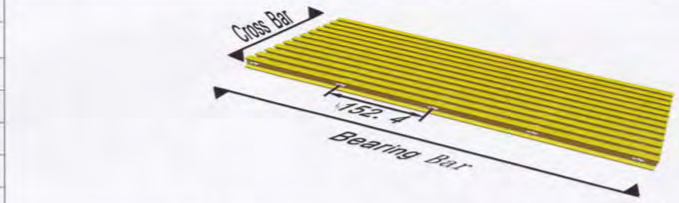
MAX

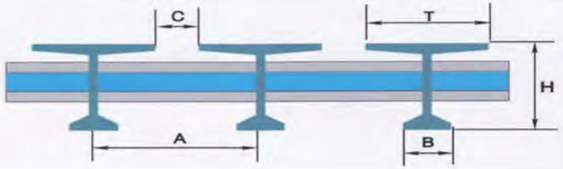
1524x6100

Specification

T-2515 38mm high,25% open area

Bearing Bars Meter of Width	19
Bearing Bar Width,T/B	38/15
Bearing bar Center,A	50. 8
Cross bar Center	152. 4
Opening, C	12. 7
Approx.Weight kg/m²	16. 7
Engineering Properties Per Meter of Width	
A	2.06x10³ mm²
I	3.87x10⁵mm⁴
S_t	2.82x10⁴mm³
S_b	1.36x10⁴mm³





Standard panel size

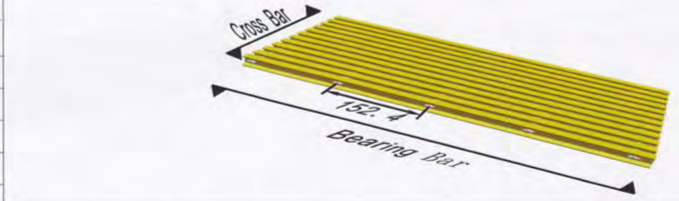
MAX

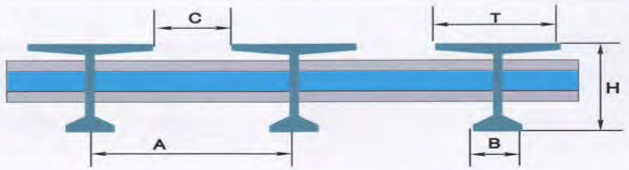
1524x6100

Specification

T-3815 38mm high,12% open area

Bearing Bars Meter of Width	16
Bearing Bar Width,T/B	38/15
Bearing bar Center,A	61
Cross bar Center	152. 4
Opening, C	23
Approx.Weight kg/m²	14. 2
Engineering Properties Per Meter of Width	
A	1.47x10³ mm²
I	2.75x10⁵mm⁴
S_t	2.02x10⁴mm³
S_b	1.13x10⁴mm³





Standard panel size

MAX

1524x6100

Category II, StrongSpan™ Pultruded Industrial Series Grating

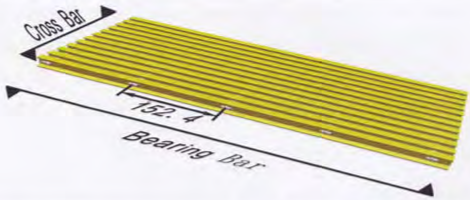
StrongSpan™ pultruded industrial fiberglass grating is designed for use in a wide range of industrial applications that require strength and corrosion resistance. Manufactured with a high percentage of glass within laminate , industrial grating provides durability, extremely high unidirectional strength and stiffness. Due to its exceptional stiffness, it can be used with confidence where wide support spans are required.

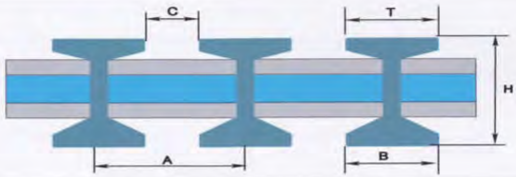
StrongSpan™ pultruded industrial fiberglass grating comes in 25mm ,32mm,and 38mm thick in an I bar configuration with 40%, 50% and 60% opening for most applications. 50mm thick T bar configuration with either 33%,or 50% open area for applications which require wider span or lower deflections. Several of these fiberglass gratings are also ADA and DDA compliant (designated in the table below by the symbol ♿).

Units:mm

Type	Panel Height	Bearing Bar Center	Cross Bar Center	Open Area %	Approx. Wt. kg/m²	Max.Panel Size
I4010, ♿	25	25	152.4	40	17.1	1524x6100
I5010	25	30	152.4	50	14.2	1524x6100
I6010	25	38	152.4	60	11.2	1524x6100
I40125, ♿	32	25	152.4	40	19.8	1524x6100
I50125	32	30	152.4	50	17.4	1524x6100
I60125	32	38	152.4	60	13.5	1524x6100
I4015, ♿	38	25	152.4	40	22.0	1524x6100
I5015	38	30	152.4	50	19.1	1524x6100
I6015	38	38	152.4	60	16.1	1524x6100
T3320, ♿	50	38	152.4	33	20.3	1524x6100
T5020	50	50.8	152.4	50	15.7	1524x6100

Specification	
I-4010 25mm high,40% open area	
Bearing Bars Meter of Width	40
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	25
Cross bar Center	152. 4
Opening, C	10
Approx.Weight kg/m²	17. 1
Engineering Properties Per Meter of Width	
A	2.55x10³ mm²
I	2.08x10⁵mm⁴
S	1.56x10⁴mm³



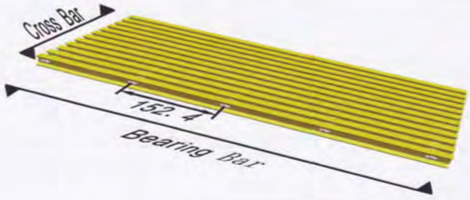


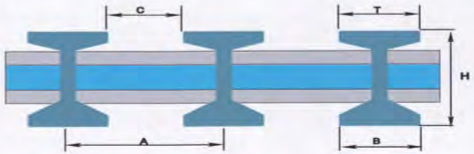
Standard panel size

MAX

1524x6100

Specification	
I-5010 25mm high,50% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	30
Cross bar Center	152. 4
Opening, C	15
Approx.Weight kg/m²	14. 2
Engineering Properties Per Meter of Width	
A	2.13x10³ mm²
I	1.71x10⁵mm⁴
S	1.29x10⁴mm³



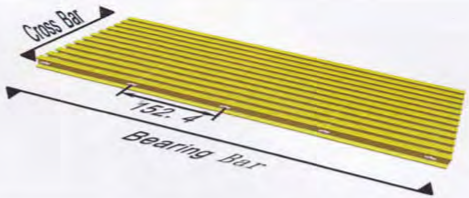


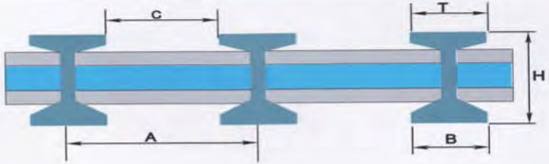
Standard panel size

MAX

1524x6100

Specification	
I-6010 25mm high,60% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	38
Cross bar Center	152.4
Opening, C	23
Approx.Weight kg/m²	11.2
Engineering Properties Per Meter of Width	
A	1.70 x10³mm²
I	1.37x10⁵mm⁴
S	1.03x10⁴mm³



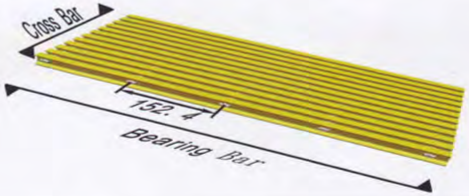


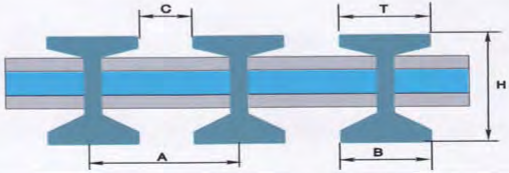
Standard panel size

MAX

1524x6100

Specification	
I-40125 32mm high,40% open area	
Bearing Bars Meter of Width	40
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	25
Cross bar Center	152.4
Opening, C	10
Approx.Weight kg/m²	19.8
Engineering Properties Per Meter of Width	
A	2.66x10³ mm²
I	3.46x10⁵mm⁴
S	2.18x10⁴mm³



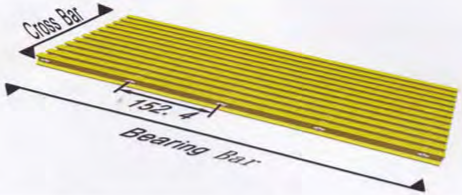


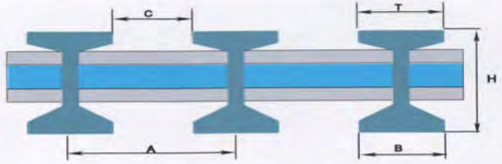
Standard panel size

MAX

1524x6100

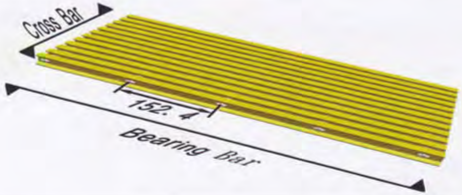
Specification	
I-50125 32mm high,50% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	30
Cross bar Center	152. 4
Opening, C	15
Approx.Weight kg/m^2	17. 4
Engineering Properties Per Meter of Width	
A	$2.22x10^3$ mm^2
I	$2.87x10^5 mm^4$
S	$1.81x10^4 mm^3$

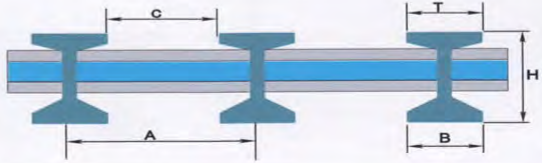




Standard panel size	MAX
	1524x6100

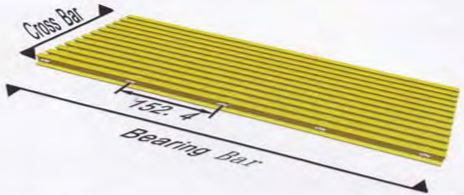
Specification	
I-60125 32mm high,60% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	38
Cross bar Center	152. 4
Opening, C	23
Approx.Weight kg/m^2	13. 5
Engineering Properties Per Meter of Width	
A	$1.77x10^3$ mm^2
I	$2.29x10^5 mm^4$
S	$1.44x10^4 mm^3$

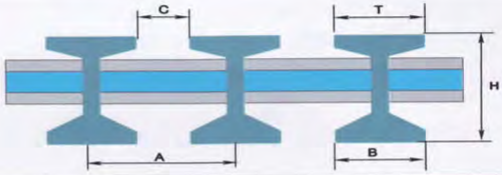




Standard panel size	MAX
	1524x6100

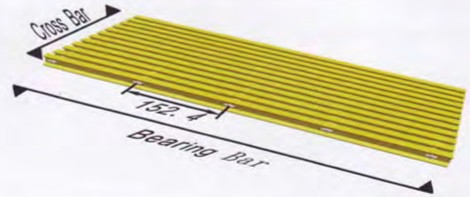
Specification	
I-4015 38mm high,40% open area	
Bearing Bars Meter of Width	40
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	25
Cross bar Center	152.4
Opening, C	10
Approx.Weight kg/m²	22.0
Engineering Properties Per Meter of Width	
A	3.10x10³ mm²
I	5.87x10⁵mm⁴
S	2.95x10⁴mm³

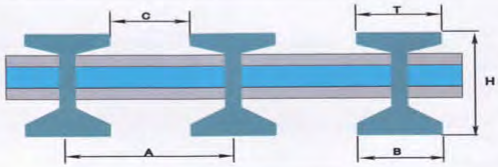




Standard panel size	MAX
	1524x6100

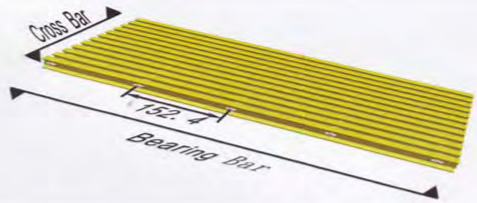
Specification	
I-5015 38mm high,50% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	30
Cross bar Center	152.4
Opening, C	15
Approx.Weight kg/m²	19.1
Engineering Properties Per Meter of Width	
A	2.58x10³ mm²
I	4.87x10⁵mm⁴
S	2.70x10⁴mm³

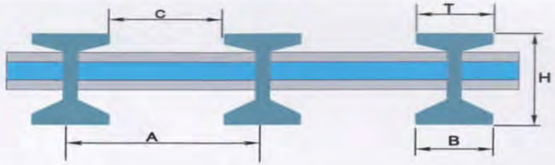




Standard panel size	MAX
	1524x6100

Specification	
I-6015 38mm high,60% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	38
Cross bar Center	152.4
Opening, C	23
Approx.Weight kg/m²	16.1
Engineering Properties Per Meter of Width	
A	2.06×10^{3} mm²
I	3.91×10^{5}mm⁴
S	1.97×10^{4}mm³

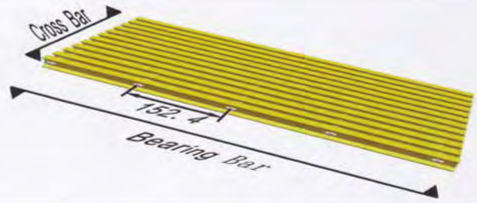


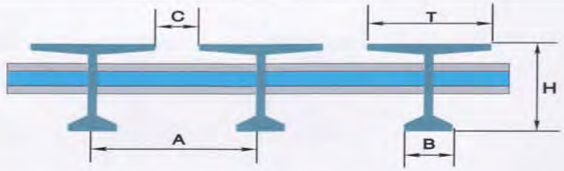


Standard panel size

MAX
1524x6100

Specification	
T-3320 50mm high,33% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/B	25.4/15
Bearing bar Center,A	38.1
Cross bar Center	152.4
Opening, C	12.7
Approx.Weight kg/m²	20.3
Engineering Properties Per Meter of Width	
A	2.76×10^{3} mm²
I	9.32×10^{5}mm⁴
S_t	4.28×10^{4}mm³
S_b	3.21×10^{4}mm³

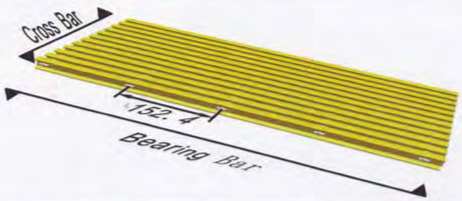


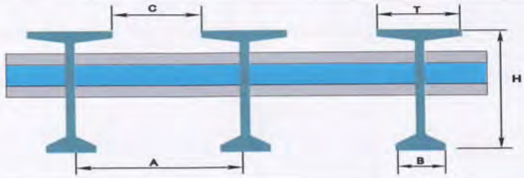


Standard panel size

MAX
1524x6100

Specification	
T-5020 50mm high,50% open area	
Bearing Bars Meter of Width	20
Bearing Bar Width,T/B	25. 4/15
Bearing bar Center,A	50. 8
Cross bar Center	152. 4
Opening, C	25. 4
Approx.Weight kg/m^2	15. 7
Engineering Properties Per Meter of Width	
A	$2.06x10^3$ mm^2
I	$6.99x10^5 mm^4$
S_t	$3.21x10^4 mm^3$
S_b	$2.41x10^4 mm^3$





Standard panel size	MAX
	1524x6100

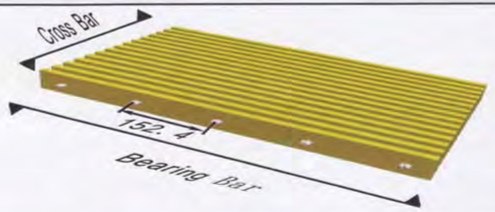
Category III, StrongSpan™ Pultruded Heavy Duty Series Grating

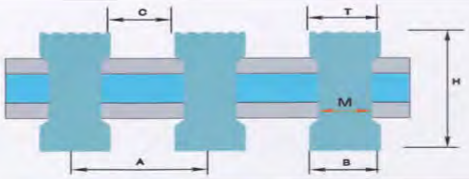
StrongSpan™ pultruded heavy duty fiberglass grating is engineered for forklift and tractor trailer loads(up to Standard Truck, formerly H20) or high loads and very long spans which traditional fiberglass pultruded grating is not able to support This highly engineered product is often used to replace steel gratings where the spans are typically greater. StrongSpan™ Pultruded heavy duty fiberglass gratings come in 5 types of thickness: 25mm, 38mm, 50mm, 64mm and 76mm. You will also find that some of these fiberglass gratings are ADA and DDA compliant (designated in the table below by symbol ♿).

Units:mm

Type	Panel Height	Bearing Bar Center	Cross Bar Center	Open Area %	Approx. Wt. kg/m²	Max.Panel Size
HI4710	25	30.2	152.4	47	27.6	1524x6100
HI4715	38	30.2	152.4	47	40.0	1524x6100
HI4720	50	30.2	152.4	47	54.5	1524x6100
HI4725	64	30.2	152.4	47	61.6	1524x6100
HI4730	76	30.2	152.4	47	73.6	1524x6100
HI5810	25	38.1	152.4	58	21.0	1524x6100
HI5815	38	38.1	152.4	58	31.8	1524x6100
HI5820	50	38.1	152.4	58	42.5	1524x6100
HI5825	64	38.1	152.4	58	48.9	1524x6100
HI5830	76	38.1	152.4	58	58.6	1524x6100
HL4020, ♿	50	25	152.4	40	70.4	1524x6100
HL5020	50	30	152.4	50	52.2	1524x6100
HL6020	50	38	152.4	60	43.5	1524x6100

Specification	
HI-4710 25mm high,47% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	30. 2
Cross bar Center	152. 4
Opening, C	14. 3
Approx.Weight kg/m²	27. 6
Engineering Properties Per Meter of Width	
A	3.85x10³ mm²
I	2.12x10⁶mm⁴
S	1.64x10⁴mm³



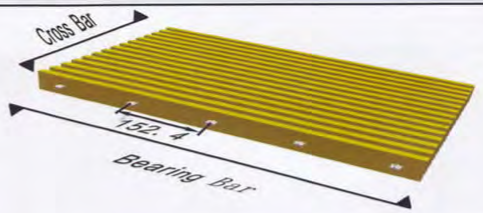


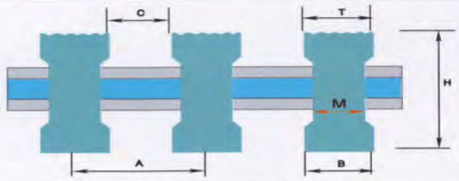
Standard panel size

MAX

1524x6100

Specification	
HI-4715 38mm high,47% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	30. 2
Cross bar Center	152. 4
Opening, C	14. 3
Approx.Weight kg/m²	40. 0
Engineering Properties Per Meter of Width	
A	5.67x10³ mm²
I	7.16x10⁶mm⁴
S	3.70x10⁴mm³



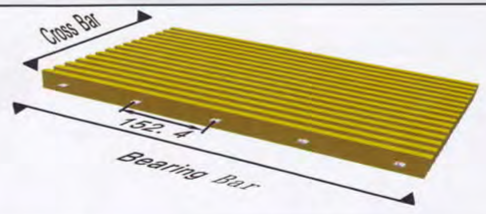


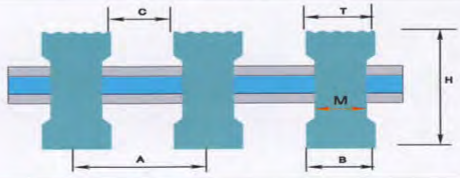
Standard panel size

MAX

1524x6100

Specification	
HI-4720 50mm high,47% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	30. 2
Cross bar Center	152. 4
Opening, C	14. 3
Approx.Weight kg/m²	54. 5
Engineering Properties Per Meter of Width	
A	7.51x10³ mm²
I	1.65x10⁶mm⁴
S	6.49x10⁴mm³



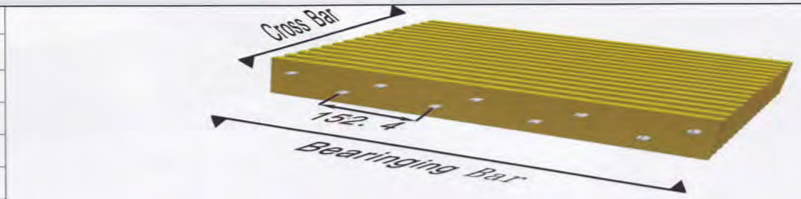


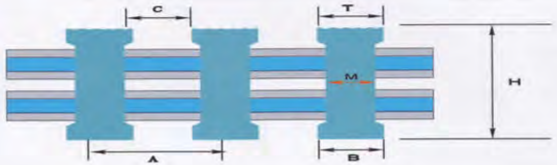
Standard panel size

MAX

1524x6100

Specification	
HI-4725 64mm high,47% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	30. 2
Cross bar Center	152. 4
Opening, C	14. 3
Approx.Weight kg/m²	61. 6
Engineering Properties Per Meter of Width	
A	9.35x10³ mm²
I	3.31x10⁶ mm⁴
S	1.01x10⁵mm³



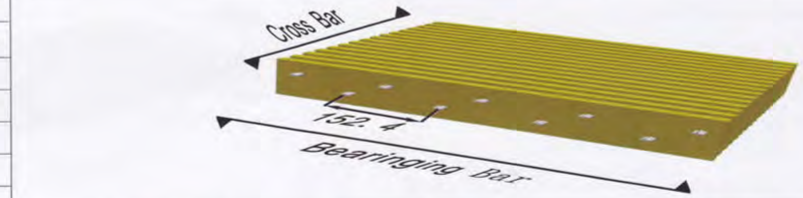


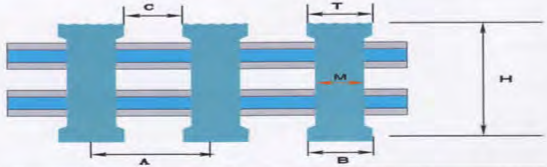
Standard panel size

MAX

1524x6100

Specification	
HI-4730 76mm high,47% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	30. 2
Cross bar Center	152. 4
Opening, C	14. 3
Approx.Weight kg/m²	73. 6
Engineering Properties Per Meter of Width	
A	1.11x10⁴ mm²
I	5.50x10⁶ mm⁴
S	1.44x10⁵mm³



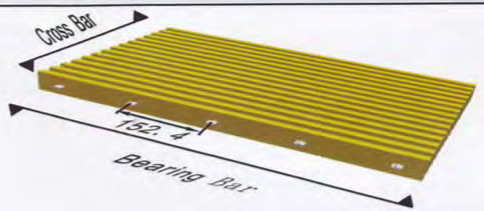


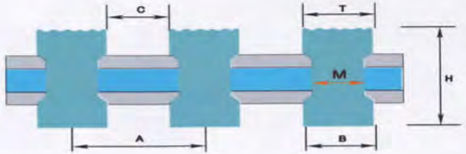
Standard panel size

MAX

1524x6100

Specification	
HI-5810 25mm high,58% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	38. 1
Cross bar Center	152. 4
Opening, C	22. 2
Approx.Weight kg/m²	21. 0
Engineering Properties Per Meter of Width	
A	3.05x10³ mm²
I	1.66x10⁶mm⁴
S	1.28x10⁴mm³

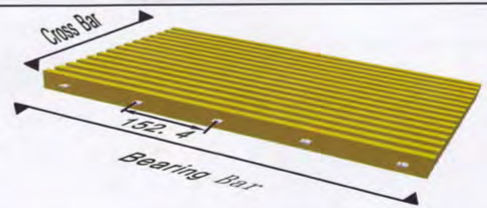


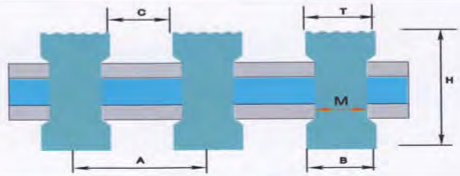


Standard panel size

MAX
1524x6100

Specification	
HI-5815 38mm high,58% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	38. 1
Cross bar Center	152. 4
Opening, C	22. 2
Approx.Weight kg/m²	31. 8
Engineering Properties Per Meter of Width	
A	4.49x10³ mm²
I	5.66x10⁶mm⁴
S	2.93x10⁴mm³

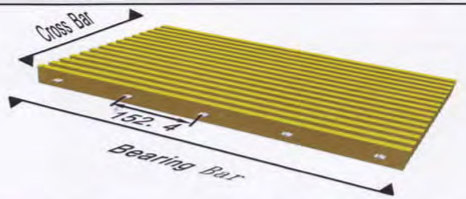


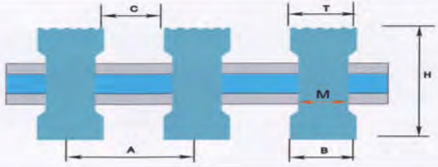


Standard panel size

MAX
1524x6100

Specification	
HI-5820 50mm high,58% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Centers,A	38. 1
Cross bar Center	152. 4
Opening, C	22. 2
Approx.Weight kg/m²	42. 5
Engineering Properties Per Meter of Width	
A	5.94x10³ mm²
I	1.30x10⁶mm⁴
S	5.11x10⁴mm³

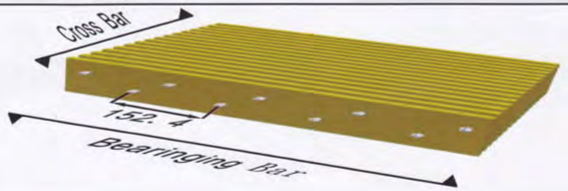


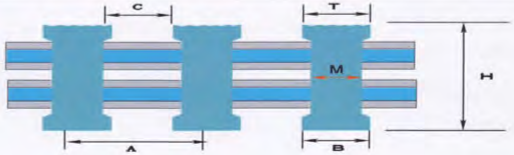


Standard panel size

MAX
1524x6100

Specification	
HI-5825 64mm high,58% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Centers,A	38. 1
Cross bar Center	152. 4
Opening, C	22. 2
Approx.Weight kg/m²	48. 9
Engineering Properties Per Meter of Width	
A	7.42x10³ mm²
I	2.53x10⁶mm⁴
S	7.98x10⁴mm³

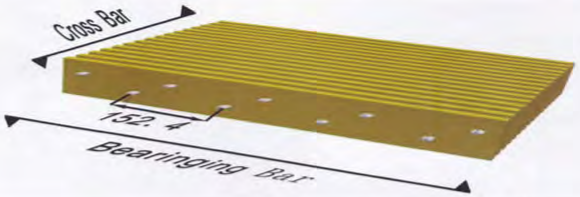


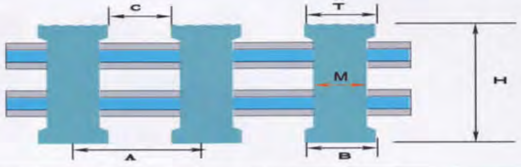


Standard panel size

MAX
1524x6100

Specification	
HI-5830 76mm high,58% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/M/B	15.9/14.4/15.9
Bearing bar Center,A	38. 1
Cross bar Center	152. 4
Opening, C	22. 2
Approx.Weight kg/m²	58. 6
Engineering Properties Per Meter of Width	
A	8.86x10³ mm²
I	4.35x10⁶ mm⁴
S	1.14x10⁵ mm³

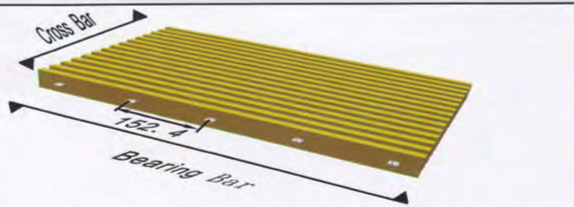


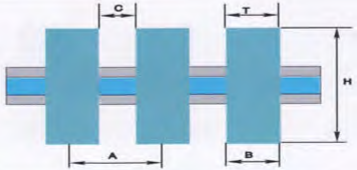


Standard panel size

MAX
1524x6100

Specification	
HL-4020 50mm high,40% open area	
Bearing Bars Meter of Width	40
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	25
Cross bar Center	152. 4
Opening, C	10
Approx.Weight kg/m²	70. 4
Engineering Properties Per Meter of Width	
A	9.29x10³ mm²
I	2.00x10⁶ mm⁴
S	7.87x10⁴ mm³

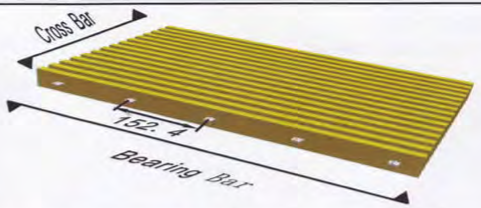


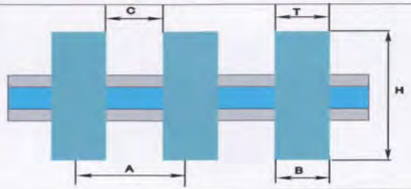


Standard panel size

MAX
1524x6100

Specification	
HL-5020 50mm high,50% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	30
Cross bar Center	152. 4
Opening, C	15
Approx.Weight kg/m²	52. 2
Engineering Properties Per Meter of Width	
A	7.74x10³ mm²
I	1.70x10⁶ mm⁴
S	6.55x10⁴mm³



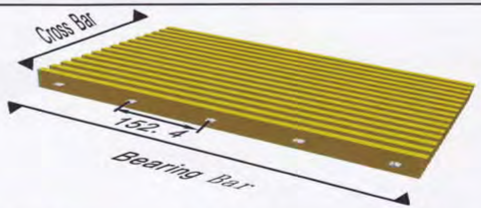


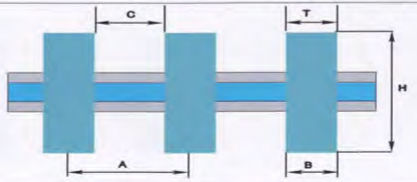
Standard panel size

MAX

1524x6100

Specification	
HL-6020 50mm high,60% open area	
Bearing Bars Meter of Width	26
Bearing Bar Width,T/B	15/15
Bearing bar Center,A	38
Cross bar Center	152. 4
Opening, C	23
Approx.Weight kg/m²	43. 5
Engineering Properties Per Meter of Width	
A	6.19x10³ mm²
I	1.33x10⁶ mm⁴
S	5.24x10⁴mm³





Standard panel size

MAX

1524x6100

Allowable Load Spans

	Wheel Load(kg)(1/2 Axle Load +30% impact)	Load Distribution	Allowable Span(2,3)	Load Distribution	Allowable Span(2,3)
AASHTO Standard Truck(4) 14,285 kg Axle ,Load Dual Wheels ("formerly AASHTO H-20)	9,443	Parallel To Axle(1)	Perpendicular To Axle	Parallel To Axle(1)	Perpendicular To Axle
		508mm+60mm	203mm	508mm+76mm	203mm
Automobile Traffic 2,270 kg Vehicle 681 kg Load 55% Drive Axle Load	1,008	203mm+60mm	406mm	203mm+76mm	356mm
5 Ton Capacity Forklift 6,538 kg Vehicle 11,078 kg Total Load 85% Drive Axle Load	6,120	279mm+60mm	711mm	279mm+76mm	584mm
3 Ton Capacity Forklift 4,449 kg Vehicle 7,173 kg Total Load 85% Drive Axle Load	3,963	178mm+60mm	356mm	178mm+76mm	305mm
1 Ton Capacity Forklift 1,907 kg Vehicle 2,815 kg Total Load 85% Drive Axle Load	1,555	102mm+60mm	229mm	102mm+76mm	203mm

HI4710	229mm	406mm	203mm	203mm	HI5810
HI4715	356mm	711mm	330mm	330mm	HI5815
HI4720	635mm	1194mm	533mm	533mm	HI5820
HI4725	737mm	1448mm	635mm	635mm	HI5825
HI4730	965mm	1778mm	813mm	813mm	HI5830

Notes:

(1) Load is carried by the grating load bars immediately under wheel + two additional load bars, one on each side of wheel.

(2)Allowable span is based on a 6.4mm maximum deflection and a Factor of safety of 3.0. Other criteria may be required by certain construction codes. Check code requirements to determine design criteria.

(3) Allowable span is strongly dependent on wheel width and vehicle weight/load capacity. If your application varies from the value given on this table, contact Strongworld engineering for application assistance.

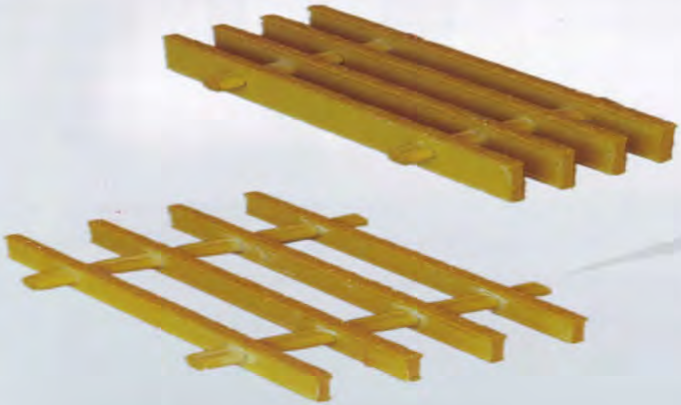
(4) Load based on the AASHTO standard truck load as defined in AASHTO LRFD bridge design specifications, 2nd Ed. This doesn't imply that the allowable span meet th deflection requirements of this specifications.

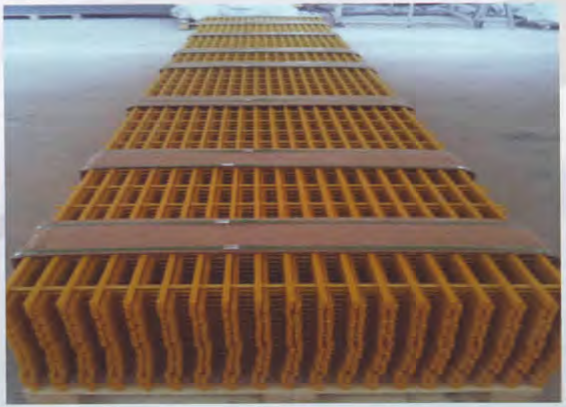
Category IV, StrongSpan™ Pultruded SI(Standard I-bar) Series Grating

With profile appearance similar to metal grating, StrongSpan SI sections are provided for applications where a close match to a steel or aluminum profile or to an existing installation is needed. StrongSpan ™SI series pultruded grating is used widely in cooling tower walkway due to its large open area. The bonded cross bars are suitable for use in low pedestrian traffic area. 73% and 83% open areas allow for excellent air flow.

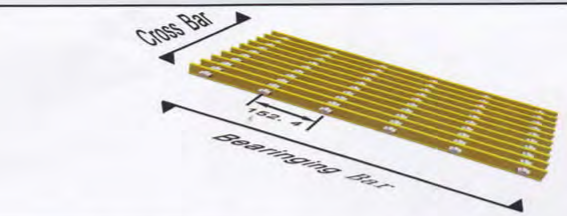
Units:mm

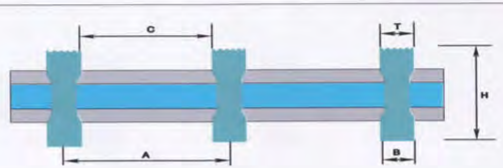
Type	Panel Height	Bearing Bar Center	Cross Bar Center	Open Area %	Approx. Wt. kg/m²	Max.Panel Size
SI7310	25	30.2	152.4	73	13.2	1524x6100
SI7315	38	30.2	152.4	73	18.6	1524x6100
SI8310	25	47.6	152.4	83	8.5	1524x6100
SI8315	38	47.6	152.4	83	12.0	1524x6100





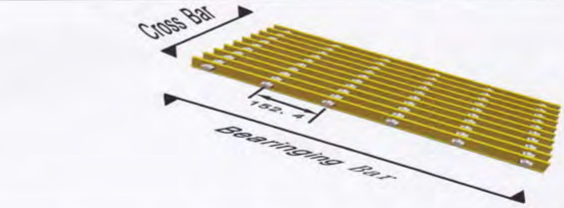
Specification	
SI-7310 25mm high,73% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/B	7.9/7.9
Bearing bar Center,A	30. 2
Cross bar Center	152. 4
Opening C	22. 2
Approx.Weight kg/m²	13. 2
Engineering Properties Per Meter of Width	
A	1.81x10³ mm²
I	1.03x10⁵mm⁴
S	8.13x10³mm³

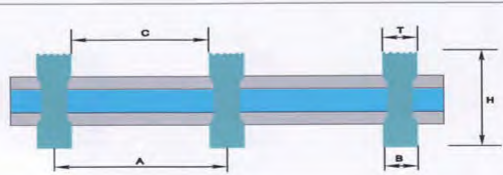




Standard panel size	MAX
	1524x6100

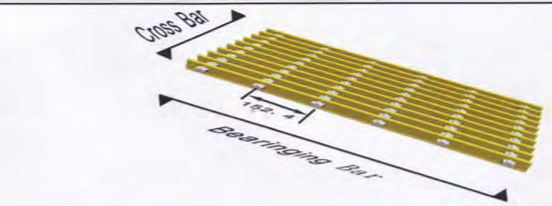
Specification	
SI-7315 38mm high,73% open area	
Bearing Bars Meter of Width	33
Bearing Bar Width,T/B	7.9/7.9
Bearing bar Center,A	30. 2
Cross bar Center	152. 4
Opening C	22. 2
Approx.Weight kg/m²	18. 6
Engineering Properties Per Meter of Width	
A	2.61x10³ mm²
I	3.38x10⁵mm⁴
S	1.78x10⁴mm³

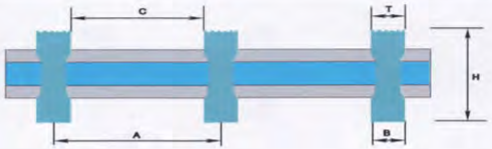




Standard panel size	MAX
	1524x6100

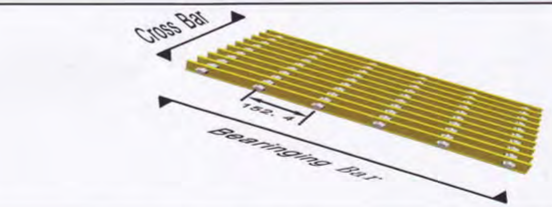
Specification	
SI-8310 25mm high,83% open area	
Bearing Bars Meter of Width	21
Bearing Bar Width,T/B	7.9/7.9
Bearing bar Centers,A	47. 6
Cross bar Center	152. 4
Opening C	39. 6
Approx.Weight kg/m²	8. 5
Engineering Properties Per Meter of Width	
A	1.15x10³ mm²
I	6.66x10⁴mm⁴
S	5.24x10³mm³

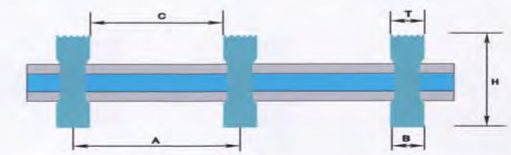




Standard panel size	MAX
	1524x6100

Specification	
SI-8315 38mm high,83% open area	
Bearing Bars Meter of Width	21
Bearing Bar Width,T/B	7.9/7.9
Bearing bar Center,A	47. 6
Cross bar Center	152. 4
Opening C	39. 6
Approx.Weight kg/m²	12
Engineering Properties Per Meter of Width	
A	1.65x10³ mm²
I	2.14x10⁵mm⁴
S	1.12x10⁴mm³





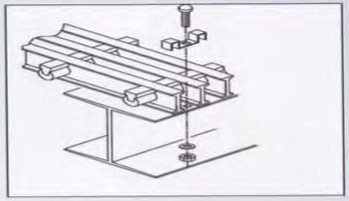
Standard panel size	MAX
	1524x6100

StrongSpan ™Pultruded Grating Clips

Strongworld supplies a number of different types of 316SS clips to attach its various pultruded fiberglass gratings to supporting members.

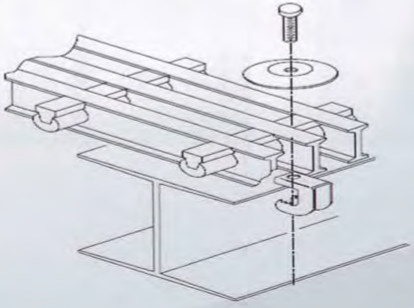
M Clips

M clips or saddle clips clamp two fiberglass grating load bars to the support. This provides excellent holding capability and because of this, are recommended for most pultruded fiberglass gratings.



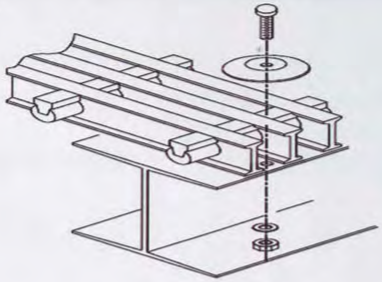
G Clips

When drilling the support member has to be avoided, G clips offer the solution. The lower jaw of the clip grips the support flange when the bolt is torqued. A heavier top clip then completes the assembly to carry the loads. Providing excellent bidirectional holding capability for pultruded grating.



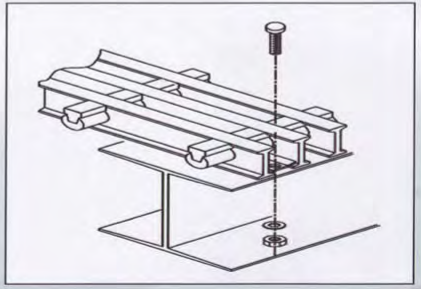
W Clips

This 40mm diameter fastener is used for holding down pultruded grating or plates and covered fiberglass gratings. The W clip' s recessed center allows the fastener to sit flush with this ADA compliant (<6.4 mm high) hold down clip.



pp Clips

PP clips offer the solution for below-surface attachment to pultruded gratings.



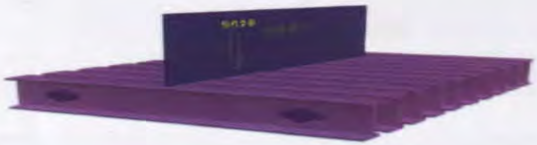
StrongSpan™ Pultruded Grating Load/Deflection Tables

C=Concentrated Load KN/m of width

△C=Deflection Under Concentrated Load

U=Uniform Load KN/m²

△U=Deflection Under Uniform Load



I-6010， 25mm High,60% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
400	△U	0.08	0.14	0.22	0.27	0.35	0.41	0.54	0.68	1.06	1.35	2.71	4.06	5.41	6.77	289	7.81	2.75
	△C	0.32	0.54	0.87	1.08	1.41	1.62	2.17	2.71	4.22	5.41	10.83				57	6.21	
600	△U	0.37	0.62	0.99	1.24	1.61	1.86	2.48	3.10	4.83	6.20	12.40				139	17.19	3.04
	△C	0.99	1.65	2.64	3.31	4.30	4.96	6.61	8.26	12.89						42	13.88	
800	△U	1.11	1.84	2.95	3.69	4.79	5.53	7.37	9.22	14.38						80	29.50	3.23
	△C	2.21	3.69	5.90	7.37	9.59	11.06	14.75								32	23.60	
1000	△U	2.61	4.35	6.96	8.71	11.32	13.06									51	44.69	3.34
	△C	4.18	6.96	11.14	13.93											25	35.29	
1200	△U	5.29	8.82	14.10												34	59.95	3.42
	△C	7.05	11.75													21	48.58	

I-6015, 38mm High,60% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
400	△U	0.03	0.05	0.08	0.10	0.13	0.15	0.19	0.24	0.38	0.48	0.97	1.45	1.93	2.42	489	4.73	2.72
	△C	0.12	0.19	0.31	0.39	0.50	0.58	0.77	0.97	1.51	1.93	3.87	5.80	7.74	9.67	97	3.77	
600	△U	0.14	0.23	0.37	0.46	0.60	0.69	0.92	1.14	1.79	2.29	4.58	6.87	9.15	11.44	211	9.64	2.91
	△C	0.37	0.61	0.98	1.22	1.59	1.83	2.44	3.05	4.76	6.10	12.21				64	7.81	
800	△U	0.41	0.69	1.10	1.38	1.79	2.06	2.75	3.44	5.36	6.88	13.76				120	16.51	3.06
	△C	0.83	1.38	2.20	2.75	3.58	4.13	5.50	6.88	10.73	13.76					48	13.21	
1000	△U	0.99	1.64	2.63	3.28	4.27	4.93	6.57	8.21	12.81						75	24.74	3.13
	△C	1.58	2.63	4.20	5.25	6.83	7.88	10.51	13.13							37	19.61	
1200	△U	2.00	3.33	5.33	6.66	8.66	9.99	13.32								49	32.41	3.20
	△C	2.66	4.44	7.10	8.88	11.54	13.32									29	26.05	
1400	△U	3.64	6.07	9.72	12.15	15.79										35	42.92	3.25
	△C	4.16	6.94	11.11	13.88											25	34.25	
1600	△U	6.18	10.30													26	53.55	3.27
	△C	6.18	10.30													21	42.57	
1800	△U	9.84														20	65.59	3.29
	△C	8.74	14.57													18	52.47	

T-5020, 50mm High,60% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
600	△U	0.08	0.14	0.22	0.27	0.35	0.41	0.54	0.68	1.05	1.35	2.70	4.05	5.40	6.75	271	7.32	2.73
	△C	0.22	0.36	0.58	0.72	0.94	1.08	1.44	1.80	2.81	3.60	7.20	10.81	14.41		82	5.91	
800	△U	0.25	0.41	0.65	0.82	1.06	1.23	1.64	2.04	3.19	4.09	8.18	12.27			157	12.84	2.85
	△C	0.49	0.82	1.31	1.64	2.13	2.45	3.27	4.09	6.38	8.18					63	10.31	
1000	△U	0.58	0.97	1.56	1.95	2.53	2.92	3.90	4.87	7.60	9.74					100	19.49	2.92
	△C	0.94	1.56	2.49	3.12	4.05	4.68	6.24	7.80	12.16	15.59					50	15.59	
1200	△U	1.19	1.98	3.17	3.96	5.15	5.94	7.92	9.90	15.44						67	26.53	2.98
	△C	1.58	2.64	4.22	5.28	6.86	7.92	10.56	13.20							41	21.65	
1400	△U	2.15	3.58	5.73	7.17	9.32	10.75	14.34								51	36.56	3.05
	△C	2.46	4.10	6.55	8.19	10.65	12.29									36	29.49	
1600	△U	3.61	6.02	9.62	12.03	15.64										39	46.92	3.10
	△C	3.61	6.02	9.62	12.03	15.64										31	37.30	
1800	△U	5.69	9.48	15.17												31	58.79	3.15
	△C	5.06	8.43	13.49												27	45.52	
2000	△U	8.54	14.23													25	71.14	3.20
	△C	6.83	11.38													25	56.91	

I-4010， 25mm High,40% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
400	△U	0.05	0.09	0.14	0.18	0.23	0.27	0.36	0.45	0.70	0.90	1.80	2.71	3.61	4.51	433	7.81	2.75
	△C	0.22	0.36	0.58	0.72	0.94	1.08	1.44	1.80	2.82	3.61	7.22	10.83	14.44		86	6.21	
600	△U	0.25	0.41	0.66	0.83	1.07	1.24	1.65	2.07	3.22	4.13	8.26	12.40			208	17.19	3.04
	△C	0.66	1.10	1.76	2.20	2.86	3.31	4.41	5.51	8.59	11.02					63	13.88	
800	△U	0.74	1.23	1.97	2.46	3.20	3.69	4.92	6.15	9.59	12.29					120	29.50	3.23
	△C	1.47	2.46	3.93	4.92	6.39	7.37	9.83	12.29							48	23.60	
1000	△U	1.74	2.90	4.64	5.80	7.55	8.71	11.61	14.51							77	44.69	3.34
	△C	2.79	4.64	7.43	9.29	12.07	13.93									38	35.29	
1200	△U	3.53	5.88	9.40	11.75	15.28										51	59.95	3.42
	△C	4.70	7.84	12.54	15.67											31	48.58	
1400	△U	6.48	10.79													39	84.18	3.45
	△C	7.40	12.33													27	66.61	

I-40125， 32mm High,40% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
400	△U	0.04	0.06	0.09	0.12	0.15	0.18	0.23	0.29	0.46	0.58	1.17	1.75	2.34	2.92	583	6.81	2.56
	△C	0.14	0.23	0.37	0.47	0.61	0.70	0.94	1.17	1.82	2.34	4.68	7.01	9.35	11.69	116	5.42	
600	△U	0.16	0.27	0.44	0.55	0.71	0.82	1.09	1.37	2.13	2.73	5.47	8.20	10.94	13.67	262	14.33	2.77
	△C	0.44	0.73	1.17	1.46	1.90	2.19	2.92	3.65	5.69	7.29	14.58				79	11.52	
800	△U	0.49	0.82	1.31	1.63	2.12	2.45	3.27	4.08	6.37	8.17					150	24.51	2.93
	△C	0.98	1.63	2.61	3.27	4.25	4.90	6.54	8.17	12.75						60	19.61	
1000	△U	1.16	1.93	3.09	3.86	5.01	5.79	7.72	9.64	15.04						95	36.65	3.03
	△C	1.85	3.09	4.94	6.17	8.02	9.26	12.34	15.43							47	29.01	
1200	△U	2.32	3.87	6.19	7.74	10.07	11.62	15.49								62	48.01	3.13
	△C	3.10	5.16	8.26	10.32	13.42	15.49									38	39.23	
1400	△U	4.20	6.99	11.19	13.99											46	64.35	3.21
	△C	4.80	7.99	12.79	15.99											32	51.16	
1600	△U	7.14	11.89													34	80.88	3.22
	△C	7.14	11.89													27	64.23	

I-4015， 38mm High,40% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
400	△U	0.02	0.03	0.05	0.06	0.08	0.10	0.13	0.16	0.25	0.32	0.64	0.97	1.29	1.61	734	4.73	2.72
	△C	0.08	0.13	0.21	0.26	0.34	0.39	0.52	0.64	1.01	1.29	2.58	3.87	5.16	6.45	146	3.77	
600	△U	0.09	0.15	0.24	0.31	0.40	0.46	0.61	0.76	1.19	1.53	3.05	4.58	6.10	7.63	316	9.64	2.91
	△C	0.24	0.41	0.65	0.81	1.06	1.22	1.63	2.03	3.17	4.07	8.14	12.21			96	7.81	
800	△U	0.28	0.46	0.73	0.92	1.19	1.38	1.83	2.29	3.58	4.59	9.17	13.76			180	16.51	3.06
	△C	0.55	0.92	1.47	1.83	2.39	2.75	3.67	4.59	7.16	9.17					72	13.21	
1000	△U	0.66	1.09	1.75	2.19	2.85	3.28	4.38	5.47	8.54	10.95					113	24.74	3.13
	△C	1.05	1.75	2.80	3.50	4.55	5.25	7.01	8.76	13.66						56	19.62	
1200	△U	1.33	2.22	3.55	4.44	5.77	6.66	8.88	11.10							73	32.42	3.20
	△C	1.78	2.96	4.74	5.92	7.70	8.88	11.84	14.80							44	26.05	
1400	△U	2.43	4.05	6.48	8.10	10.53	12.15									53	42.93	3.25
	△C	2.78	4.63	7.41	9.26	12.04	13.89									37	34.25	
1600	△U	4.12	6.87	10.99	13.73											39	53.57	3.27
	△C	4.12	6.87	10.99	13.73											31	42.58	
1800	△U	6.56	10.93													30	65.60	3.29
	△C	5.83	9.72	15.55												27	52.48	

T-1810， 25mm High,18% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
400	△U	0.10	0.17	0.27	0.33	0.43	0.50	0.67	0.83	1.30	1.67	3.34	5.01	6.68	8.35	296	9.88	2.39
	△C	0.40	0.67	1.07	1.34	1.74	2.00	2.67	3.34	5.21	6.68	13.35				59	7.88	
600	△U	0.46	0.77	1.24	1.55	2.01	2.32	3.10	3.87	6.04	7.74	15.48				127	19.65	2.61
	△C	1.24	2.06	3.30	4.13	5.36	6.19	8.25	10.32							38	15.68	
800	△U	1.38	2.30	3.67	4.59	5.97	6.89	9.18	11.48							73	33.52	2.78
	△C	2.76	4.59	7.35	9.18	11.94	13.78									23	21.12	
1000	△U	3.22	5.37	8.60	10.75	13.97										46	49.43	2.90
	△C	5.16	8.60	13.76												23	39.55	
1200	△U	6.44	10.73													29	62.26	3.01
	△C	8.59	14.31													18	51.53	

T-3320， 50mm High,33% Opening

SPAN MM		LOAD 3	5	8	10	13	15	20	25	39	50	100	150	200	250	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
600	△U	0.06	0.10	0.16	0.20	0.26	0.30	0.41	0.51	0.79	1.01	2.03	3.04	4.05	5.07	361	7.32	2.73
	△C	0.16	0.27	0.43	0.54	0.70	0.81	1.08	1.35	2.11	2.70	5.40	8.11	10.81	13.51	109	5.91	
800	△U	0.18	0.31	0.49	0.61	0.80	0.92	1.23	1.53	2.39	3.07	6.14	9.20	12.27	15.34	209	12.84	2.85
	△C	0.37	0.61	0.98	1.23	1.60	1.84	2.45	3.07	4.79	6.14	12.27				84	10.31	
1000	△U	0.44	0.73	1.17	1.46	1.90	2.19	2.92	3.66	5.70	7.31	14.62				133	19.49	2.92
	△C	0.70	1.17	1.87	2.34	3.04	3.51	4.68	5.85	9.12	11.70					67	15.59	
1200	△U	0.89	1.49	2.38	2.97	3.86	4.46	5.94	7.43	11.59	14.85					89	26.53	2.98
	△C	1.19	1.98	3.17	3.96	5.15	5.94	7.92	9.90	15.45						55	21.65	
1400	△U	1.61	2.69	4.30	5.38	6.99	8.07	10.75	13.44							68	36.56	3.05
	△C	1.84	3.07	4.92	6.15	7.99	9.22	12.29	15.36							48	29.49	
1600	△U	2.71	4.51	7.22	9.03	11.73	13.54									52	46.92	3.10
	△C	2.71	4.51	7.22	9.03	11.73	13.54									41	37.29	
1800	△U	4.27	7.11	11.38	14.23											41	58.79	3.15
	△C	3.79	6.32	10.12	12.65											36	45.52	
2000	△U	6.40	10.67													33	71.13	3.20
	△C	5.12	8.54	13.66												33	56.91	

HL-6020， 50mm High,60% Opening

SPAN MM		LOAD 5	10	15	25	50	100	150	200	250	300	350	400	SAFE LOAD,2:1 SAFETY FACTOR	DEFLECTION	EX 10^{10} N/SQm
600	△U	0.06	0.12	0.18	0.30	0.61	1.21	1.82	2.43	3.04	3.64	4.25	4.86	741	9.00	3.18
	△C	0.16	0.32	0.49	0.81	1.62	3.24	4.86	6.48	8.10	9.72	11.34	12.96	226	7.32	
800	△U	0.17	0.34	0.52	0.86	1.72	3.44	5.16	6.88	8.60	10.32	12.04	13.75	435	14.96	3.55
	△C	0.34	0.69	1.03	1.72	3.44	6.88	10.32	13.75					174	11.97	
1000	△U	0.40	0.80	1.20	2.01	4.02	8.03	12.05	16.07					277	22.25	3.71
	△C	0.64	1.29	1.93	3.21	6.43	12.85							138	17.74	
1200	△U	0.82	1.63	2.45	4.09	8.17	16.35							186	30.41	3.78
	△C	1.09	2.18	3.27	5.45	10.90								113	24.63	
1400	△U	1.49	2.99	4.48	7.47	14.95								142	42.45	3.83
	△C	1.71	3.42	5.12	8.54									99	33.82	
1600	△U	2.52	5.05	7.57	12.62									109	55.01	3.87
	△C	2.52	5.05	7.57	12.62									87	43.91	
1800	△U	4.01	8.02	12.03										86	68.99	3.90
	△C	3.57	7.13	10.7										77	54.91	
2000	△U	6.10	12.2											71	86.59	3.91
	△C	4.88	9.76	14.63										70	68.29	

The load datas provided here are for general information only,as actual environment and operational conditions are beyond our control.For these reasons,Nantong Strongworld FRP Products Co.,Ltd cannot guarantee that actual performance will correspond to the load tables provide here.

StronGrate™ Chemical Resistance Guidance

Chemical Enviroment	% Concentration	Temp ℃	Molded StronGrate™		Pultruded Strong Span™	
			VEFR	IFR	VEFR	ISOFR
Acetic Acid	50	MAX	C	C	C	C
Acetone	100	23	S	I	I	N
Alcohols	100	48	C	I	I	I
Alum	All	MAX	C	C	C	C
Aluminum Chloride	All	MAX	C	C	C	C
Aluminum Fluoride	20	23	C	I	I	I
Ammonium Hydroxide	30	23	C	N	I	N
Ammonium Salts-Neutral	All	48	C	C	C	S
Ammonium Salts-Aggressive	All	23	S	I	T	N
Aromatic Solvents	All	23	T	N	N	N
Barium Salts	All	MAX	C	C	C	C
Benzene	100	60	I	I	I	N
Black Liquor (Pulp Mill)	All	MAX	C	I	I	N
Bleach Liquor (Pulp Mill)	All	MAX	C	I	I	N
Calcium Hydroxide	25	MAX	C	S	S	I
Calcium Hypochlorite	All	MAX	C	I	I	N
Calcium Salts	All	MAX	C	C	C	C
Carbon Tetrachloride	100	23	C	I	S	N
Chlorinated Hydrocarbons	100	23	T	T	T	T
Chlorine Dioxide	SAT	60	C	N	S	N
Chlorine Water	SAT	48	C	I	I	N
Chlorine ,Wet	SAT	MAX	C	N	N	N
Chlorobenzene	100	23	S	N	N	N
Chlorobenzene	ALL	Up to 37	C	N	N	N
Chloroform	100	23	N	N	N	N
Chromic Acid	50	60	S	S	I	N
Citric Acid	ALL	MAX	C	C	C	C
Copper Cyanide Plating	ALL	51	C	S	S	I
Copper Salts	ALL	MAX	C	C	C	C
Cruid oil (Sweet or sour)	ALL	MAX	C	C	C	C
Dichlorobenzene	100	23	T	N	N	N
Ethers		23	T	N	N	N
Ferric Chloride	100	MAX	C	C	C	C
Ferric Salts	ALL	MAX	C	C	C	C
Fluoride Salts+HCl	ALL	23	C	S	I	N
Fluosilicic Acid	10	23	C	S	S	I
Formaldehyde	37	65	C	I	S	I
Formic Acid	25	37	C	S	S	I
Fuel(Diesel,Jet,Gaosoline)	ALL	37	C	C	C	C
Glycerine	100	MAX	C	C	C	C
Green Liquor(Pulp Mill)	ALL	MAX	C	N	I	N
Hydrobromic Acid	48	MAX	S	S	I	N
Hydrochloric Acid	10	MAX	C	S	S	S
Hydrochloric Acid	30	MAX	C	S	I	I
Hydrochloric Acid(concentrated)	ALL	Up to 82	I	N	N	N
Hydrocyanic Acid	ALL	MAX	C	I	S	I
Hydrofluoric Acid	20	23	S	N	N	N
Hydrogen Peroxide	30	23	C	N	S	N

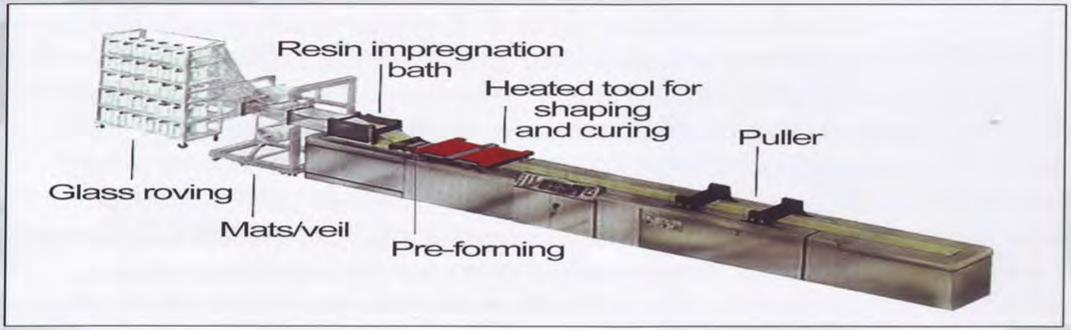
Chemical Enviroment	% Concentration	Temp ℃	Molded StronGrate™		Pultruded Strong Span™	
			VEFR	IFR	VEFR	ISOFR
Lactic Acid	100	MAX	C	C	C	C
Lime Slurry	SAT	MAX	C	C	C	C
Lithium Chloride	SAT	MAX	N	N	N	N
Lithium Salts	ALL	MAX	C	C	T	T
Magnesium Salts	ALL	MAX	C	C	C	C
Maleic Acid	100	MAX	C	S	S	I
Mercury Chloride	100	MAX	C	C	C	C
Nickel Salts	ALL	MAX	C	C	C	C
Nitric Acid	20	48	C	S	I	I
Nitric Acid	35	37	C	N	I	N
Nitric Acid	40	Ambient	I	N	N	N
Nitric , Hydrofluoric	20:2	23	I	N	N	N
Nitrous Acid	10	23	C	C	C	C
Ozone for Sewage Treatment		37	C	C	C	C
Perchloroethylene	100	23	S	N	I	N
Phenol	10	23	C	N	I	N
Phenol	88	Ambient	S	N	N	N
Phosphoric Acid	85	MAX	C	C	C	S
Phosphoric Acid,Super	100	MAX	C	I	S	N
Potassium Hydroxide	10	48	C	I	S	N
Potassium Salts	ALL	MAX	C	C	C	C
Silver Nitrate	100	MAX	C	C	C	C
Sodium Cyanide	ALL	23	C	I	S	I
Sodium Hydroxide	50	MAX	C	I	I	N
Sodium Hydroxide	10	MAX	C	N	N	N
Sodium Hypochlorite(Stable)	10	37	C	S	S	I
Sodium Salts-Neutral	ALL	MAX	C	C	C	C
Sodium Salts-Aggressive	ALL	23	S	I	T	N
Sulfur Dioxide	SAT	MAX	C	S	S	S
Sulfuric Acid	25	MAX	C	S	S	I
Sulfuric Acid	50	MAX	C	S	S	N
Sulfuric Acid	75	37	C	I	I	N
Toluene	100	48	S	I	I	N
Trichloroethane1,1,1	ALL	23	S	I	I	N
Trisodium Phosphate	50	MAX	C	I	I	N
Water(Fresh,Salt,Moderate D.L.)	100	MAX	C	C	C	C
Wet Chlorine/Hydrochloric Acid	10-20	Up to 176	S	N	N	N
White Liquor(Pulp Mill)	ALL	MAX	C	I	S	N
Znic Chloride Plating	ALL	23	C	S	S	N
Zinc Salts	100	MAX	C	C	C	C

C-Continuous exposure of the grating to the Chemical Environment list at the temperature listed.
S-Frequent exposure of the grating to splashes and spills from the chemical environment listed with that environment at the temperature listed.
I-Infrequent exposure of the grating to splashes and spills from the chemcial environment listed with that environment at the temperature lised and the spill immediately cleaned up or washed from the grating.
N-Not recommended for the concentrations and temperature listed.
T-Test.
Consult Strongworld for corrosion recommendations at concentrations and temperatures or chemcials not listed in the guide.
Max.Temp for VEFR-25 is 82°C, for IFR-25 is 65°C.
The information in the corrosion guide is correct to the best of Strongworld. Because actual use conditions differ and mixtures of corrosives will occur in service, the end user must test under actual conditions.Strongworld's responsibility for claims arising from breach of warranty, negligence or otherwise is limited to the purchase price of the material sold by Strongworld. Test samples are available upon specific request.

StrongShape™ Structural Profiles

The production process of StrongShape™ Structural profiles

All StrongShape™ structural profiles are made by Pultrusion , which is a continuous process, where the reinforcing fibres are impregnated with a theromsetting resin. After the impregnation with resin the fibres are led into the heated tool according to the shape of the profile. In the tool the profile is cured and then pulled out and cut to the required lengths



StrongShape™ structural profiles combine fiber-glass and special developed resin in a polymer matrix designed to meet the most demand chemical, fire retardant, electrical,and strength standard, present excellent performance with corro-sion resistance, fire retardant, low maintenance, light weight,low install cost, long service life, electrically&thermally non-conductive. In addition,all exterior surface of StrongShape™ are covered by a synthetic veil for added protection against ultraviolet ray exposure.

Combining with high strength–to-weight ratio and dimensional stability with exceptional corrosion resistance, StrongShape™structural profiles become the structural component of choice for a wide range of industrial applications. These shapes have provided a high level of structural integrity in the construction of :

Handrails and ladders
Mezzanines
Maintenance platforms
Tank cover and supports
Access platforms
Walkways and bridges
Pipe and equipment supports
Buildings and sheds

StrongShape™ Resin Systems

Nantong Strongworld manufactures all its standard pultruded structural profiles with two types of resin system below:

StrongShape™ VEFR-25 is a premium vinyl ester resin with a flame spread rating of 25 or less. StrongShape™ VEFR-25 is our most chemical resistant resin pultruded profile. Designed to withstand the harshest chemical environments over a broad range of acids and caustics, it is primarily used in petrochemical,wasterwater,mining,and plating applications where the profile is subject to frequent and direct contact with harsh chemicals.The standard color is beige, but it is aslo available in dark gray.

StrongShape™ IFR-25 is a premium isophthalic polyester resin with a flame spread rating of 25 or less. StrongShape™ IFR-25 pultruded profile provides an intermediate level of chemical resistance and is the correct resin choice for profile subject to splash and spill contact with harsh chemicals, and is a very good general purpose resin at a reduced cost compared to the premium vinyl ester resin. The standard color is dark gray but it is also available in yellow.

Customed resin systems and colors are welcome, but minimum order request.

StrongShape™ Profiles and Availability

Equal Angle

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
25×3.2	×	×	200	0.27
25×6.4	×	×	100	0.50
29×3.2	×	×	200	0.33
38×3.2	×	×	200	0.44
38×4.8	×	×	100	0.67
38×6.4	×	×	100	0.85
50×3.2	×	×	100	0.60
50×4.8	×	×	100	0.91
50×6.4	×	×	100	1.14
76×6.4	×	×	100	1.77
76×9.5	×	×	100	2.57
76×12.7	×	×	100	3.36
102×6.4	×	×	100	2.38
102×9.5	×	×	100	3.48
100×12.7	×	×	100	4.57
100×6.4	×	×	100	3.65
152×9.5	×	×	70	5.32
152×12.7	×	×	70	7.03

Channel

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
50×14×3.2	×	×	200	0.44
76×22×6.4	×	×	100	1.31
76×38×6.4	×	×	100	1.7
102×44×6.4	×	×	100	2.2
120×25×5.0	×	×	100	1.52
120×30×5.0	×	×	100	1.62
120×40×5.0	×	×	100	1.81
152×42×6.4	×	×	100	2.72
152×42×9.5	×	×	100	3.95
203×56×9.5	×	×	70	5.34
254×70×12.7	×	×	70	8.8
260×76×12.7	×	×	70	9.5
290×70×12.7	×	×	70	9.8
305×70×12.7	×	×	70	10.7
120×50×5	×	×	100	2
127×35×5	×	×	100	2.34
75×35×5	×	×	100	1.18
70×30×4	×	×	100	0.95
40×24×3	×	×	200	0.49
45×28×4	×	×	100	0.9
50×30×5	×	×	100	1.06
60×50×5	×	×	100	1.48

Wide Flange Beam

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
76×6.4	×	×	100	2.67
102×6.4	×	×	100	3.59
152×6.4	×	×	70	5.43
152×9.5	×	×	70	8.1
203×9.5	×	×	50	10.8
203×12.7	×	×	50	14.36
254×9.5	×	×	50	13.6
254×12.7	×	×	50	18.04
305×12.7	×	×	50	21.5

I Beam

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
76×38×6.4	×	×	100	1.69
102×50×6.4	×	×	100	2.4
152×76×6.4	×	×	100	3.59
152×76×9.5	×	×	70	5.32
203×102×12.7	×	×	70	9.4
254×127×12.7	×	×	50	11.9
305×152×12.7	×	×	50	14.3

Square Tube

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
19.1×3.2	×	×	200	0.33
20×4	×	×	200	0.47
25×3.2	×	×	100	0.53
25×6.4	×	×	100	0.9
32×6.4	×	×	100	1.24
38×3.2	×	×	100	0.79
38×6.4	×	×	100	1.54
44×3.2	×	×	100	0.99
44×6.4	×	×	100	1.83
50×3.2	×	×	100	1.14
50×4.0	×	×	100	1.42
50×6.4	×	×	100	2.12
54×4.8	×	×	100	1.78
64×6.4	×	×	100	2.8
76×6.4	×	×	100	3.39
102×3.2	×	×	100	2.27
102×6.4	×	×	100	4.61

Rectangular Tube

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
38×25×4.8	×	×	100	0.93
50×20×6.4	×	×	100	1.33
50×25×3	×	×	100	0.79
50×25×6.4	×	×	100	1.51
50×38×6.4	×	×	100	1.74
52×32×5	×	×	100	1.41
90×30×5	×	×	100	2.09
91×38×4	×	×	100	1.74
76×25×4.8	×	×	100	1.58
80×30×4	×	×	100	1.9
140×30×5	×	×	100	3.04
186×32×4.8	×	×	100	3.6
197×44×5	×	×	100	4.2
200×30×5	×	×	100	4.18

EdgeGrip

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
70×30×4	×	×	200	0.73
70×55×4	×	×	200	0.79
55×55×4	×	×	200	0.8

Round Tube

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
25×3.2	×	×	200	0.42
25×6.4	×	×	100	0.79
32×3.2	×	×	100	0.55
32×6.4	×	×	100	1.03
38×3.2	×	×	100	0.67
38×6.4	×	×	100	1.21
42×6.4	×	×	100	1.36
44×6.4	×	×	100	1.43
50×3.2	×	×	100	0.84
50×4.0	×	×	100	1.1
50×5.0	×	×	100	1.34
50×6.4	×	×	100	1.7
76×6.4	×	×	100	2.64
102×6.4	×	×	100	3.62
133×7.6	×	×	70	5.64
140×10	×	×	70	7.8
146×6.2	×	×	70	5.18

Flat Sheet

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
1220×3	×	×	200	7.4
1220×6	×	×	100	14.5
1220×9.5	×	×	100	21.5
1220×12.7	×	×	50	29.4
1000×3	×	×	200	6.1
1000×6	×	×	100	11.89
1000×9.5	×	×	100	17.6
1000×12.7	×	×	50	24.1

Round Solid Rod

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
8	×	×	300	0.1
9.5	×	×	300	0.14
12.7	×	×	300	0.26
14	×	×	300	0.29
19	×	×	200	0.54
25.4	×	×	100	1
31.8	×	×	100	1.51
38	×	×	100	2.15
42	×	×	100	2.65
44	×	×	100	2.89
50	×	×	100	3.85
76	×	×	70	8.61

Stair Tread Cover

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
345×55×4	×	×	100	2.92
200×30×3	×	×	100	2.38
150×40×3	×	×	100	1

Square Solid Bar

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
12.7×12.7	×	×	300	0.31
19×19	×	×	100	0.69
20×20	×	×	100	0.76
25×25	×	×	100	1.23
32×32	×	×	100	1.95
38×38	×	×	100	2.75
44×44	×	×	100	3.68
50×50	×	×	100	4.76
64×64	×	×	70	7.78
76×76	×	×	50	10.98

Flat Strip

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
10×2.5	×	×	500	0.05
12×8	×	×	500	0.19
15×2.5	×	×	500	0.07
19×6.4	×	×	500	0.22
38×5	×	×	300	0.35
50×4	×	×	300	0.38
70×4	×	×	200	0.51
90×4	×	×	200	0.65
120×3.0	×	×	200	0.65

Embedded Angle

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
38×25×6.4	×	×	100	1.49
38×38×6.4	×	×	100	1.64
50×38×6.4	×	×	100	2.01

Kick Plate

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
100×14×3	×	×	200	1.1

T Shape

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
54×43×5.0	×	×	200	0.87
60×46×6.0	×	×	100	1.18

Decking Plank

Size in mm	IFRI25	VEFRI25	Min Mill Run	Wt kg/m
305×54×5	×	×	100	5.3
500×40×5	×	×	100	10.5
610×28×5	×	×	100	7.6
305×28×5	×	×	100	3.8
300×80×5	×	×	100	7.3

StrongShape™ Typical Coupon Properties

FIBERGLASS STRUCTURAL SHAPES: TYPICAL COUPON PROPERTIES

The values listed below are test results from coupon tests performed in accordance with designated ASTM Test.

Mechanical Properties	ASTM	UNITS	VALUE
Tensile Strength, LW	D-638	Mpa	207
Tensile Strength, CW	D-638	Mpa	48
Tensile Modulus, LW	D-638	Gpa	17.2
Tensile Modulus, CW	D-638	Gpa	5.5
Compressive Strength, LW	D-695	Mpa	207
Compressive Strength, CW	D-695	Mpa	103
Compressive Modulus, LW	D-695	Gpa	17.2
Compressive Modulus, CW	D-695	Gpa	6.9
Flexural Strength, LW	D-790	Mpa	207
Flexural Strength, CW	D-790	Mpa	69
Flexural Modulus, LW	D-790	Gpa	12.4
Flexural Modulus, CW	D-790	Gpa	5.5
Modulus of Elasticity, E	Full Section	Gpa	19.3
Shear Modulus	———	Gpa	3.1
Short Beam Shear	D-2344	Mpa	31
Punch Shear	D-256	Mpa	69
Bearing Strength, LW	D-953	Mpa	207
Notched Izod Impact, LW	D-256	KJ/m	1.33
Notched Izod Impact, CW	D-256	KJ/m	0.21
Physical Properties	**ASTM**	**UNITS**	**VALUE**
Barcol Hardness	D-495	———	45
24 Hour Water Absorption	D-570	% max	0.45
Density	D-792	g/cm^3	1.72-1.94
Coefficient of Thermal Expansion, LW	D-696	10^{-6} in/in/°C	8
Electrical Properties	**ASTM**	**UNITS**	**VALUE**
Arc Resistance, LW	D-495	seconds	120
Dielectric Strength, LW	D-149	kv/in	35
Dielectric Strength, PF	D-149	volts/mil	200
Dielectric Constant, PF	D-150	@60hz	5
Polyester and Vinylester Fire Retardant Structural Profiles:			
Flammability Properties	**ASTM**	**UNITS**	**VALUE**
Tunnel Test	E-84	Flame Spread	25 max
Flammability	D-635	———	Nonburning

LW = Lengthwise CW = Crosswise PF = Perpendicular to Laminate Face

StrongLadder™ and StrongRail™ Fiberglass Ladder and Handrail Systems

Nantong Strongworld's corrosion resistance fiberglass ladder and handrail are found throughout the world in a variety applications and industries where safety, low maintenance costs, easy installation and long service life are essential.

Corrosion resistant

Unlike conventional metals, Strongworld products eliminate the rusting and corrosion problems associated with traditional materials. A proven pultrusion process , which combines fiberglass and proprietary resins ,create a durable and safe structure that outlasts metal,and offers a significantly lower life cycle cost. Additionally, special UV inhibitors include in the formulation provide extra protection from the effects of weathering.

Easy to install, easy to maintain

There is no need for heavy equipment or expensive tools since Strongworld ladder and handrail systems are less than half the weight of steel. Lighter weight means lower shipping costs and less manpower for installation. With no scraping, sandblasting, they are virtually maintenance free.

Strong and Durable

Kilo for Kilo , fiberglass is stronger than steel. Plus, when designed to certain load-response criteria, FRP material weigh one-third to one half of its steel counterpart. Our ladders and handrails get their strength from a high percentage of glass with the pultrusion process, providing durability, high unidirectional strength, and stiffness.

Non-conductive and Fire Retardant

Strongworld ladders and handrails are electronically and thermally nonconductive, and are fire retardant for a safe work environment. Our products meet the self-extinguishing requirements of ASTM D-635, and have a class 1 of flame spread rate of 25 or less as per ASTM E-84. Because our systems are non-metallic, electromagnetic and radio wave frequencies are completely unaffected.

A Variety of Color Choices

The stand color is safety yellow, but any system can be custom ordered to your specific color requirements.

StrongLadder™ Safety Ladder Systems

OSHA (occupation safety hazards association)requirements for ladder and ladder systems

1,90kgs concentrated load(minimum at center of rung)
2,Distance between ladder rungs maximum 300mm,minimum clear width between siderails of 400mm
3,Distance from centerline of rungs to wall in back of ladder shall be not less than 180mm.
4,Cage required on ladders of more than 6m to a maximum unbroken length of 9m
5,Cage to extend minimum of 1000mm above top of landing.
6,Cage shall begin minimum 2100mm to maximum 2400mm above base of ladder(floor)
7,Cage shall not be less than 690mm in width
8,Cage hoop vertical bars shall be located at a maximum spacing of 40 degree around circumference of the cage.

StrongLadder™ designed for easy installation and fabrication, StrongLadder™ meets or exceeds OSHA requirements with durable construction and corrosion-resistant materials.

Ready to Assemble

StrongLadder™ system maybe be purchased In modular kits for fast, hassle-free installation. Ladders are available in standard heights ranging from 2440-7300mm, with splicing kits available for longer lengths. Optional safety cage kits are designed with pre-drilled hoops for easy attachment.

Light Weight

StrongLadder™ systems are one-third the weight of steel and require less maintenance and upkeep. That is because they are manufactured with the optimal combination of fiberglass rovings and Isophthalic polyester or Vinyl ester resin, ensuring a long, corrosion-free life.

Unique design made to order

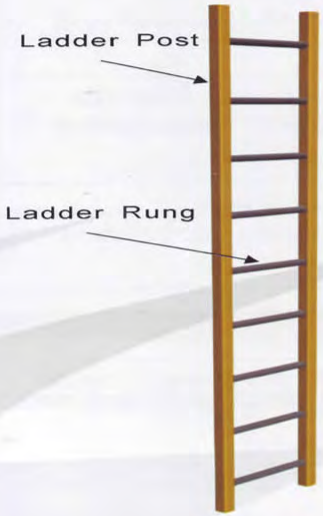
StrongLadder™ can meet all your needs. From platforms or special stand-off distance or self-supporting returns or double-side dismount, StrongLadder™ can conform to your specifications.

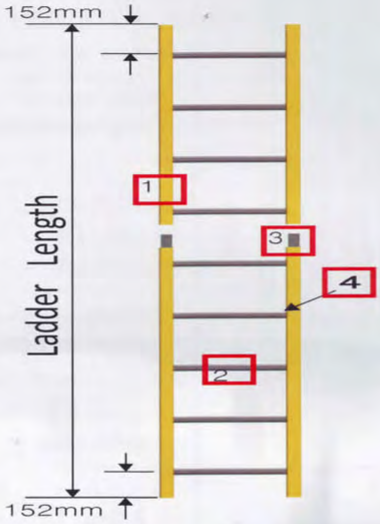
StrongLadder™ Safety Ladder Components

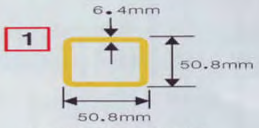
Technical Data

Ladder

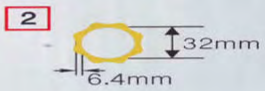
Description	Dimension
Maximum length without splice	7300mm
Ladder Post Splice, Solid Square Bar	38x38mm,200mmlong
Maximum ladder length with cage	10200mm
Outside width(outside rail to rail)	500mm
Rung Spacing(Center to Center)	300mm
Outside diameter of rung, fluted tube	32mm
Wall thickness of rung	6.4mm
Ladder Post, Square tube	50.8x50.8x6.4mm
Ladder Rung Gasket	black rubber
Rivet to fix rungs to ladder post	4x20mm

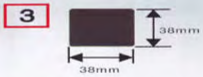






Ladder Post





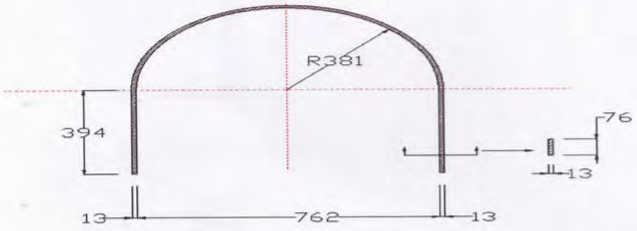
Ladder Post Splice

Ladder Rung Gasket

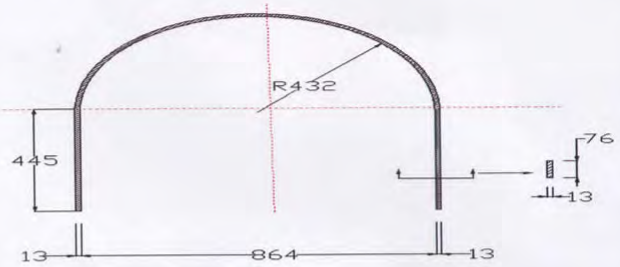
Cage

Product	Description
Top/intermediate Ladder Hoop	76mm wide x13mm thick, hand lay-up with predilled holes(with necessary bolt assemblies)
Bottom Ladder hoop	76mm wide x13mm thick, hand lay-up with predilled holes(with necessary bolt assemblies)
Hoop Bracket	75x140mm, 10mm thick,U Shape Predilled holes(with necessary bolt assemblies)
Cage strip	C channel, 50x14x3mm,made by pultrusion
Bottom Wall Mount Bracket	76x200x9.5mm angle, 457mm long, made by pultrusion, Two per set(with necessary bolt assemblies)
Wall bracket	76x200x9.5mm angle, 152mm long, made by pultrusion, 180mm from wall to center of rung, Two per set(with nec-essary bolt assemblies)
Floor Mount	102x102x9.5mm angle, made by pultrusion, Two per set(with necessary bolt assemblies)
Foot base mount(Option)	Foot base, made by BMC

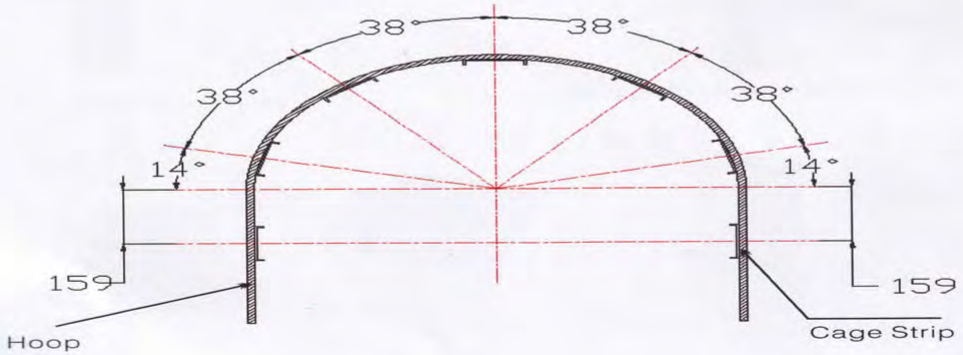
(Unit:mm)



Top/Intermediate Ladder Hoop Detail

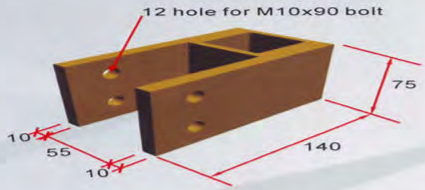


Bottom Ladder Hoop Detail

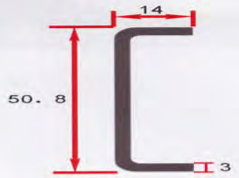


Cage Strip Location Plan

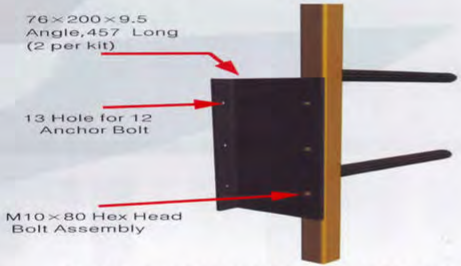
(Unit:mm)



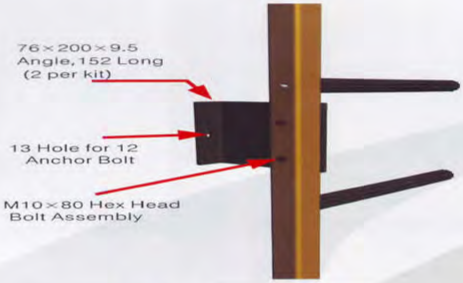
Hoop Bracket
10×75×140



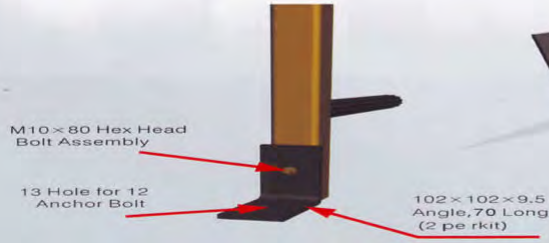
Cage Strip



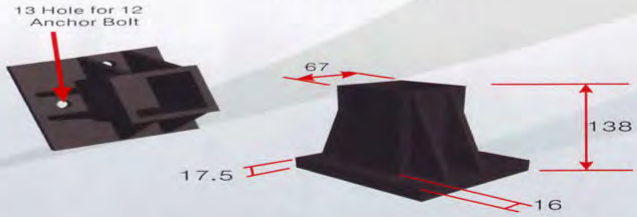
Bottom Wall Mount Bracket



Wall Bracket

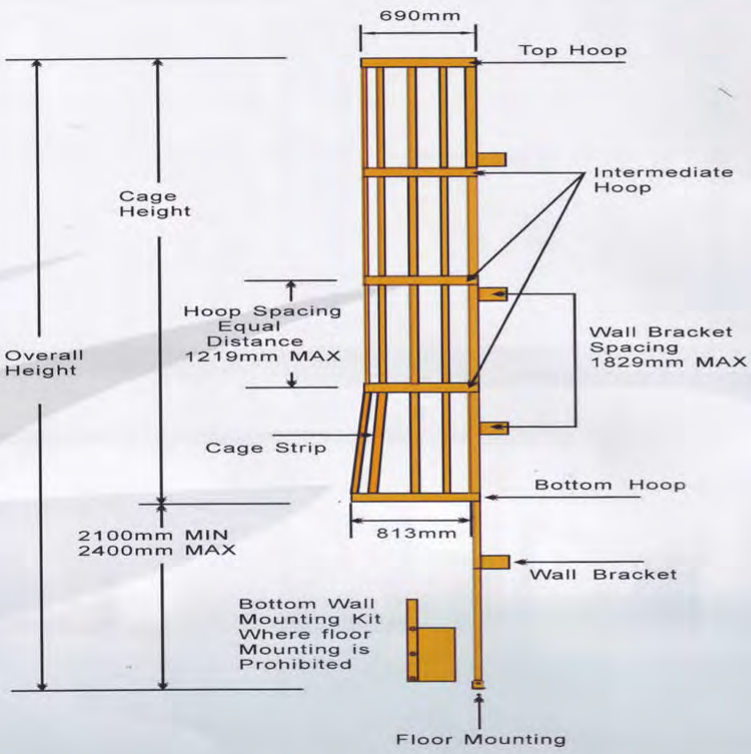


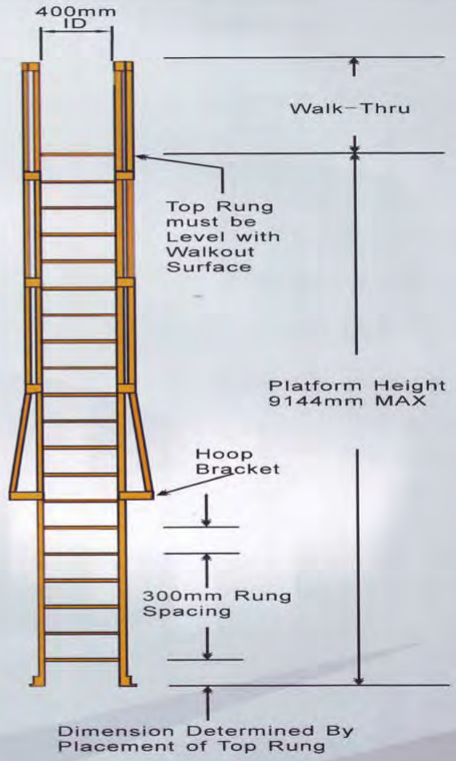
Floor Mount



Option:Foot base for Floor Mount

StrongLadder™ Ladder System Data





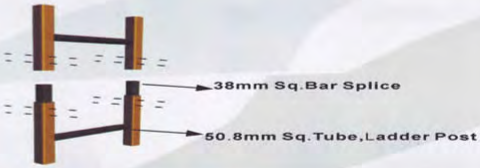
Ladder

Ladder with 457mm Walk-thru

Ladder with 610mm Walk-thru

Ladder with Walk-thru and Handrail Connections to Floor

Ladder with Walk-thru and Handrail Connections



StrongRail™ Fiberglass Handrail Systems

StrongRail™ meets your requirements, from small platforms to complex structures, with high-strength, maintenance-free handrails that are ideal for any location.

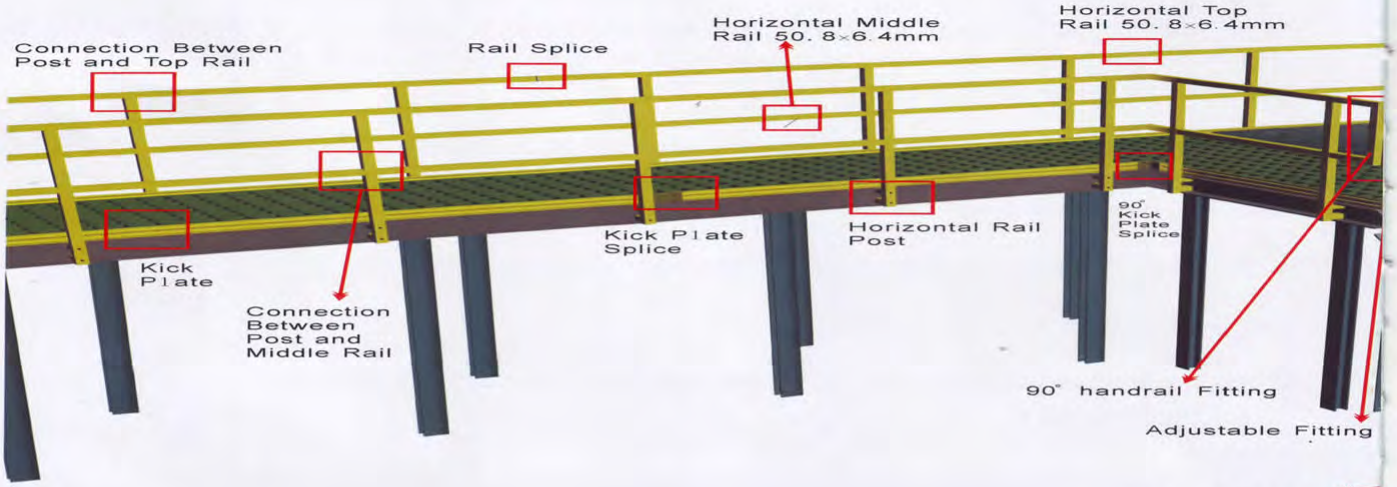
StrongWorld offers two handrails systems that meet a variety of needs: Square tube handrail system and round tube system. Custom ordered handrail systems are welcome.

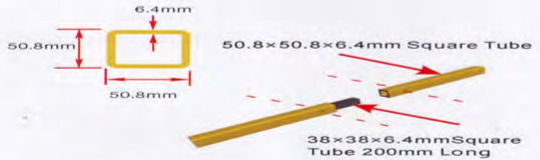
StrongRail ™Square Tube Handrail Systems Components.

Technical Data

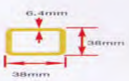
Both horizontal or incline posts and rails are permanently joined using rivets and an epoxy compound

Description	Dimensions
Distance between post	1500mm as a maximum
Height of handrail	1220mm as a maximum
Horizontal Post, Square tube	50.8x50.8x6.4mm
Incline Post, Square Tube	50.8x50.8x6.4mm
Top Rail, Square Tube	50.8x50.8x6.4mm
Middle Rail, Square Tube	50.8x50.8x6.4mm
Top and middle rail splice, square Tube	38x38x6.4mm, 200mm long
Connection between post and top rail, square tube	38x38x6.4mm, 120mm long
Connection between post and middle rail, square tube	38x38x6.4mm, 200mm long
Kick Plate	100x14x3mm
Kick plate splice, Plate	45mm wide x101mm long x6mm thick
90° Kick plate splice, Angle	54x29x6.4mm
90° handrail fitting	3 pcs of 152x152x13mm FRP angle, 38mm long
Adjustable Handrail fitting, Plastic	39° to 180°
Rivet for rail to post and kick plate to post fixing	4x20mm
Space material, square tube	50.8x50.8x6.4mm

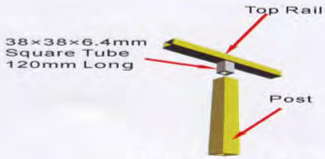




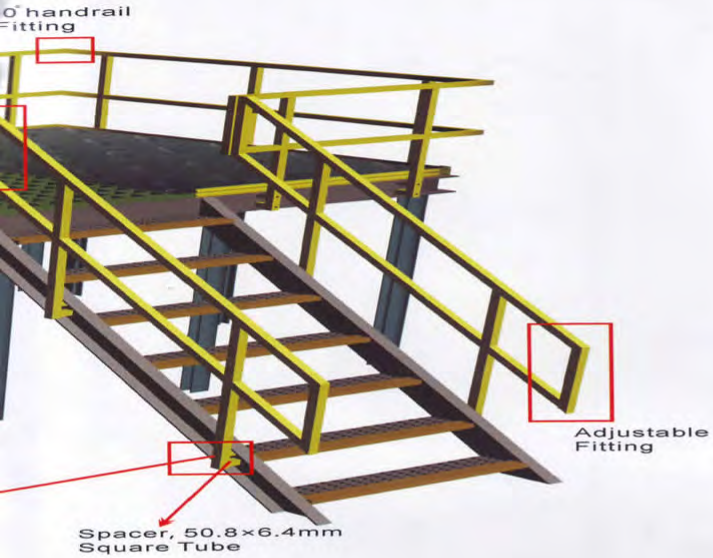
Rail Splice



Kick Plate



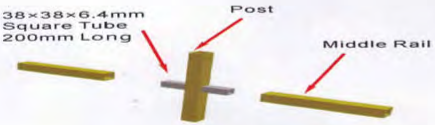
Connection Between Post and Top Rail



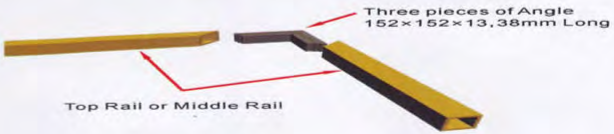
Adjustable Fitting

90° Kick Plate Splice

Kick Plate Splice



Connection Between Post and Middle Rail



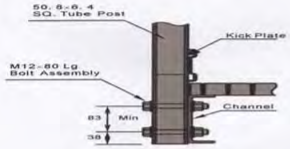
90° handrail Fitting

Strongrail™ Square tube handrails post installation methods

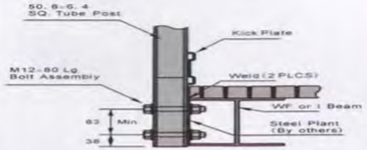
Kick Plate

Unit: mm

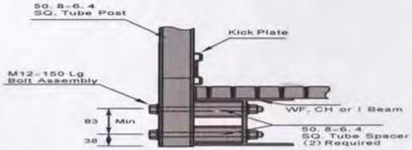
Drawing A–Post to FRP or Steel Channel



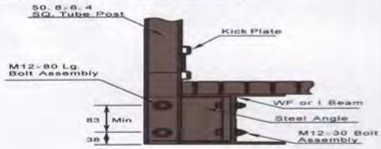
Drawing B–Post to Steel Plant on Steel Beam



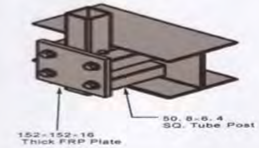
Drawing C–Post to FRP or Steel Beam or Channel with FRP Spacers



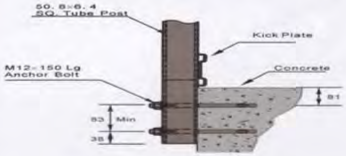
Drawing D–Post to Steel Angle on FRP or Steel Beam



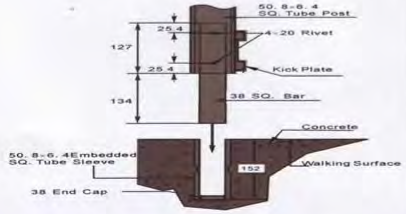
Drawing E–Removable Post to FRP or Steel Beam



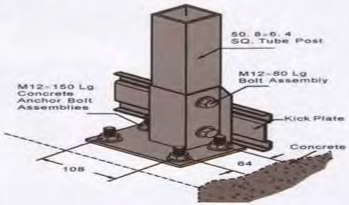
Drawing F–Side Mounted Post



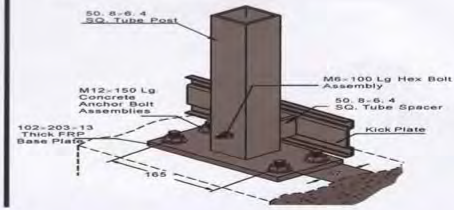
Drawing G–Embedded Post



Drawing H–Top mount Stain–Less Steel Stanchion Base



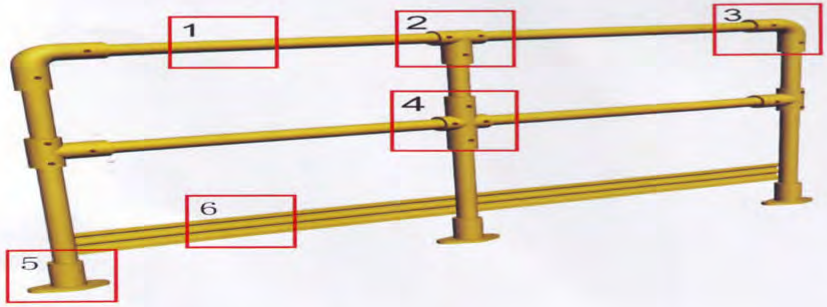
Drawing I–Top Mount FRP Stanchion Base



StrongRail™ Round Tube Handrails System Components.

Technical Data

Description	Dimension
Distance between post	1500mm as maximum
Height of handrail	1220mm as maximum
Handrail Post, Round Tube	50x5mm
Handrail top rail, Round Tube	50x5mm
Handrail middle rail, Round Tube	50x5mm
Kick plate	101x14x3mm
Kick plate Splice	45mm wide x101mm long x6mm thick
Elbow , BMC	
Tee, BMC	
Cross, BMC	
Foot Base, BMC	
Screws, M5X75	2 for Elow, 2 for Tee, 3 for Cross
Anchor Bolt, M6x90	2 Bolts for foot base



1 50×5 Round Tube

2 Tee

3 Elbow

4 Cross

5 Foot Base

6 Kick Plate

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