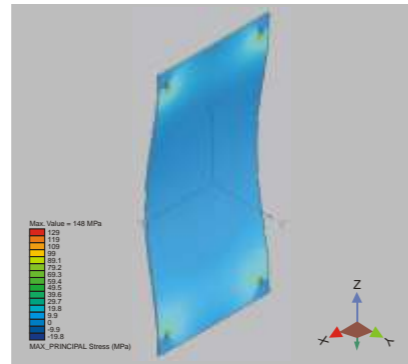
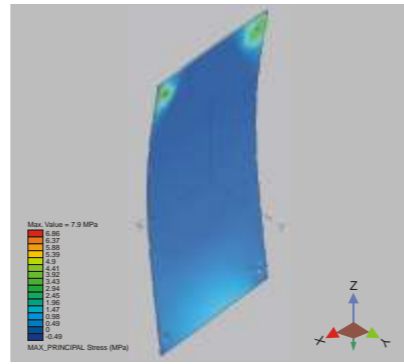


GSC has one of the most hi-tech computing solutions in terms of hardware and software. The fittings are designed on sophisticated CAD systems in a 3D environment. The fittings are visualized before they are produced. These CAD 3D models are read into another very advanced software for further analysis, if required. This software can analyze stresses, deflections, thermal stresses, fatigue etc. Satisfied with the designs, these are then planned for manufacturing on the most innovative CAM systems, which generate manufacturing programs for the CNC metal working centres for actual production. This entire process from design to actual production is done on computers, without involving any manual process. Furthermore, the entire set of processes are networked for streamlined operation.



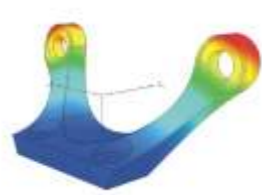
Finite Element Analysis
Stresses on glass on rigid support.



Finite Element Analysis
Stresses on glass on flexible support.

FROM DESIGN

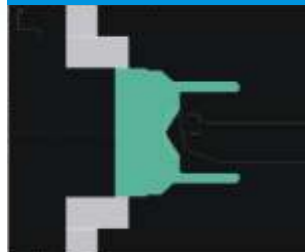
TO ANALYSIS



Drawing Created on 3D Design Centre

Finite Element Analysis

TO CAM



CAM Centers for Turning and Milling

TO MANUFACTURING



CNC Machining Centre

TO EXECUTION



EUROPE

GSC StarConstruct NV
Oudenaardse steenweg 186
8580 Avelgem, Belgium
Phones : +32 56 32 32 03
Fax: +32 56 32 32 04

INDIA

WORKS (Delhi)
5 & 7, Udyog Vihar
Greater Noida - 201 306
U.P., India,
Phones : +91 120 2569922, 33, 44
Reliance No.: +91 11 35379732
Fax : +91 120 2560877
e-mail : gsc@gscglass.com

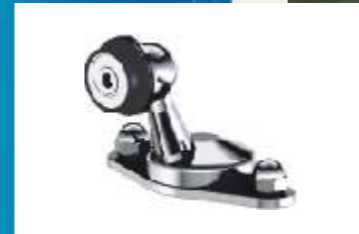
DELHI OFFICE:- 802
Arjun Nagar, Kotla Mubarkpur
(Opp. Defence Colony)
New Delhi - 110 003
Phones : +91 11 41021222 (8 lines)
Fax : +91 11 41021220, 221,
e-mail : delhi@gscglass.com

MUMBAI OFFICE & WORKS
R - 50-52, TTC Industrial Area
Rabale, MIDC Pipeline Road
Navi Mumbai - 400 701
Phones : +91 22 27607409 (4 lines)
65138218, 19
Fax : +91 22 27698811, 33
e-mail : mumbai@gscglass.com

BANGALORE OFFICE
Hotel Ujjwala International Complex,
V - 2, 1st Stage
Peenya Industrial Estate
Bangalore - 560 058
Phones: +91 80 41179402
Reliance No.: +91 80 36738971
TeleFax : +91 80 41179401
e-mail : bangalore@gscglass.com

E-mail: info@starconstruct.be
Website: www.starconstruct.be

For a Free Guide on Glass contact GSC.



iDen - 91-9811817864

GLASS FITTINGS

GSC provides complete solutions at a one stop shop and is manufacturing various types of metal fittings for glass assemblies, door systems, shower cubicles and structural glazing. GSC is exporting fittings for worldwide distribution which have already been installed in many prestigious projects. New developments and quality improvements are a continuous process at GSC. New requirements from customers helps add new fitting solutions to the existing range. New coatings and finishes are also being developed in addition to an increased range of products.



CLASSIC RANGE OF SPIDERS

With Rigid (Fixed) Bolts



Unique and timeless design made from Solid Round bars. Casting free design makes it possible to machine finish the components on CNC machines. The machine finished components are assembled in bolted form to give a strength to withstand higher wind-loads. All components are in SS316. These are available in widest range of mounting positions. Special intermediate mountings are available to mount these on concrete, pipes, tubes and other structures. These can be specially designed for custom requirements. The mounting elements allow on site adjustments while arresting movements / rotation of spiders on loaded conditions.

With Knuckled (Articulated) Bolts



PA Series Spiders

- Made from all Stainless Steel SS304 Machined components, in machine finish
- Machined from solids. No casted components
- Special fixing bolts for fixing on special pressure plates
- Custom made arrangements for fixing available
- Design / Drawings of Façades to requirement are available.



SK Series Spiders



Made from SS316 using special precision casting methods, these spiders are offered in excellent brush as well as mirror polished finishes. Higher weight at higher loaded areas enable these spiders to be used in heavy duty applications and offer much higher design load possibilities, unknown to most spiders from competition. The design of these spiders offers high on-site adjustment possibilities, special mounting possibilities and to add to all – low cost. These spiders can be very easily used in applications using extra thick glasses as well as for DGU's on spider applications where weight of the glass itself is very high.

BUTTERFLIES RANGE OF Spring Plates

Spring Plates in aesthetic Butterfly design are made from all SS316 components. The Unique design has eccentric toothed rings to allow easy installation with adjustments of +5mm on site. Springing action of plates reduces effective wind-loads on the glass. The steel plates are finished on finishing machines giving a uniform and aesthetic hairline finish. Also available in Satin and mirror polish finish. The butterfly range is available in Knuckled (Articulated) or Rigid Bolts.

With Knuckled (Articulated) Bolts



With Rigid (Fixed) Bolts



Bolts



Besides the Standard fixing fittings, Special bolts are available for non standard applications. These bolts are made from SS316 Machined components and can be used in variety of applications including fixing of glass panels to walls, stair case side panels, specialized bolts for laminated glass and insulated glass are also available.

MN3 Series



- Made from all Stainless Steel SS316 Machined components, in machine finish
- Machined from solids. No casted components
- Special fixing bolts for fixing on special pressure plates
- Custom made arrangements for fixing available
- Design / Drawings of Facades to requirement are available.
- Eccentric rings for tolerance on glass dimensions
- Also suitable as normal / sliding door hardware
- Cover plates for excentric rings available

FIN PLATES

Fin Plates are available for Bolted Structural Glazing with Glass Fins as a structural element and is available in widest range catering to all installation possibilities. Made from SS316 Plates and given excellent aesthetic hairline finish. Also available in Satin and Mirror Polish finish. The range of fin plates allow bolted structural glazing to merge with either Classic spiders or Butterfly range and have all possible installation possibilities. These are available in various configurations and special ones are also possible. Please contact GSC for more details.

For Classic Range

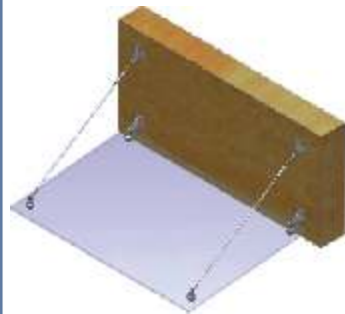


For Butterfly Range



Canopy

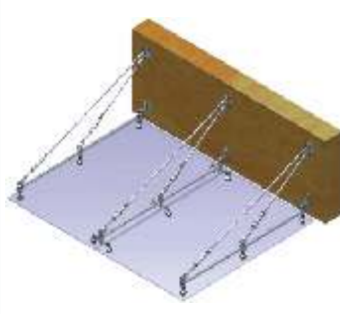
Ultra Lite



This type is meant for canopies $\pm 1\text{m}$ wide and 1.5 to 1.8m long with 1 sheet of glass. It is very simple and the fixing of the glass is done by 4 fixed bolts type MN3 with 33mm \emptyset .

Glass thickness can vary between LG 88.4 and LG 1212.4 according to the sizes of the glass and the expected snow/wind load. In order to enable thinner glass, the distance of the bolt to the edge of the glass can be increased to 300mm in both directions. All materials with exception of the glass are in stainless steel AISI 316.

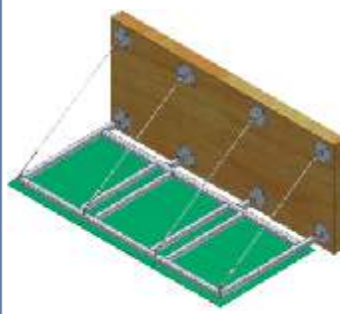
Lite



This type is meant for canopies ± 1.5 to 2m wide and 4 to 5m long divided in length in glass panels of 1 to 1.2m wide. The glass panels have sizes of 1.5/3m x 1/1.2m and 6 countersunk holes. The glass panels are fixed with 4/6 fixed bolts $\emptyset 33\text{mm}$ (type MN3).

The bolts and bolt hangers are stabilized by a thick pipe 33mm \emptyset and 3mm thick. Glass thickness can vary between LG 88.4 and LG 1212.4 according to the sizes of the glass and the expected snow/wind load. In order to enable thinner glass, the distance of the bolt to the edge of the glass can be increased to 300mm in 1 direction. All materials with exception of the glass are in stainless steel AISI 316.

Medium



This type is comparable with the Lite system but permits a larger width of the individual glass panels. This means canopies of 1.5m to 3m wide and 5 to 10m long divided in length with glass panels to 1.5m wide. The glass panels have sizes of 1.5/3m x 1.2/1.5m and 4/6 countersunk holes. The glass panels are fixed with fixed bolts $\emptyset 30\text{mm}$ type FBE3-B (countersunk and settlement possibilities with eccentric system). The bearing construction is made of mild steel and the FBE3-B type bolts can be fixed straight to it. Alternatively also bolts of the HRF5 can be used. Those bolts also have an eccentric settlement system to absorb small tolerances, but need straight holes instead of countersunk holes in the glass. Glass thickness can vary between LG 88.4 and LG 1212.4 according to the sizes of the glass, the number of fixings and the expected snow/wind load.

Heavy



This type doesn't need much information. It is meant for canopies of big size. Those canopies use a heavy mild steel construction whereon via intermediates the Classic spiders are fixed foreseen of KNB for laminated glass. Glass thickness can vary between LG 88.4 and LG 1212.4 according to the sizes of the glass, the number of fixings and the expected snow/wind load.

PATCH FITTINGS

One of the best patch fittings in the market that surpass competition on various design features.

- Original and unique design yet compatible with most popular cutouts.
- Unique weather resistant grip gasket with slip free texture & design.
- Corrosion resist and Cover plates in SS316.
- Corrosion Resistant SS fasteners.
- Range available with all stainless steel parts.
- Range available for thick & large sized doors.
- Most patch fittings are available in Hairline / Brush, Satin and Mirror finish.
- Handles available in different dimension lengths



Handle ECHI



SHOWER HINGES



Entire range of Shower Hinges is made in Stainless Steel 316. All components, including inner parts are of SS ensuring corrosion resistance even after years of use. The unique design has maximum grip and special grip gasket that ensures slip free operation. The working is totally noiseless and smooth. Available in Wall to Glass, Glass to Glass and 135 Deg. versions Finishes - Hairline / Brush, Satin and Mirror Polish.

Accessories

Special Accessories are available for special mounting requirements. Even custom made accessories can be made. These accessories also include standard tools for Mounting, Opening, Assembling of all series of fittings.

Contact GSC for more details.



Special Constructions



Special Glass Constructions



Special Structures

GSC StarConstruct provides design, fabrication and testing services for special constructions which include steel structure fabrications like trusses, pipe structures in MS / SS, Special glass constructions like enclosures, walkways, glass step stairs. GSC has facilities to design, manufacture and supply custom made fittings suited to these special constructions



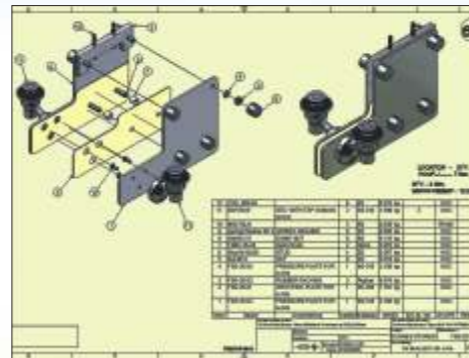
MS / SS Trusses



Pipe Structures



Specialized Weldings



Custom Made Fittings

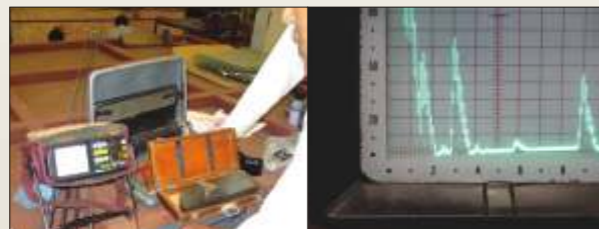
Design, Analysis & Testing

Using 2D/3D CAD softwares and various Structural as well as finite element analysis softwares, GSC can provide complete design services for these special constructions

GSC can also provide critical testing for these structures which could be welding tests, structure testing as well as component testing.



Specialized Inspections



Ultra Sonic Crack Detection



Magnetic Particle Weld Test

Some References

Indian Projects



St. Larn Hotel, Pune



East Delhi Mall, Delhi



Express Trade Tower, Noida



Express Trade Tower, Noida



Sahara Star, Mumbai



Le Meridien, New Delhi



Berjaya House, New Delhi



Intercontinental, New Delhi

International Projects



Luxembourg Main Station



Haubourdin, France



Olympiades, Brussels



Luxembourg Airport



Prince Henri, Luxembourg



Dunnes Stores, Dublin



Bewleys Hotel, Dublin



Enschede, Holland