sustainable infrastructure systems

StructuralComp™ Fibre Reinforced Plastic (FRP) Profile List

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Contents

Introduction

SIS is a unique organisation focused on manufacturing and distributing sustainable and recycled products for diversified clients around the world. From recycled plastic, recycled wood plastic composites (WPC), fibreglass reinforced plastic composites (FRP) and recycled rubber through to co-extruded multi-composites and OEM manufacturing, SIS are market leaders in delivering sustainable products to customers in Civil Infrastructure, Building & Construction, Oil & Gas, Mining, Aviation, Aquaculture, Marine & Ports, Transport & Logistics and Agriculture.

Drawing on a strategic distribution capability with offices in Adelaide, Melbourne, Sydney, Brisbane, Shanghai, Shenzhen, Hong Kong and Los Angeles, SIS has manufacturing facilities in Australia, the People's Republic of China and North America. Our company is financially strong, total quality oriented, technically advanced, and customer focused. We specialise in the development and manufacture of high quality sustainable products. We utilise a holistic project management approach to ensure the best results and measured success of each project. We understand the importance of product and project planning, consultation, analysis, management, communication and support.

We have an agile business environment and utilise a global team of highly experienced developers, manufacturing facilities, builders and support crew who can best meet our client's requirements under any given circumstances. Our strategy is founded on diversification – by product, geography and market. To succeed, we have in place a workforce that reflects our values and the communities in which we operate. We recruit from our host communities, to attract high calibre people who are committed to the success of our organisation and thrive on working in high performing teams. We are committed to developing the skills and capability of our people and believe this, underpinned by our tier one resource base, is what differentiates us from our competitors.

Sustainable infrastructure is not just about new infrastructure; it is about rehabilitation, reuse or the optimisation of existing infrastructure, which is consistent with the principles of sustainability and sustainable product development, whether it be from civil infrastructure to mining sectors. This encompasses infrastructure renewal, long-term economic analysis of infrastructure, energy use and reduced infrastructure costs, the protection of existing infrastructure from environmental degradation, material selection for sustainability, quality, durability and energy conservation, minimising waste and materials, the redesign of infrastructure in light of climate change and the remediation of environmentally damaged areas of our world. Clearly, sustainable infrastructure will lead to improvements to mankind through better socio-economics. Responsible design needs to balance social, economic and environmental issues.

SIS aims to set a responsible standard of sustainable product design and manufacture for our diverse client base in both the short and the long term. We all have a significant impact on the world around us and each of us should play a part in protecting future generations. Designers, engineers and planners have a big responsibility to set standards of product design that benefit the environment and the people who live in it. SIS's aspiration is that ultimately, talking about sustainability will become superfluous, because it will be the expected.

StructuralComp™ FRP (Fibre Reinforced Plastic) is manufactured using only the very best materials guaranteeing stakeholders superior corrosion resistance, product quality, permeated colour and long term overall performance. In most cases, **StructuralComp™** represents the best material to handle any given service environment given our ability to manufacture using specific resin components. It's corrosion resistance combined with strength and extended design life, compared to more traditional materials, makes it the most economical and acceptable solution available today for the construction of pedestrian structures. With a choice of colours and the ability to manufacture to specific fire ratings & codes, **StructuralComp™** FRP is the material of choice for designers, specifiers and installers and is available in three different resin series, each with their own associated benefits. Another distinct advantage of **StructuralComp™** FRP is its low weight-to-strength ratio. Depending on lay-up structure, **StructuralComp™** FRP can weigh approximately 20% of that of steel, and half as much as aluminium. **StructuralComp™** FRP is also non-permeable nor will it conduct electricity making it one of the best materials to specify for the construction of bridges, boardwalks and viewing platforms.

What Materials are used to Manufacture StructuralComp™ FRP Composites?

Polyester Resins

Polyester resins are a family of polymers used to produce a broad range of products. Thermoset polyesters are known as unsaturated polyester resins. They are available in a number of formulations for specific applications. These formulations are usually designated by the principle raw material that determines the performance characteristics of the resulting polymer backbone. Common unsaturated polyester resin formulations include:

- Orthophthalic
- Isophthalic
- Vinyl ester

On the most basic level these resins consist of an unsaturated polyester polymer dissolved in a crosslinking monomer and various additives that compromise a "resin system". Technically, polyester resin is the product of reacting an unsaturated dibasic acid, usually maleic anhydride, with a glycol. The characteristics of the resin are varied by adding a saturated dibasic acid such as orthophthalic anhydride, isophthalic acid or adipic acid.

Polyester Resin Systems

The polyester backbone (orthophthalic, isophthalic, etc.) is combined with a crosslinking monomer to create resin in the commonly used liquid form. The most widely used monomer is styrene. Other common monomers include: Methylmethacrylate (MMA), vinyl toluene (VT), alpha methyl styrene (AMS), para methyl styrene (PMS), and diallyl phthalate (DAP). These are often used in combination with styrene to optimise properties. Additional monomers continued to be explored to minimise environmental impact.

Inhibitors – Because of the tendency of unsaturated polyesters to self-polymerise, inhibitors are added to both the monomer and the formulated resin. Inhibitors slow the curing reaction by reacting with free-radicals before they cause crosslinking between the polymer and the monomer.

Promoters – Sometimes referred to as accelerators, these materials facilitate effective room temperature curing. The promoter reacts with the initiator at the time of moulding. Promoters include cobalt compounds, used with MEKP initiators and aniline compounds, used for co-promoters in a MEKP system and as the primary promoter in ambient conditions with BPO initiators. Polyester resins are available in pre-promoted form, where the resin manufacturer includes the promoter in the product, or in unpromoted formulations where SIS adds promoter prior to processing.

Corrosion Product Resins

Isophthalic Polyester Resin

Isophthalic polyester resins are a broad class of resins formulated from Isophthalic acid, glycols, and maleic anhydride. The specific resin specification is selected to impart desired properties and corrosion resistance. These resins can be used for moderate corrosion resistance applications to a temperature range around 80°C. Isophthalic resins exhibit good resistance to water, acids, weak bases, and hydrocarbons such as petrol and oil.

Vinyl Ester Resin

Technically vinyl ester resins are a polyester resin, however they are normally classified separately from polyesters due to their enhanced mechanical properties and corrosion resistance. Bisphenol A based epoxy vinyl ester resins are methacrylated epoxy polyesters, the Novolac epoxy vinyl ester resins enhance the epoxy component resulting in higher performance. Vinyl esters offer enhanced strength and generally better impact and thermal shock resistance than polyester resins. While the standard epoxy vinyl ester resins are limited to 105 – 120°C in most applications, other versions with higher-density cross-linking are suitable for temperatures above 120°C. These resins exhibit excellent resistance to acids, alkalis, hypochlorites, and many solvents.

Phenolic Resins

The phenolic polymer represents one of the earliest commercialized thermoset resins and first appeared in the late 1800's. Phenolic resins are formed by the reaction of phenol and formaldehyde - it is typically a heat cured thermoset. There are two types of phenolic resins – resole (one-step) and novolac (two-step). Resoles are base-catalysed thermosetting resins that are self cross-linking. Novolacs are catalysed with acids and require a hexamine cross-linker to become thermosetting. Phenolics offer high temperature resistance, excellent resistance to chlorinated solvents and salt water and excellent fire/smoke properties.

Epoxy Resins

Epoxy resins are very similar to vinyl esters. However, while a polyester resin has double carbon to carbon bond sites, epoxies are characterised by the presence of an epoxy group (a three member ring, two carbon and one oxygen). There is another difference between epoxies and polyesters that involves the number of active sites along the polymer backbone. In epoxy resins, these sites are found only at the ends of each polymer or branch chain, while the carbon-carbon double bonds in the polyester backbone occur many times along the polymer chain. Epoxies provide excellent fibre bonding (matrix to fibre) which improves compressive strength, flexural strength, increases inter-laminar shear and enhances toughness (improve impact strength, better damage tolerance).

Corrosion Product Reinforcements

Fiberglass

Continuous glass filaments are formed by drawing molten glass resting on platinum/rhodium bushings through thousands of holes of the appropriate fibre diameter (5 to 25 microns), quenched, sized, and wound into strands of either 102 or 204 filaments. The sizing acts as a coupling agent to bond the resin to the glass filament during resin impregnation.

Typical glass formulations used in corrosion applications:

E-glass – is the most commonly used reinforcement in the composites industry because of its good strength properties, resistance to water degradation and relative cost.

S-Glass – High Strength

C-Glass – Corrosion resistant

Textiles

The importance of the reinforcement to the final end product performance is very critical to SIS. The properties of these textiles also play a very important role in the selection of the fabricating process. Products that may yield very good properties for a hand lay-up product may not be suitable for vacuum infusion, but readily adaptable to RTM.

There are numerous types and forms of reinforcements used in the fabrication of composites. Some are available direct from the fibre producers, others are converted from basic fibre to specialised products by textile manufacturers. The properties exhibited by these various forms of reinforcement will depend upon many factors. These factors may include the type of weave, the weights of the fibres per area, the thickness of the fabric, thread count, fibre diameter and type of fibre.

Woven Reinforcements

Woven composite reinforcements are woven on a loom with the fibres typically aligned in the machine direction (warp). The weaving, over and under the warp fibres is done automatically at relatively high speeds. This weave of crossing fibres is called the fill. If an additional weave that cuts 45° across the fibres is utilised, it is referred to as the bias.

Woven composite reinforcements generally fall into the category of cloth or woven roving. This is the most common type of reinforcement used for large structures because it is available in fairly heavy weights, which enables a rapid build-up of thickness. Textile weavers have developed products that provide desired characteristics for the fabrication of composites. Openness refers to the space between the parallel fibres, and is a measure of the tightness of the weave. It is inversely related to warp and fill counts. The drape of a reinforcement refers to how well the material conforms to the shape of the mould. These and other characteristics are dependant not only upon the fibre properties, but also on the method of which they are woven.

Knitted Reinforcements

Knitted fabrics are woven reinforcements in which the warp and fill fibres are looped to create a fabric with high drape and conformability. These reinforcements provide greater strength and stiffness per unit thickness as compared to woven roving.

Chopped Strand Mat and Chop Reinforcements

Mat reinforcements are roll stock products used in hand lay-up fabrication. Chopped strand mat consists of randomly oriented glass fibre strands that are held together with a styrene soluble binder. Continuous strand mat is similar to chopped strand mat, except that the fibre is continuous and laid down in a swirl pattern. Both hand lay-up and spray-up produce plies with equal physical properties. This is a very economical way to build up thickness, especially with complex moulds.

Continuous Roving Reinforcement

Glass fibres used for continuous roving generally range in diameter from 0.008 to 0.022mm (9 to 23 microns). They start as molten glass (1300°C). These fibres are pulled thru platinum bushings at very high speeds and there may be as many as 4,000 of these tiny fibres to make one filament. These filaments are then gathered into bundles, called strands. They are held together with a special binder or sizing.

Multi-end rovings consist of many individual strands which can be chopped and randomly deposited into a resin matrix. Processes such as spray-up sheet moulding compound, perform use multi-end roving. Filament winding and pultrusion can also use multi-end rovings. Processes that utilise a unidirectional reinforcement such as filament winding or pultrusion will use single-end roving. This product consists of many individual filaments wound into a single strand.

Surface Veils

A veil is a lightweight non-woven fabric that is used in the manufacture of StructuralComp™ fibre reinforced plastics. Nonwoven veils (also known as mats or tissues) are often used for making corrosion barriers in composite tanks, pipes, ducts, flu stacks, fittings, and pump/valve housings. Nonwoven veils are typically made from C-glass fibre, carbon or other synthetic fibre.

The use of a veil inhibits the generation of micro-cracks in composite surfaces. For highly corrosive environments, these veils are usually made from C-glass. The veil can provide the following characteristics or properties to an FRP part:

- Improved surface appearance and profile;
- Improved corrosion resistance and service life;
- Improved abrasion resistance and impact resistance;
- Improved thermal shock properties;
- Improved dye wears and reduced pull forces in pultrusion;
- Prevent underlying glass of weathered FRP parts from blooming to the surface;
- Serve as print blocker of underlying reinforcements.

Manufacturing



Products designed, manufactured and supplied by SIS embody state of the art technology and are engineered by our teams to deliver enhanced performance and sustainably effective operation for customers worldwide. All our products are manufactured to the highest industry standards, following strict quality assurance guidelines. With many employees dedicated to production, quality product and technical expertise is ensured at all times. Excellent long term relationships with our key suppliers of raw materials and components provide confidence in material quality as well as sustainable and efficient manufacturing and supply chain processes.

The close relationship with our research and development division ensures that SIS manufacturing teams can react quickly and professionally to customer needs. SIS has built a reputation based on excellent customer service, high quality manufacturing and on providing the right solution in sustainable product design and manufacturing. Continuous improvement of equipment design, materials and manufacturing technology ensures SIS maintains its capability of offering clients the latest and most commercially viable sustainable products available. SIS also works with clients to develop specific solutions to meet their unique needs through the application of research and development efforts in a partnering relationship.

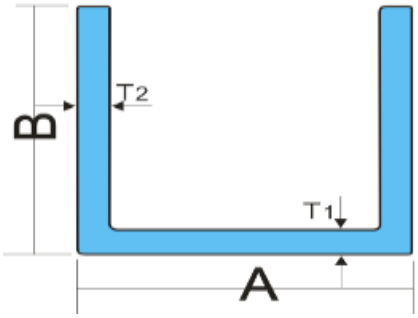
We manufacture and supply products from materials that include:

- Recycled Plastic
- Recycled Plastic Panel
- Fibreglass Reinforced Plastic
- Recycled Wood Plastic Composite
- Recycled Rubber
- Aluminium / Recycled Plastic Composite

With a global network of offices and manufacturing facilities, along with projects in Africa, the Middle East, Asia, Australia and the Pacific Rim, SIS can be trusted to provide easy, efficient and seamless supply to almost all places on earth.

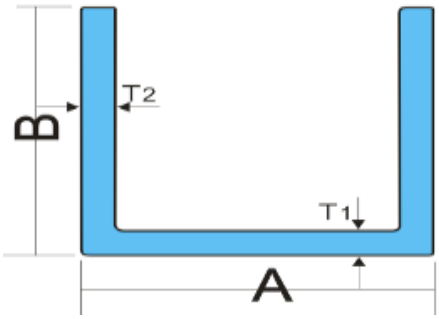
ISO 9001:2008
BUREAU VERITAS
Certification

Profile List
StructuralComp™ FRP

Drawing	Type C Channel (PFC)	Dimension (mm) A B T1 T2	Weight (kg/m)
	SIS-FRP-C25	25x14x3.0x3.0	0.28
	SIS-FRP-C26	26x17x3.2x3.2	0.30
	SIS-FRP-C31	31x25x4.0x4.0	0.65
	SIS-FRP-C32	32x13x3.0x3.0	0.25
	SIS-FRP-C33	33x29x4.0x4.0	0.65
	SIS-FRP-C40	40x24x3.2x3.2	0.50
	SIS-FRP-C45	45x28x4.0x6.4	0.92
	SIS-FRP-C50	50x14x3.2x3.2	0.44
	SIS-FRP-C52	52x50x6.0x6.0	1.63
	SIS-FRP-C70	70x30x4.5x4.5	0.95
	SIS-FRP-C75	75x35x5.0x5.0	1.30
	SIS-FRP-C76A	76x22x6.4x6.4	1.31
	SIS-FRP-C76C	76x38x6.4x6.4	1.70
	SIS-FRP-C90A	90x35x8.0x8.0	2.10
	SIS-FRP-C102A	102x27x3.2x3.2	0.91
	SIS-FRP-C102B	102x29x4.8x4.8	1.42
	SIS-FRP-C102E	102x44x4.8x4.8	1.65
	SIS-FRP-C102F	102x44x6.4x6.4	2.10
	SIS-FRP-C120A	120x25x5.0x5.0	1.52
	SIS-FRP-C120B	120x30x5.0x5.0	1.62
	SIS-FRP-C120C	120x30x5.0x5.0	1.72
	SIS-FRP-C120D	120x40x5.0x5.0	1.81
	SIS-FRP-C120E	120x40x5.0x5.0	1.90
	SIS-FRP-C145	145x25x5.0x5.0	1.80

NOTE: All SIS StructuralComp™ profiles are available in either Isophthalic (ISO) or Vinyl Ester (VE) resins.
Some profiles are also available in Phenolic (PH) resins – contact SIS for further details.

Profile List
StructuralComp™ FRP

Drawing	Type C Channel (PFC)	Dimension (mm) A B T1 T2	Weight (kg/m)
	SIS-FRP-C150A	150x8x3.5x3.5	1.09
	SIS-FRP-C150B	150x100x6.4x6.4	4.10
	SIS-FRP-C152A	152x42x4.8x4.8	2.03
	SIS-FRP-C152B	152x42x6.4x6.4	2.72
	SIS-FRP-C152C	152x42x9.5x9.5	3.95
	SIS-FRP-C152D	152x50.8x9.5x9.5	4.35
	SIS-FRP-C160	160x48x8.0x8.0	3.70
	SIS-FRP-C203A	203x56x6.4x6.4	3.68
	SIS-FRP-C203B	203x56x9.5x9.5	5.34
	SIS-FRP-C203C	203x102x12.7x12.7	9.20
	SIS-FRP-C210A	210x55x5.0x5.0	2.95
	SIS-FRP-C210B	210x80x5.0x5.0	3.42
	SIS-FRP-C210C	210x85x5.0x5.0	3.52
	SIS-FRP-C240A	240x72x8.0x8.0	5.70
	SIS-FRP-C240B	240x115x5.0x5.0	4.40
	SIS-FRP-C254	254x70x12.7x12.7	8.90
	SIS-FRP-C260	260x76.2x12.7x12.7	9.5
	SIS-FRP-C290	290x70x12.7x12.7	9.8
	SIS-FRP-C292	292x70x12.7x12.7	9.60
	SIS-FRP-C310A	310x115x5.0x5.0	5.10
	SIS-FRP-C381	381x90x10.0x10.0	10.50
	SIS-FRP-C436	436x90x10.0x10.0	11.70
	SIS-FRP-C491	491x12x90x10.0	14.30
	SIS-FRP-C902	902x100x10.0x10.0	20.60
	SIS-FRP-C970	970x40x10.0x10.0	19.90

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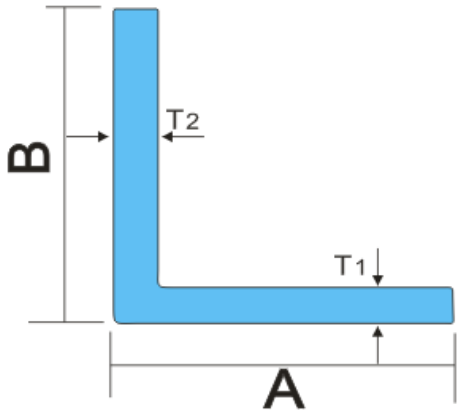
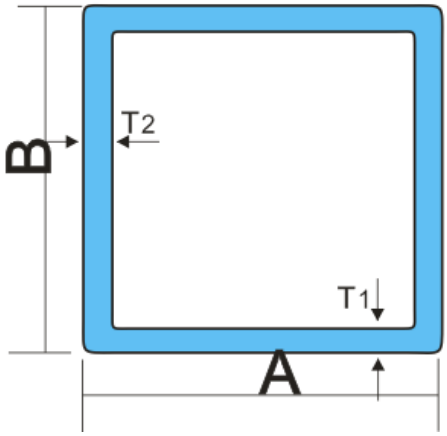
Profile List
StructuralComp™ FRP

Drawing	Type Angle Bar	Dimension (mm) A B T1 T2	Weight (kg/m)
	SIS-FRP-EL25A	25x25x3.2x3.2	0.33
	SIS-FRP-EL25B	25x25x6.4x6.4	0.56
	SIS-FRP-EL30A	30x30x4.0(75°)	0.46
	SIS-FRP-EL30B	30x30x5.0x5.0	0.57
	SIS-FRP-EL32	32x32x4.0x4.0	0.42
	SIS-FRP-EL38A	38x38x3.2x3.2	0.68
	SIS-FRP-EL38B	38x38x6.4x6.4	0.85
	SIS-FRP-EL45	45x45x4.8x4.8	0.75
	SIS-FRP-EL50A	50.8x50.8x3.2x3.2	0.61
	SIS-FRP-EL50B	50x50x6.4x6.4	1.14
	SIS-FRP-EL60	60x60x9.0x9.0	1.9
	SIS-FRP-EL76C	76x76x6.4x6.4	1.77
	SIS-FRP-EL76D	76x76x9.5x9.5	2.57
	SIS-FRP-EL76E	76x76x12.7x12.7	3.4
	SIS-FRP-EL101A	101x101x6.4x6.4	2.5
	SIS-FRP-EL101B	101x101x8x8	2.95
	SIS-FRP-EL101C	101x101x9.5x9.5	3.48
	SIS-FRP-EL101D	101x101x12.7x12.7	4.57
	SIS-FRP-EL152A	152x152x6.4x6.4	3.62
	SIS-FRP-EL152B	152x152x9.5x9.5	5.42
	SIS-FRP-EL152C	152x152x12.7x12.7	7.01
	SIS-FRP-L40	40x22x4.0x4.0	0.45
	SIS-FRP-L100	100x50x6.4x6.4	1.8
	SIS-FRP-L145	145x76x9.5x9.5	3.85
	SIS-FRP-L170	170x76x9.5x9.5	4.4
	SIS-FRP-L180	180x80x8.0x8.0	3.89
	SIS-FRP-L254	254x40x6.4x6.4	3.61

NOTE: All SIS StructuralComp™ profiles are available in either Isophthalic (ISO) or Vinyl Ester (VE) resins.
Some profiles are also available in Phenolic (PH) resins – contact SIS for further details.

Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	Square Tube	A B T1 T2	
	SIS-FRP-ST25A	25x25x2.8x2.8	0.50
	SIS-FRP-ST25B	25x25x3.2x3.2	0.53
	SIS-FRP-ST25C	25x25x6.4x6.4	0.90
	SIS-FRP-ST32	32x32x6.4x6.4	1.24
	SIS-FRP-ST38A	38x38x3.2x3.2	0.85
	SIS-FRP-ST38B	38x38x5.0x5.0	1.25
	SIS-FRP-ST38C	38x38x6.4x6.4	1.54
	SIS-FRP-ST44A	44x44x3.2x3.2	1.01
	SIS-FRP-ST44B	44x44x6.4x6.4	1.83
	SIS-FRP-ST50A	50x50x3.2x3.2	1.14
	SIS-FRP-ST50B	50x50x3.5x3.5	1.24
	SIS-FRP-ST50C	50x50x4.0x4.0	1.42
	SIS-FRP-ST50D	50x50x5.0x5.0	1.74
	SIS-FRP-ST50E	50x50x6.4x6.4	2.12
	SIS-FRP-ST54A	54x54x3.2x3.2	1.24
	SIS-FRP-ST54B	54x54x4.8x4.8	1.78
	SIS-FRP-ST60A	60x60x5.0x5.0	2.10
	SIS-FRP-ST64A	64x64x3.2x3.2	1.48
	SIS-FRP-ST64B	64x64x4.4x4.4	1.97
	SIS-FRP-ST64C	64x64x6.4x6.4	2.80
	SIS-FRP-ST76A	76x76x3.2x3.2	1.77
	SIS-FRP-ST76B	76x76x5.0x5.0	2.70

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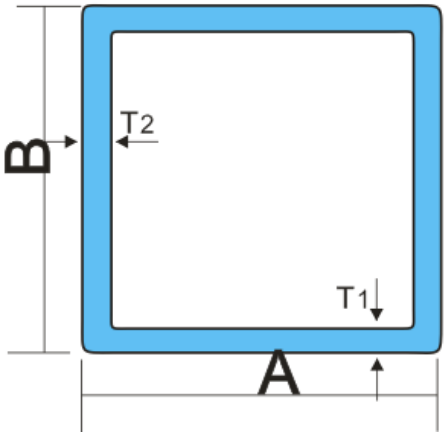
Profile List
StructuralComp™ FRP

Drawing	Type Square Tube	Dimension (mm) A B T1 T2	Weight (kg/m)
	SIS-FRP-ST76C	76x76x6.4x6.4	3.39
	SIS-FRP-ST101A	101x101x5.0x5.0	2.38
	SIS-FRP-ST101B	101x101x5.0x5.0	3.61
	SIS-FRP-ST101C	101x101x6.4x6.4	4.61
	SIS-FRP-ST120A	125x125x6.4x6.4	
	SIS-FRP-ST120B	125x125x8x8	
	SIS-FRP-ST120C	125x125x10x10	
	SIS-FRP-ST152A	152x152x6.4x6.4	7.10
	SIS-FRP-ST152B	152x152x9.5x9.5	10.40
	SIS-FRP-ST152C	152x152x12.7x12.7	13.50

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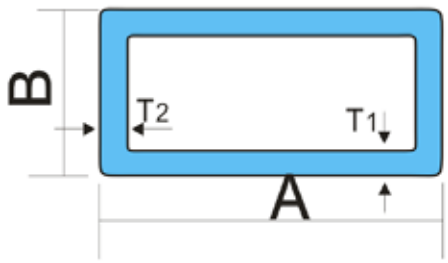
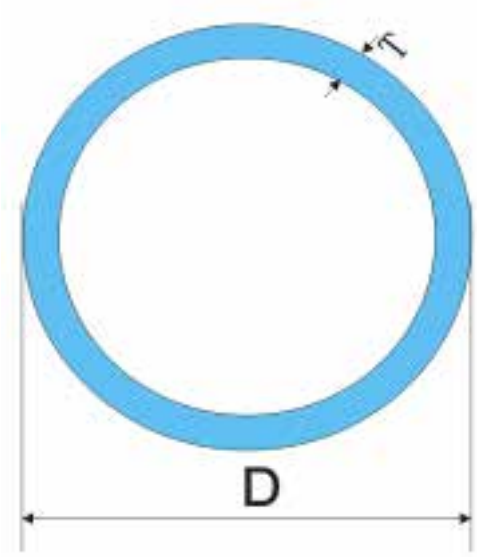
Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	Rectangular Tube	A B T1 T2	
	SIS-FRP-FT38	38.1x25.4x4.76	0.93
	SIS-FRP-FT50A	51x25x3.0x3.0	0.79
	SIS-FRP-FT50B	51x25x6.4x6.4	1.54
	SIS-FRP-FT50C	50.8x20x6.4	1.33
	SIS-FRP-FT50D	50.8x38.1x6.4	1.74
	SIS-FRP-FT51A(stair)	51x25x4.0x4.0	1.01
	SIS-FRP-FT51B(stair)	51x38x4.0x4.0	1.22
	SIS-FRP-FT52(stair)	52x35x5.0x5.0	1.41
	SIS-FRP-FT80	80x60x5.0x5.0	2.50
	SIS-FRP-FT91A	91x38x4.0x4.0	1.78
	SIS-FRP-FT100A	100x75x5x5	
	SIS-FRP-FT112A	112x91x6.4x6.4	4.46
	SIS-FRP-FT120A	120x45x3.0x3.0	2.00
	SIS-FRP-FT150A	150x50x5x5	
	SIS-FRP-FT175	175x50x9.0x9.0	7.00
	SIS-FRP-FT186	186x32x4.75	3.60
	SIS-FRP-FT197	197x44.3x5	4.20

NOTE: All SIS StructuralComp™ profiles are available in either Isophthalic (ISO) or Vinyl Ester (VE) resins.
Some profiles are also available in Phenolic (PH) resins – contact SIS for further details.

Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	Round Tube	DT	
	SIS-FRP-RT25	25x3.2	0.44
	SIS-FRP-RT26A	26x3.0	0.42
	SIS-FRP-RT26B	26x4.8	0.63
	SIS-FRP-RT32A	32x3.2	0.55
	SIS-FRP-RT32B	32x5.0	0.81
	SIS-FRP-RT32C	32x6.0	0.96
	SIS-FRP-RT38A	38x3.2	0.65
	SIS-FRP-RT38B	38x4.0	0.81
	SIS-FRP-RT38C	38x5.0	1.00
	SIS-FRP-RT38D	38x6.4	1.18
	SIS-FRP-RT41	41x4.5	0.98
	SIS-FRP-RT42A	42x3.2	0.70
	SIS-FRP-RT42B	42x5.0	1.11
	SIS-FRP-RT42C	42x6.4	1.45
	SIS-FRP-RT48	48x6.4	1.58
	SIS-FRP-RT50A	50x3.2	0.84
	SIS-FRP-RT50B	50x4.0	1.10
	SIS-FRP-RT50C	50x5.0	1.34
	SIS-FRP-RT50D	50x6.4	1.67
	SIS-FRP-RT50E	50x3.5	0.96
	SIS-FRP-RT50.8A	50.8x6.4	1.70
	SIS-FRP-RT50.8B	50.8x3.2	0.86

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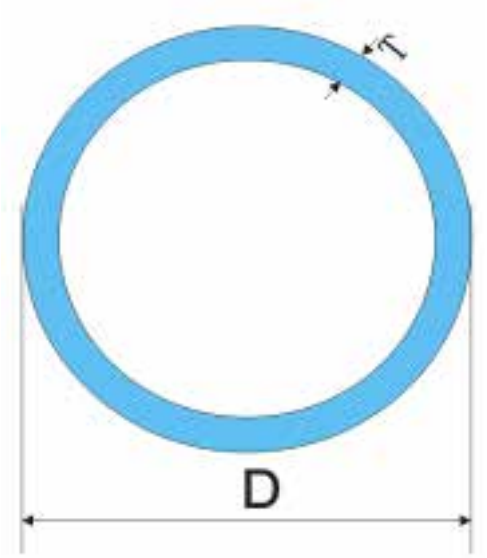
Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	Round Tube	DT	
	SIS-FRP-RT64A	64x3.5	1.26
	SIS-FRP-RT64A	64x6.4	2.38
	SIS-FRP-RT75	75x4.2	1.80
	SIS-FRP-RT76	76x6.4	2.64
	SIS-FRP-RT89A	89x3.2	1.54
	SIS-FRP-RT89B	89x5.0	2.51
	SIS-FRP-RT89C	89x6.4	3.13
	SIS-FRP-RT99	99x5.0	2.81
	SIS-FRP-RT101	101x6.4	3.62
	SIS-FRP-RT114A	114x3.2	2.12
	SIS-FRP-RT114B	114x5.0	3.25
	SIS-FRP-RT114C	114x6.4	4.11
	SIS-FRP-RT114D	114x9.5	5.93
	SIS-FRP-RT150A	150x3.2	2.81
	SIS-FRP-RT150B	150x5.0	4.35
	SIS-FRP-RT150C	150x6.4	5.50
	SIS-FRP-RT150D	150x9.5	8.00

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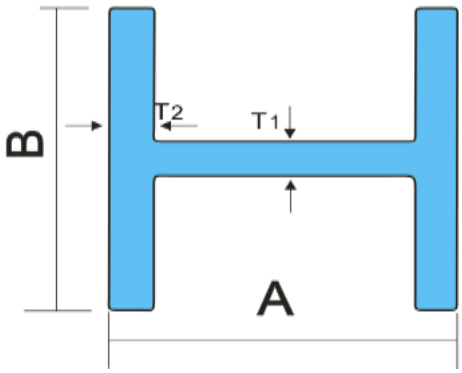
Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	H Beam	A B T1 T2	
	SIS-FRP-HB76	76x76x6.4x6.4	2.67
	SIS-FRP-HB102A	102x102x6.4x6.4	3.59
	SIS-FRP-HB102B	102x102x8.0x8.0	4.5
	SIS-FRP-HB152A	152x152x6.4x6.4	5.43
	SIS-FRP-HB152B	152x152x9.5x9.5	8.1
	SIS-FRP-HB203A	203x203x9.5x9.5	10.8
	SIS-FRP-HB203B	203x203x12.7x12.7	14.36
	SIS-FRP-HB203C	203x203x6.4x6.4	7.5
	SIS-FRP-HB254A	254x254x9.5x9.5	13.6
	SIS-FRP-HB254B	254x254x12.7x12.7	18.04
	SIS-FRP-HB305	305x305x12.7x12.7	21.5

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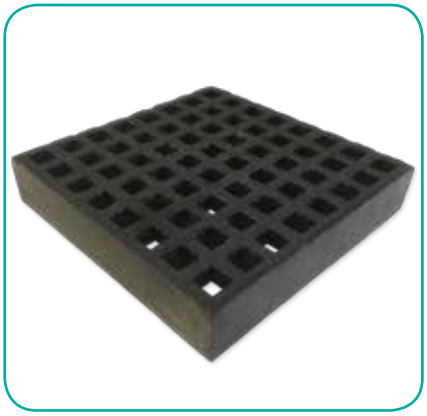
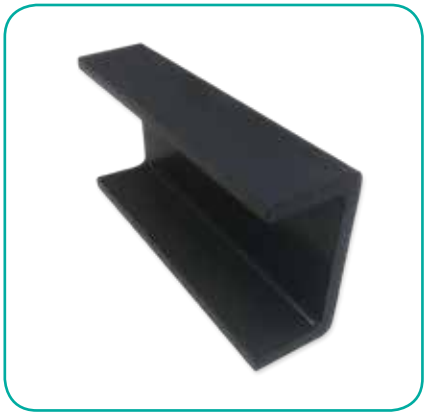
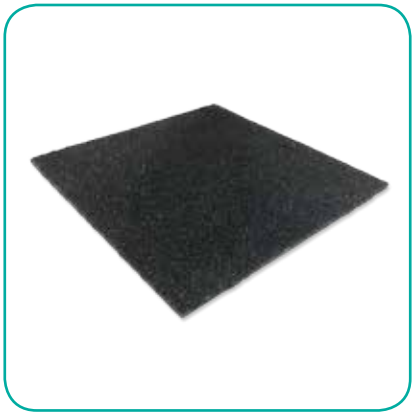
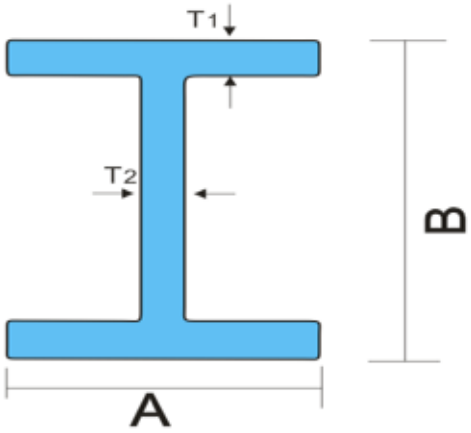






Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	I Beam	A B T1 T2	
	SIS-FRP-IB25	15x25x6.4x4.0	0.4
	SIS-FRP-IB32	15x32x6.4x4.0	0.44
	SIS-FRP-IB38A	15x38x4.0x6.4	0.51
	SIS-FRP-IB38B	30x38x3.0x3.0	0.53
	SIS-FRP-IB45A	45x180x12.0x9.0	5.2
	SIS-FRP-IB45B	45x180x12.7x12.7	6
	SIS-FRP-IB50A	50x102x6.4x6.4	2.4
	SIS-FRP-IB50B	50x102x8.0x8.0	3
	SIS-FRP-IB60B	60x180x6.4x6.4	3.6
	SIS-FRP-IB76A	60x180x6.4x6.4	3.59
	SIS-FRP-IB76B	76x152x9.5x9.5	5.32
	SIS-FRP-IB102A	102x203x9.5x9.5	7.2
	SIS-FRP-IB102B	102x203x12.7x12.7	9.5
	SIS-FRP-IB120	120x240x12x12	10.5
	SIS-FRP-IB127A	127x254x9.5x9.5	9
	SIS-FRP-IB127B	127x254x12.7x12.7	11.9
	SIS-FRP-IB127C	127x152x9.5x9.5	7.1
	SIS-FRP-IB127D	127x152x12.7x12.7	9.2
	SIS-FRP-IB152A	152x305x9.5x9.5	10.74
	SIS-FRP-IB152B	152x305x12.7x12.7	14.3

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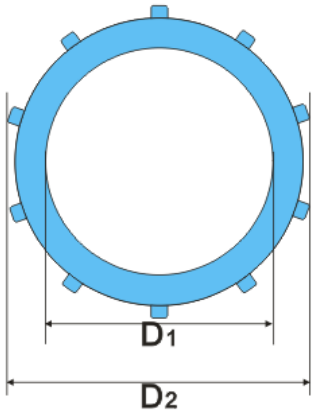
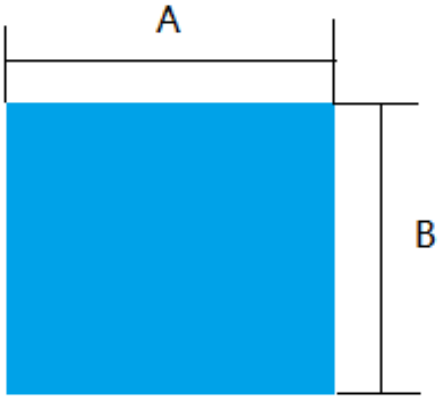
Profile List
StructuralComp™ FRP

Drawing	Type Corrugated Round Tube	Dimension (mm) D1 D2	Weight (kg/m)
	SIS-FRP-CT32A	19x32x6.4	1.11
	SIS-FRP-CT32A	19x34x7.5	1.3
	SIS-FRP-CT32B	25x32x3.5	0.66
	SIS-FRP-CT42	29x42x6.4	1.35
	SIS-FRP-CT45A	28x45x8.5	1.86
	SIS-FRP-CT45B	32x45x6.4	1.1
	SIS-FRP-CT51	51x36x7.0	1.75
	SIS-FRP-CT90B	71x90x9.5	5.7

Drawing	Type Solid Square Rod	Dimension (mm) A B	Weight (kg/m)
	SIS-FRP-SSR19	19x19	0.69
	SIS-FRP-SSR20	20x20	0.76
	SIS-FRP-SSR25	25x25	1.23
	SIS-FRP-SSR32	32x32	1.95
	SIS-FRP-SSR38	38x38	2.75
	SIS-FRP-SSR44	44x44	3.68
	SIS-FRP-SSR50	50x50	4.76
	SIS-FRP-SSR64	64x64	7.78
	SIS-FRP-SSR76	76x76	10.98
	SIS-FRP-SSR12.7	12.7x12.7	0.31

NOTE: All SIS StructuralComp™ profiles are available in either Isophthalic (ISO) or Vinyl Ester (VE) resins.
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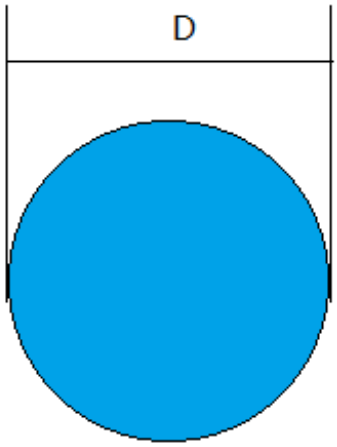
Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	Solid Round Rod	A B	
	SIS-FRP-SRR60	6.0	0.08
	SIS-FRP-SRR95	9.5	0.14
	SIS-FRP-SRR127	12.7	0.26
	SIS-FRP-SRR254	25.4	1.00
	SIS-FRP-SRR328	31.8	1.51
	SIS-FRP-SRR380	38	2.15
	SIS-FRP-SRR42	4.2	0.03
	SIS-FRP-SRR80	8.0	0.10
	SIS-FRP-SRR16	16	0.41
	SIS-FRP-SRR19	19	0.55
	SIS-FRP-SRR20	20	0.62
	SIS-FRP-SRR22	22	0.72

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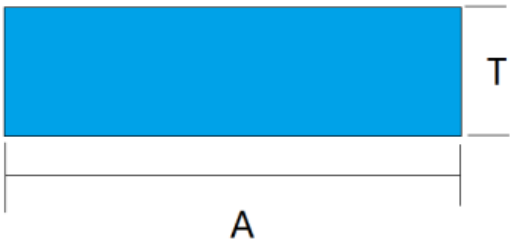
Profile List
StructuralComp™ FRP

Drawing	Type	Dimension (mm)	Weight (kg/m)
	Flat Plate	Thickness x Width	
	SIS-FRP-FP32	3.2X1220	7.42
	SIS-FRP-FP64	6.4X1220	14.84
	SIS-FRP-FP95	9.5X1220	22.02
	SIS-FRP-FP127	12.7X1220	29.44
	SIS-FRP-FP152	15.2X1220	35.3
	SIS-FRP-FP190	19X1220	44.1
	Flat Strip	Thickness x Width	
	SIS-FRP-FS19	19x6.4	0.25
	SIS-FRP-FS30A	30x3.0	0.7
	SIS-FRP-FS30B	30x6.4	0.37
	SIS-FRP-FS35	35x8.0	0.54
	SIS-FRP-FS38	38x5.0	0.37
	SIS-FRP-FS40	40x8.0	0.62
	SIS-FRP-FS50B	50x4.0	0.38
	SIS-FRP-FS50C	50x8.0	0.76
	SIS-FRP-FS50D	50x15	1.43
	SIS-FRP-FS50E	50x17	1.7
	SIS-FRP-FS102	102x5.0	0.97
	SIS-FRP-FS152	152x20	5.9
	SIS-FRP-FS190	190x15	5.42
	SIS-FRP-FS280	280x10	5.32



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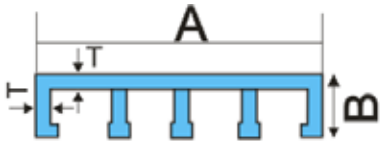
Profile List
StructuralComp™ FRP

Drawing	Type Deck	Dimension (mm) Length x Width x Thickness	Weight (kg/m)
	SIS-FRP-DECK150	150x45x5x4	8.5
	SIS-FRP-DECK250	250x40x5x6	12
	SIS-FRP-DECK600	600x40x5x6	9.8

Drawing	Type Stair Nosing	Dimension (mm) Length x Width x Thickness	Weight (kg/m)
	SIS-FRP-SN25A	25x60x3.0	0.5
	SIS-FRP-SN25B	25x50x3.0(75°)	0.45
	SIS-FRP-SN25C	25x50x3.2(90°)	0.75
	SIS-FRP-SN25D	25x50x4.0(90°)	0.7
	SIS-FRP-SN25E	25x100x3.2(87°)	0.8
	SIS-FRP-SN30A	30x70x4.0(90°)	0.9
	SIS-FRP-SN30B	30x70x3.2(90°)	0.6
	SIS-FRP-SN30C	30x76x3.0	0.8
	SIS-FRP-SN30D	30x76x4.0	0.9
	SIS-FRP-SN50	50x90x3.2	0.45
	SIS-FRP-SN55A	55x55x3.2(87°)	0.51
	SIS-FRP-SN55B	55x70x3.2(87°)	0.75
	SIS-FRP-SN30A-R	30x100x3.2	0.8
	SIS-FRP-SN30B-R	30x230x3.2	1.6
	SIS-FRP-SN30A-S	30x100x3.2	0.85
	SIS-FRP-SN30B-S	30x152x3.2	1.2
	SIS-FRP-SN30C-S	30x230x3.2	1.7
	SIS-FRP-SN30D-S	30x381x3.2(87°)	2.7
	SIS-FRP-SN55A-S	55x300x4.0(90°)	2.8
	SIS-FRP-SN55B-S	55x345x4.0(87°)	3.85
	SIS-FRP-SN55C-S	55x400x3.2	2.8

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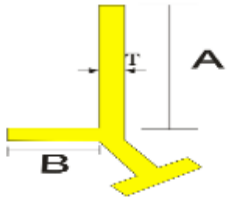
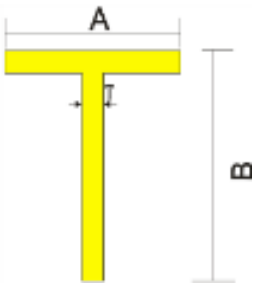
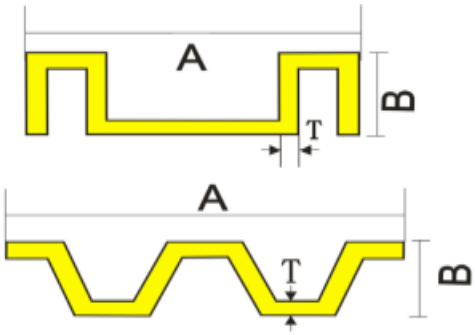
Profile List
StructuralComp™ FRP

Drawing	Type Y-Shape	Dimension (mm) Length1 x Length2 x Thickness	Weight (kg/m)
	SIS-FRP-YS25	25x38x6.4	1.4
	SIS-FRP-YS38	38x38x6.4	1.6
	SIS-FRP-YS50	50x38x6.4	1.7
	T-Shape	A B T	
	SIS-FRP-TS54A	54x6.0x31x6.0	0.89
	SIS-FRP-TS54B	54x5.0x45x6.0	1.1
	SIS-FRP-TS60	60x6.0x46x6.0	1.3
	SIS-FRP-TS78	76x6.4x44.5x6.0	1.38

Drawing	Type Kick Plate	Dimension (mm) A B T	Weight (kg/m)
	SIS-FRP-M2-M-Shape	100x13x3.2	1.10
	SIS-FRP-M3-M-Shape	100x16x5.0	1.30
	SIS-FRP-M4-M-Shape	148x12x3	1.27
	SIS-FRP-W1-W-Shape	100x19x5.0	1.36
	SIS-FRP-W2-W-Shape	100x15x3.2	1.10
	SIS-FRP-W3-W-Shape	100x15x3.2	1.10

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