IMPORTANT NOTE

Technical data and contents may not be current.

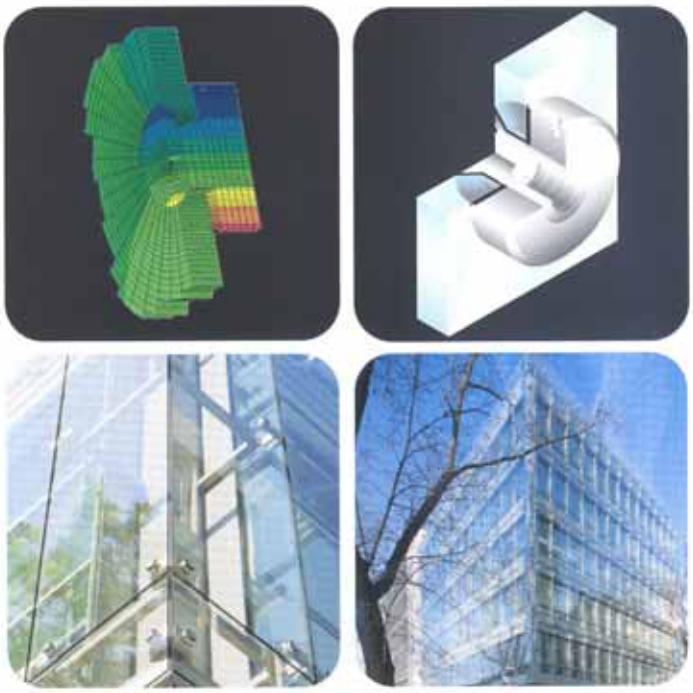
Please use the print option from the website for current information

LITEWALL®

MONO

CERTIFIED ECKELT DIBT Berlin Z-70.2-19

SAINT-GOBAIN
GLASS



LITEWALL

The point-fixed high-performance glass facade system.

MONO

ECKELT

General Building Control Licence issued by the
German Institute for Building Technology (DIBt) Berlin
Permit Nr.: Z - 70.2 -19

Samsung Headquarters Renovation, Seoul-Korea

LITEWALL-MONO is a tried and tested point-fixed glazing sytem designed to allow vast expanses of frameless, lightweight and transparent glass facades to be created.

The wide variety of sub frame connection possibilities - steel, aluminium or glass - can achieve filigree suspension systems using a minimum of obtrusive structural members.

The overall architectural appearance of these aesthetic solutions is one of light, transparency and clear views.

The individual glass sheets of the system LITEWALL-MONO are of specially tempered glass, which safely contain and withstand the stress peaks of the load transfers through the countersunk holes.

The standardised LITEWALL bolt connections are factory pre-mounted to the glass under precision-controlled conditions.

What is SGG-LITEWALL-MONO ?

Building Control Approval with LITEWALL-MONO resolved !

The first point-fixed system that has been awarded a General Building Control Licence by the German Institute for Building Technology - licence Nr.: Z - 70.2-19.
To-date there had been no regulation of point-fixed systems in Germany.
This means that the construction of such a product/system required individual approval from the Building Authorities every time is was proposed.
With this Licence for LITEWALL-MONO these long-winded procedures are a thing of the past.

The advantages are clear:

* No design risks
* Reduced design periods
* Defined requirements of the sub-structure
* A technically assured Glass-Fitting connection using system components
* Instant system value engineering
* Specific structural analyses

LITEWALL-MONO High-tec Architecture in glass

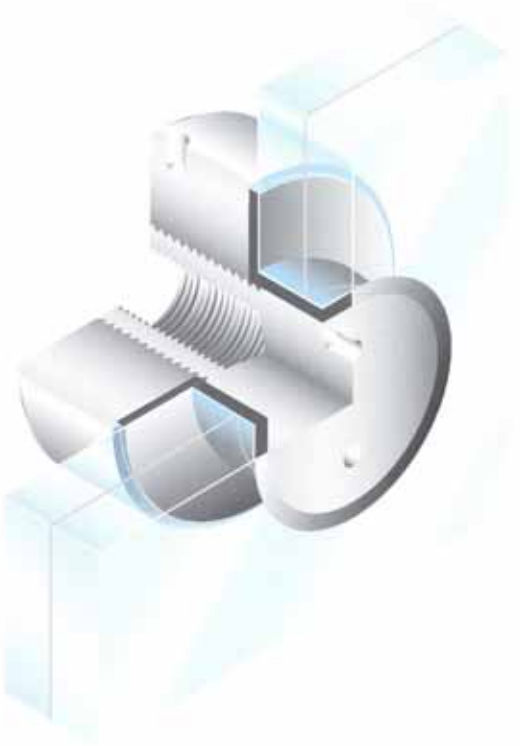
Samsung Headquarters Renovation, Seoul-Korea, Arch.: Kohn Pedersen Fox Associates PC-New York

Technical Information

LITEWALL-MONO is a system for point-fixed vertical glazing where thermally toughened clear or enamelled glass is used as a monolithic or laminated single glazing application.

The glass sheets are generally produced with four or six countersunk holes, in which the stainless-steel countersunk bolt connectors are factory-mounted.
The bolts are then connected back to the sub-structure using a simple stud via the inner thread of the connector.
Each glass sheet is 100 % heat-soak-tested.

To minimise risk of stress-peaks in load-transfer through the bolt connections, the countersunk holes are high-precision drilled and controlled. Contact between glass and bolt is made using polyamide countersunk spacers and washers.



APPLICATIONS

The glass elements can be used in accordance with the Building Control Licence for back-ventilated cladding (cold facade) or for curtain-walling. The glass element can be installed either vertical or up to 10° from vertical.

Should the glass elements be used for barrier purposes or be attached to other load-bearing elements, then it is necessary to apply for specific construction permission.

GLASS TYPES	Glass Thickness in mm	Light Transmission % (10 mm)	Total Energy Transmission % (10 mm)	U-Value in W/m² K	Maximum Dimensions
SGG LITEWALL-MONO-ESG Single toughened					
PLANILUX	8,10,12,15,	88 - 85	83 - 76	5,6	214 x 420 cm 2)
DIAMANT Planilux (extra white)	8,10,12,15*	91	90 - 88	5,6	
PARSOL green	8,10,12*	66 - 56	54 - 47	5,6	
PARSOL grey	8,10,12	32 - 19	54 - 47	5,6	
ANTELIO silver	8,10*	66 - 56	65 - 63	5,6	
ANTELIO clear	8,10	46	56 - 54	5,6	
SERALIT - LITEX - 510 white 3)	8,10,12,15*	60	61	5,6	
SGG LITEWALL-MONO VSG Laminated					
PLANILUX 1)	16,20,24	83 - 79	68 - 62	5,6	214 x 420

1) Combinations as LITEWALL-MONO possible
2) size and bolts dependent on aspect ratio self-weight and loading
15 mm glass up to max. area of 8,0 m²
3) The point fixing has a clear diameter of 72mm when Emalit or Seralit-Litex is applied
*) Availability upon request

Technical Information

TOLERANCES

Material and production determined factors require consideration of the following dimensional and hole-location tolerances.

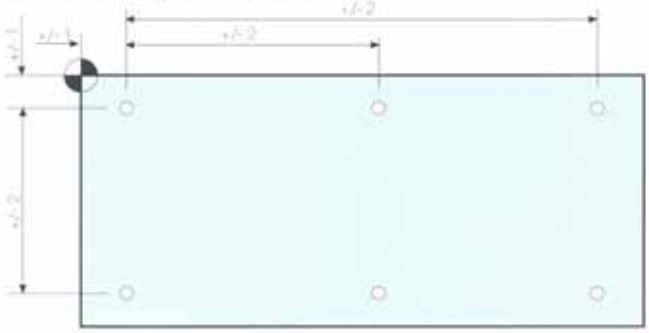
LITEWALL-MONO-ESG Single tempered

Length/width in mm	Tolerance in mm for Glass thickness d≤12 mm	Tolerance in mm for Glass thickness d>15 mm
≤ 1000	± 1.5	± 2.0
≤ 2000	± 2.0	± 2.5
≤ 3000	± 2.5	± 3.0
≤ 4000	± 3.0	± 4.0
≤ 5000	± 4.0	± 5.0

LITEWALL-MONO-VSG Laminated

Length/ width in mm	Laminate thickness d in mm for 2 x 8 mm ≤ d ≤ 2 x 12 mm
≤ 1000	± 1.5
≤ 2000	± 2.0
≤ 3000	± 2.5
≤ 4000	± 3.0
≤ 5000	± 4.0
	Edge-step tolerance : max ± 2.0

HOLE LOCATION TOLERANCE

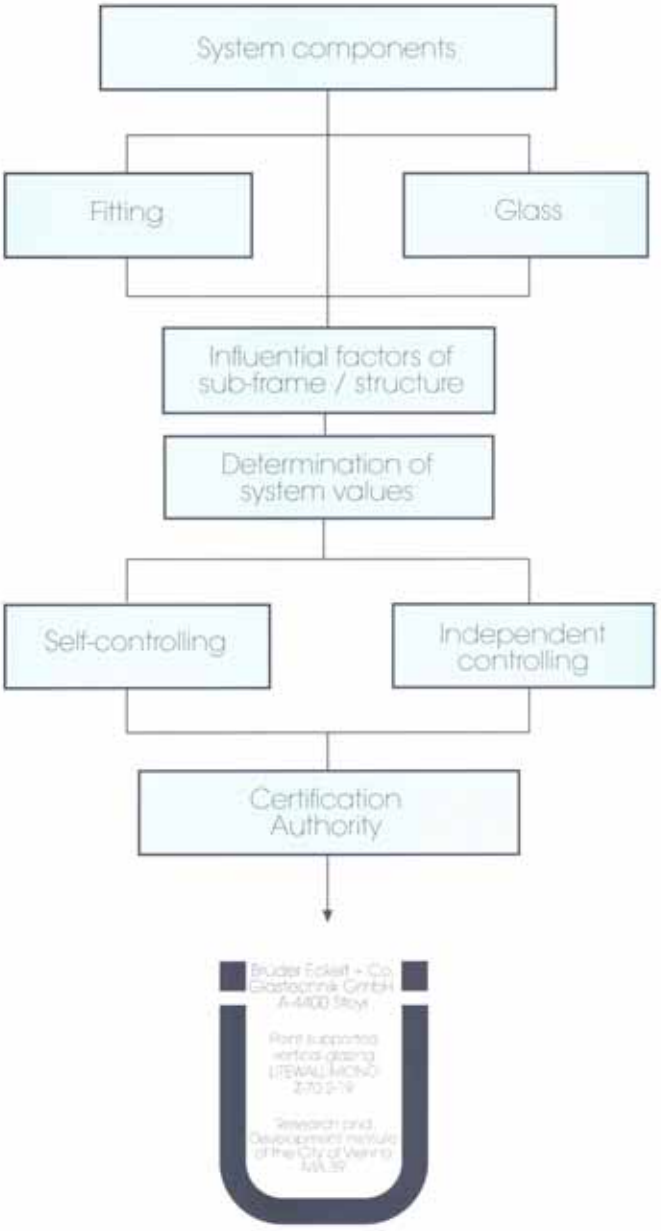


Only applicable to rectangular units

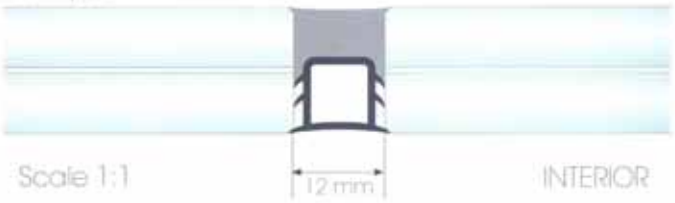
JOINT CAULKING

Suitable silicones should be used for joints that are to be caulked. Manufacturers recommendations are to be followed.
It is important to consider compatibility when using laminated glass.
It is possible to use "wet" and/or "dry" sealing techniques.

QUALITY ASSURANCE



Example:



Technical Information

GLASS DIMENSIONING CONFORMING TO LICENCE
Individual structural analyses are established for the applications as described in the Licence.
4 or 6 point-supports and the fixed resp. articulated connection to the sub-frame are differentiated with independent tables.
The tables are divided into glass dimensions and positive / negative design wind loads (for details refer to licence).

NON-CONFORMITY TO LICENCE
Individual construction permission is required for all applications not covered in the licence, namely:
- Dimensional excesses
- Inclined glazing > 10°
- Barrier protection

SUB-FRAME
The requirements of the sub-frame are described in the licence and can be summarised thus:

- The self-weight of the glass, the wind-loads and the resulting loads that are to be accomodated
- Deflection of l/300 of the facade height must not be exceeded
- Glass elements must not be designed to act as stabilisers for the sub-frame
- The connection of the glass to the sub-frame is to be carried out on the fixed/movable principal
- Tolerance-accomodation is to be designed-in.

INSTALLATION
Installation is only to be carried out by experts who have been trained by Eckelt in these kind of applications.

MARKING
The glass units are marked in the corner with the Product-Stamp LITEWALL-MONO:

DESIGN
Totally new appearances can be achieved through free choice in colour and pattern.
Individual, product-specific designs can also be created in a variety of ways.
In any case, it is recommended that contact is established between the architect, structural-engineer and ECKELT Glastechnik at an early stage of design.

References

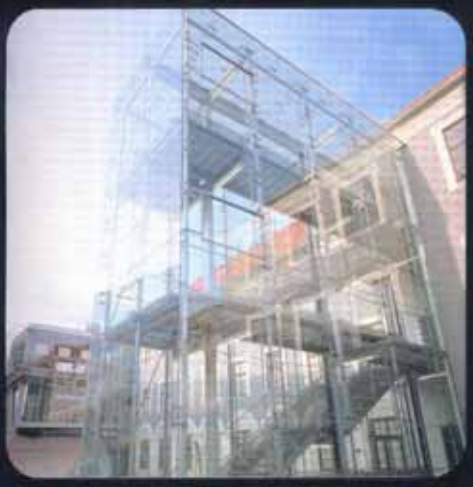
Samsung Headquarters Renovation, Seoul-Korea.
Arch.: Kohn Pedersen Fox Associates PC-New York

LITEWALL

The point-fixed high-performance glass facade system.

MONO

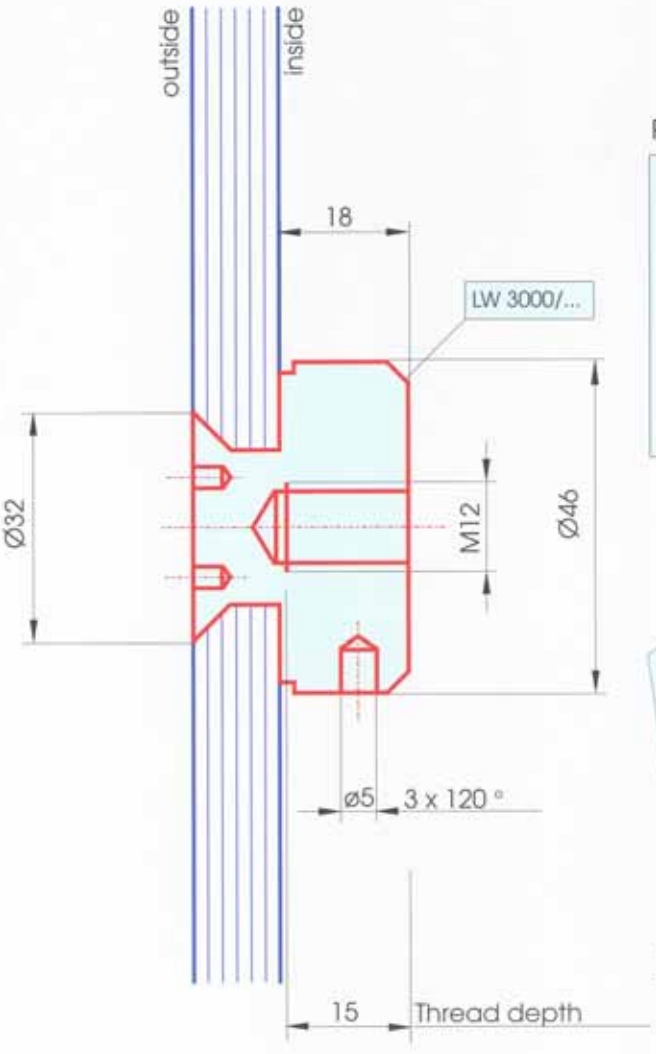
ECKELT



PHOTOGRAPHY:

Stefan Schilling - Köln 3 x
Timothy Hursley - USA 4x
John Walsom - London 1x
Rüdiger Ettl - Wien 2x
CROCE & WIR - Graz 4x

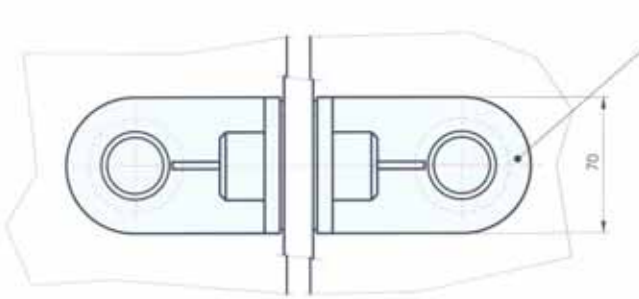
LITEWALL-MONO System bolt fitting

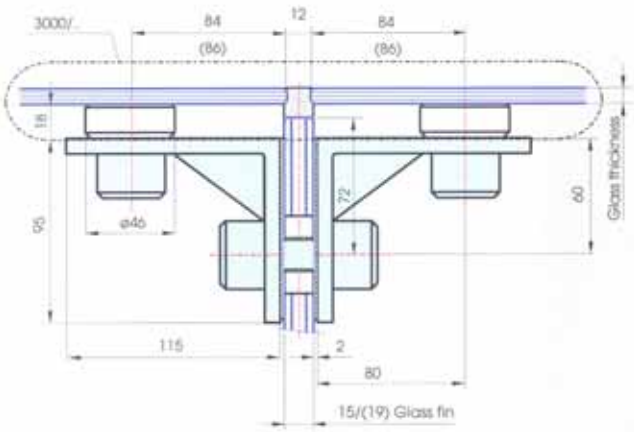


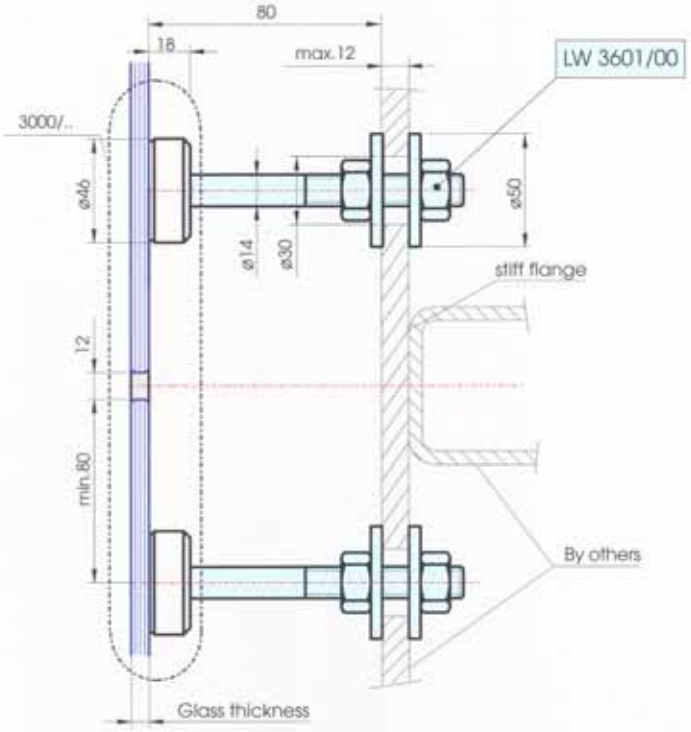
Principle: Fixed- and Loose connection

View from inside

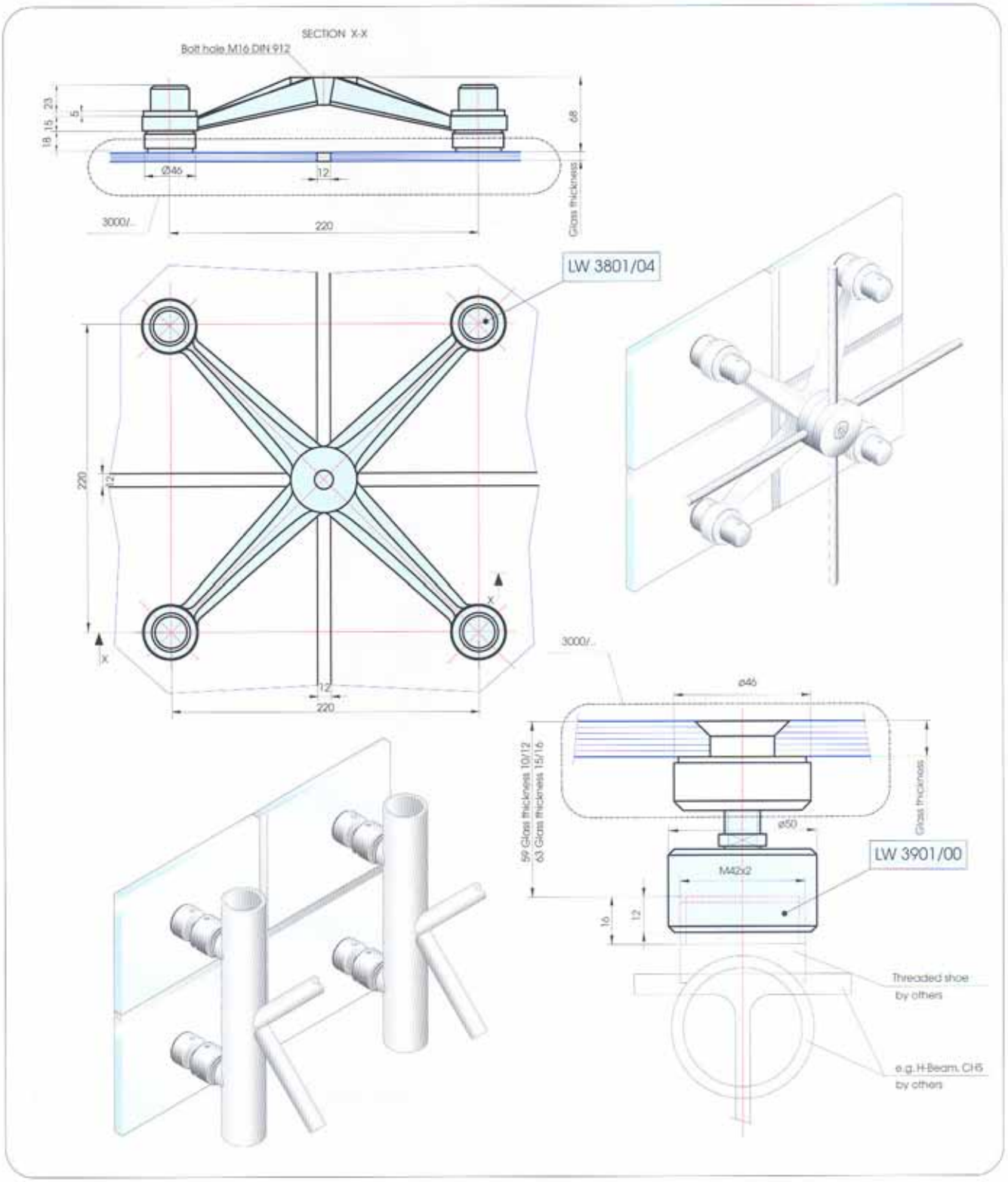
Connection Examples





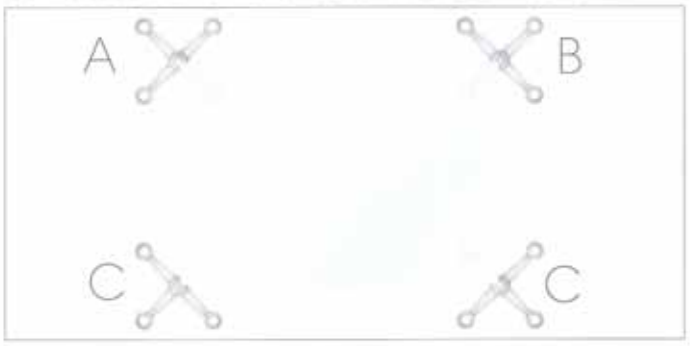


Connection Examples

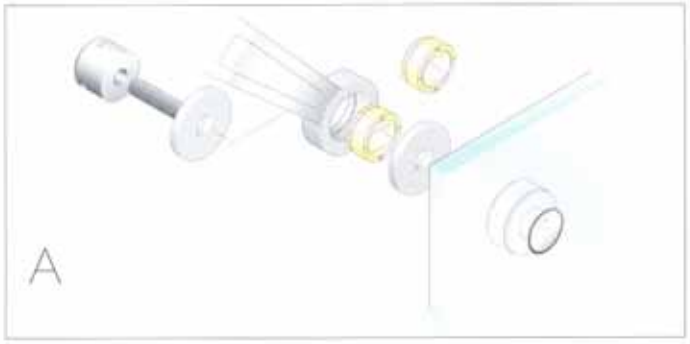


Fixed- and Loose-connection System

The new series of Eckelt spider fittings fulfils the requirements of the fixed- and loose-connection principle. The use of the patented inserts allows accomodation of tolerances and assures the function of the fixed point, horizontal loose-connection, and the oversize loose-connection.

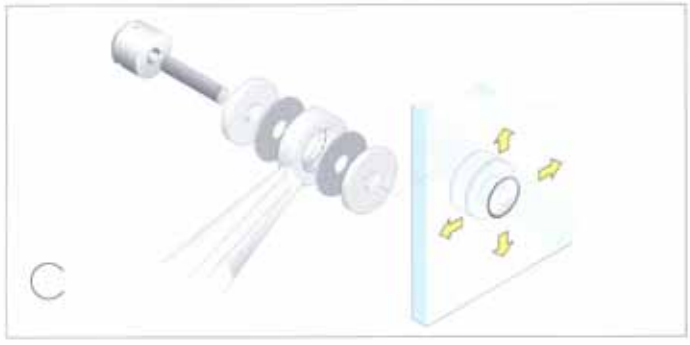


Positioning of the fixed-and loose points



Fixed-point

Horizontal loose-connection

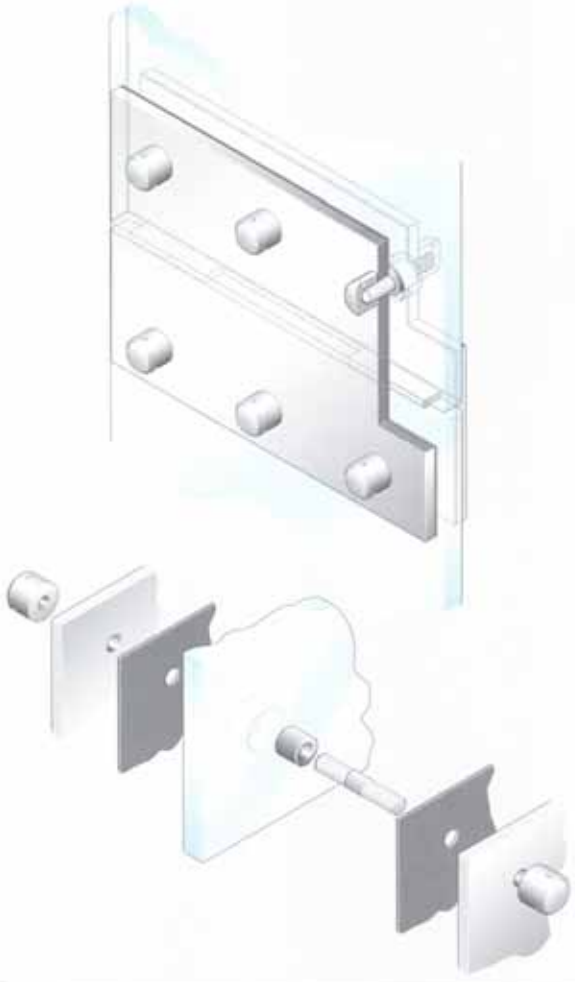


Oversize loose-connection

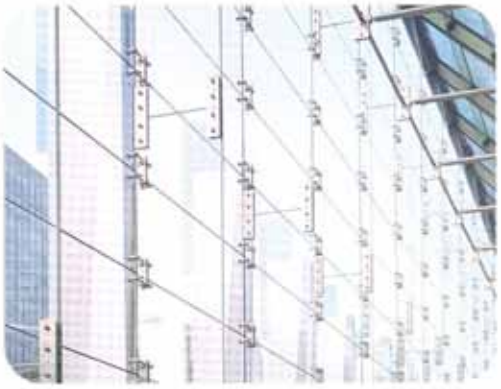
Spider Types:

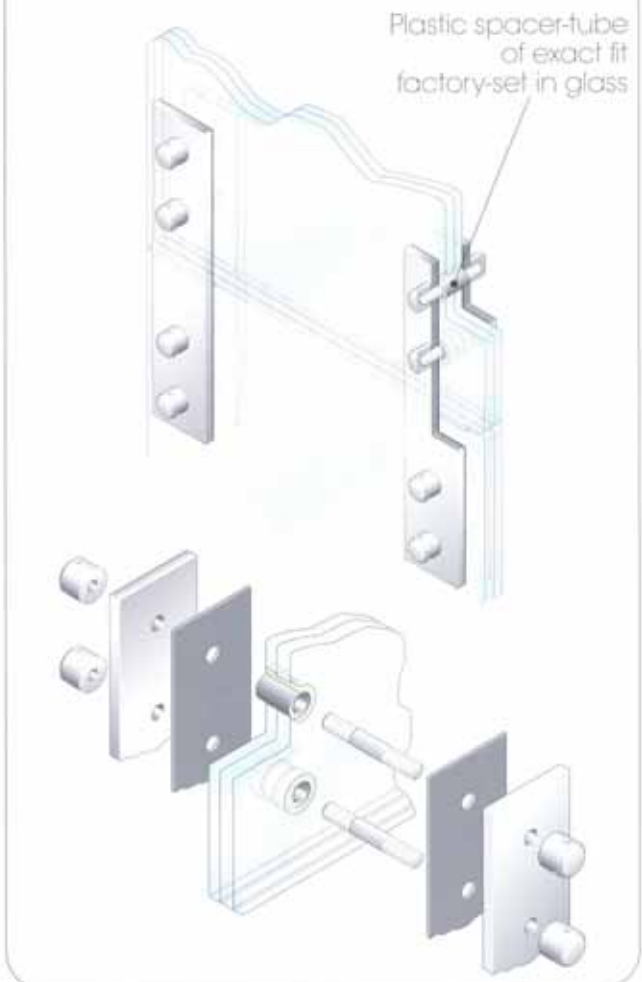
Glass fin splice plates

Glass fin friction-connection for single tempered

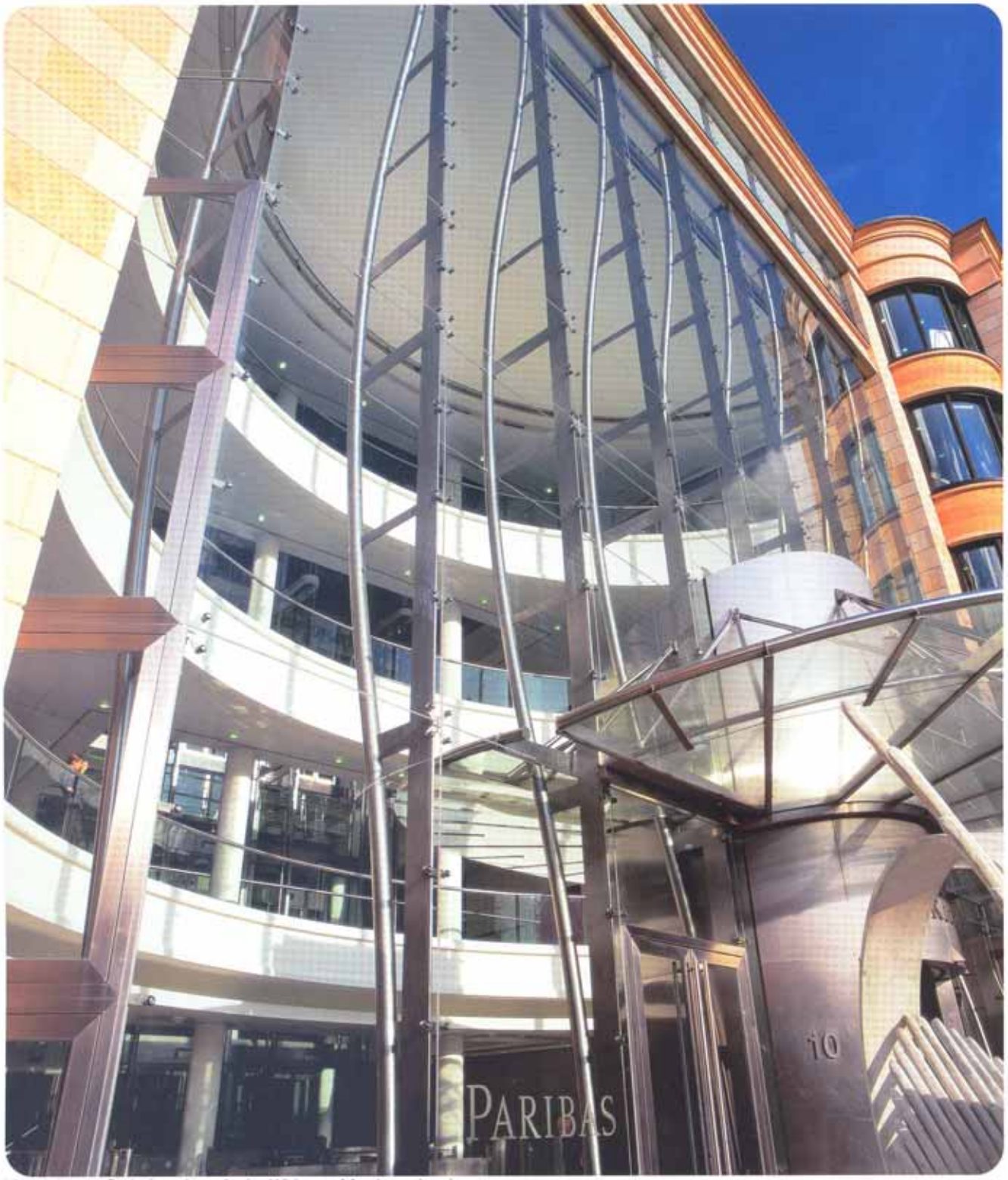


Glass fin hole-connection for laminated





LITEWALL-MONO Transparency as design concept



Marylebone Gate London, Arch.: Whinney Mackay - Lewis

SAINT-GOBAIN GLASS

Glass Technology

Product range

SGG LITEWALL - system
SGG LITEPOINT - facade cladding system
SGG LITEFLOOR - slip-resistant
SGG SERALIT - LITEX- design
SGG DLS-LITESTAR - daylight screening
SGG DLS-ECLIPSE - integral louvres
SGG DLS- prismatic inlets
SGG DLS-FISCH - daylight distribution
SGG VARIO - SSG-system
SGG ROOFLITE - canopy system

SGG EMALIT - glass cladding
SGG METALIT - metallic-effect glass cladding
SGG TRANSRADIAL - curved glass

SGG CLIMAPLUS SOLAR CONTROL - solar control glass
SGG CLIMAPLUS SILENCE - sound insulation glass
SGG CONTRAFLAM - F 30, F 60, F 90
SGG FIVESTAR - fire resistant glass G 30
SGG SWISSFLAM - fire resistant glass
SGG CLIMATOP SOLAR - HP insulation glass
SGG CLIMAPLUS - thermal insulation glass

SGG SECURIT - toughened safety glass
SGG STADIP DESIGN - decorative laminated safety glass
SGG STADIP - laminated safety glass
SGG STADIP PROTECT A - projectile-resistant
SGG STADIP PROTECT B - penetration-resistant
SGG STADIP PROTECT C - bullet-resistant
SGG STADIP PROTECT D - explosion-resistant

SGG SECURIT-HSW - sliding glass walls
SGG SECURIT-PORTAL - all glass doors

Engineering, Consulting,
Site installation and Supervision.

CERTIFIED EQNet QUALITY SYSTEM EN ISO 9001

Think clearly about glass.

ECKELT GLAS

Brüder Eckelt & Co. Glastechnik GesmbH.
Resthofstraße 18, A-4400 Steyr, AUSTRIA
Tel.:+43/72 52/894-0, Fax:+43/72 52/894-24
e-mail: vertrieb@eckelt.at
export@eckelt.at

Oktober 1999