STEELBUILT CURTAINWALL® SYSTEMS

Envision expansive window openings, with more glass and less frame. Imagine a curtainwall system that only requires frame profiles one-third the size of traditional aluminum systems.

Now that dream is a reality with the new SteelBuilt Curtainwall® Systems from Technical Glass Products (TGP). SteelBuilt Curtainwall Systems give you all the advantage of steel: greater strength, superior performance and improved aesthetics. Utilized throughout Europe for many years, SteelBuilt Curtainwall Systems have been tested to North American standards and are now available to open tremendous new design opportunities.

For specifications, photographs and additional information contact:

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CSI-SPECIFICATION

Full copies of our detail drawings and CSI format Specifications can be downloaded from our Web site or obtained from our office.

This Architectural Specification Manual provides a summary of the specification, design and applications that can be achieved with SteelBuilt Curtainwall® Systems. Many special finishes and components are available, please consult Technical Glass Products.
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LAWS AND BUILDING AND SAFETY CODES GOVERNING THE DESIGN AND USE OF GLAZED ENTRANCE, WINDOW, AND CURTAIN WALL PRODUCTS VARY WIDELY. TGP DOES NOT CONTROL THE SELECTION OF PRODUCT CONFIGURATIONS, OPERATING HARDWARE, OR GLAZING MATERIALS, AND ASSUMES NO RESPONSIBILITY THEREFOR.

Metric (SI) conversion figures are included throughout these details for reference. Numbers in parentheses () are millimeters unless otherwise noted.

The following metric (SI) units are found in these details:
- m – meter
- cm – centimeter
- mm – millimeter
- s – second
- Pa – pascal
- MPa – megapascal

TGP reserves the right to change configurations without prior notice when deemed necessary for product improvement.
FEATURES

• Offers all the advantage of steel: greater strength, superior performance and improved aesthetics
• Narrow sight line of 1-3/4” (45 mm) or 2-3/8” (60 mm)
• Variety of system depths
• Infill options up to 2”
• Stainless steel or anodized cover caps available
• Painted finishes in standard and custom choices
• Concealed fastener joinery creates smooth, monolithic appearance
• Shear block fabrication method
• Compatible with SteelBuilt Window & Doors® Systems
• Silicone compatible glazing materials for long-lasting seals

Optional Features

• Stainless steel cover caps
• Custom aluminum cover caps available
• Steel reinforcing available

Product Applications

• Ideal for low to mid-rise applications where large glass and narrow sight lines are desired
• Ideal choice for high span applications
• Coastal environments that benefit from the durability of stainless steel
60 mm SYSTEM
1. Vertical Mullion
2. Horizontal Mullion
3. Full-width Mullion Gasket
4. Front Gasket
5. Shear Block
6. Glass Setting Pad
7. Pressure Plate
8. Cover Cap
9. Intersection Cover
10. Connecting Plate
11. Spacer
12. Sealing Washer
13. Guide Bushing
14. Fastening Screw
15. Self Drilling Screw
Profile Overview - 60 mm System
60 mm System
Overview SteelBuilt Door System in Curtainwall

Overview SteelBuilt Door System - 60 mm System
60 mm System Reference Details

HORIZONTAL MULLION SECTION AT SLAB EDGE

SILICONE SETTING BLOCKS (NOT BY TGP)

INSULATED GLASS UNIT

MULLION ANCHORS PER PROJECT REQUIREMENTS (TYP.)

SHEET METAL TRIM

BUILDING SLAB OR SUPPORT

LINE OF INTERIOR FINISH

IN-FILL PANEL OR SPANDREL UNIT

INTERIOR AND EXTERIOR GLAZING GASKETS

DIVERTER GASKET USED IN EXTERIOR APPLICATIONS

PRESSURE PLATE & CLAMPING SCREWS

VANES

11\(\frac{3}{4}\)" - 7\(\frac{3}{8}\"

[46.5mm - 181.5mm]
60 mm System
Reference Details

4 HORIZONTAL MULLION SECTION

5 HORIZONTAL MULLION SECTION

Interiors and exteriors glazing gaskets

Horizontal shear clip

Pressure plate & clamping screws

Diverter gasket used in exterior applications

Insulated glass unit

Varies from 1 3/4" to 7/8"

Silicone setting blocks

(Not by TGP)
60 mm System
Reference Details
60 mm System
Reference Details

- Insulated Glass Unit
- Extruded Aluminum / Alodine Finish (min), supplied loose by TGP for field installation
- Horizontal Shear Clip
- Line of Vertical Mullion Sill Anchor per Project Requirements (typ.)

7 Jamb Section Shown at Sill

- 1/2" [19mm]
- 2 1/2" [60mm]
- Daylight Opening

- Varies
- 1 1/6", 1 7/8" [46.5mm, 181.5mm]
80 mm System
Reference Details

VERTICAL MULLION SECTION
SHOWN AT SILL
60 mm System
Reference Details

VERTICAL MULLION SECTION AT SLAB

LINE OF SLAB EDGE

MULLION ANCHORS PER PROJECT REQUIREMENTS (TYP.)

IN-FILL PANEL OR SPANDREL UNIT

13/4" - 7/8" [46.5 mm - 18.15 mm]

VARIIES

DAYLIGHT OPENING

2 7/8" [73 mm]

DAYLIGHT OPENING
DOOR JAMB AT PIVOT WITH CURTAINWALL SIDELITE
15 DOOR JAMB AT LEVER WITH CURTAINWALL SIDELITE
17 DOOR JAMB AT PIVOT
Refer to SteelBuilt door system product documentation for additional information about framing and glazing.
REFER TO STEELBUILT DOOR SYSTEM PRODUCT DOCUMENTATION FOR ADDITIONAL INFORMATION ABOUT FRAMING AND GLAZING

DOOR MULLION
ACTIVE / ACTIVE MEETING RAIL
Refer to SteelBuilt Door System Product Documentation for additional information about framing and glazing.

Active / Fixed Meeting Rail

Door Opening
Frame Dimension
Rough Opening

Daylight Opening

Push Side
Egress Side
Pull Side
Secure Side

EXIT DEVICE

1\(\frac{3}{8}\)" [50mm]
Corner Details - 60 mm System

24 ANGLED OUTSIDE CORNER
125 DEGREE SHOWN
Corner Details - 60 mm System

90 Degree Inside Corner

1\(\frac{3}{4}\)" - 7\(\frac{1}{2}\"
[46.5mm - 181.5mm]

VARES

2\(\frac{3}{8}\"
[60mm]

DAYLIGHT OPENING

INSULATED GLASS UNIT

INSULATION NOT BY TGP

FORMED SHEET METAL CORNER (BY TGP)

25
Corner Details - 60 mm System

26 90 DEGREE INSIDE CORNER OPTION
Corner Details - 60 mm System

27 ANGLED INSIDE CORNER
125 DEGREE SHOWN
Snap-on cover caps are interchangeable with 403-560 and 430-060 pressure plates.
WIND LOAD CHARTS
Mullions are designed for deflection limitations in accordance with AAMA TIR-A11 of L/175 up to 13'-6" and L/240 +1/4" above 13'-6". These curves are for mullions WITH HORIZONTALS and are based on precise engineering calculations for stress and deflection. Allowable wind load stress for STEEL 30,000 p.s.i. (207MPa.). Charted curves, in all cases are for the limiting value. A 4/3 increase in allowable stress has not been used to develop these curves. For special situations not covered by these curves, contact your TGP representative for additional information.

DEAD LOAD CHARTS
Horizontal or deadload limitations are based upon 1/8" (3.2), maximum allowable deflection at the center of an intermediate horizontal member. The accompanying charts are calculated for 1" (25.4) thick insulating glass or 1/4" (6.35) thick glass supported on two setting blocks placed at the loading points shown.

SILICONE GLAZING CHART
Structural silicone glazing is used primarily to eliminate the need or appearance of exterior pressure plates and caps. The size of the silicone bond line, used to structurally retain the glass to the building and the curtain wall frame, is based on the size of the individual lites of glass, the wind load requirements of a given project, and the design pressure of 20 psi capacity allowed by most silicone sealant manufacturers. The accompanying chart is meant to give the maximum wind load pressure based on either a ½" or ¾" weather joint between lites of glass, and the shortest dimension of the individual lite of glass. This chart is not meant to dictate final silicone bond line or loading requirements. While TGP can assist in determining the bond line dimension, the silicone sealant manufacturers must review and approve the final details, typically done during the shop drawing phase of most projects.

THERMAL CHART
Thermal transmittance (U-Value) is a measure of the rate of heat loss of a building component. The test method measures the thermal characteristics of the system under steady-state conditions.
Wind Load Charts

**Single Span**

- Curve 'A' - 10 PSF
- Curve 'B' - 20 PSF
- Curve 'C' - 30 PSF
- Curve 'D' - 40 PSF
- Curve 'E' - 50 PSF

**Single Span Reinforced**

- RP-1800

**Twin Span**

- 0.500" [12.70]
- 1.837 [46.50]

**Twin Span Reinforced**

- 2.362" [60.00]
- RP-1800
- W/ (2) 1" x 1/2" Steel Bars
Wind Load Charts

Single Span

- Curve 'A' - 20 PSF
- Curve 'B' - 30 PSF
- Curve 'C' - 40 PSF
- Curve 'D' - 50 PSF
- Curve 'E' - 60 PSF

Single Span Reinforced

- RP-1802
- W/ (2) 2-3/4" x 1/2" Steel Bars

Twin Span

Twin Span Reinforced

- RP-1802
- W/ (2) 2-3/4" x 1/2" Steel Bars
Wind Load Charts

Single Span

Single Span Reinforced

Twin Span

Twin Span Reinforced

CURVE 'A' - 20 PSF
CURVE 'B' - 30 PSF
CURVE 'C' - 40 PSF
CURVE 'D' - 50 PSF
CURVE 'E' - 60 PSF

RP-1804

W/ (2) 4-1/2" x 1/2" Steel Bars
Wind Load Charts

**Single Span**

- **CURVE 'A'** - 20 PSF
- **CURVE 'B'** - 30 PSF
- **CURVE 'C'** - 40 PSF
- **CURVE 'D'** - 50 PSF
- **CURVE 'E'** - 60 PSF

**Twin Span**

- **CURVE 'A'** - 20 PSF
- **CURVE 'B'** - 30 PSF
- **CURVE 'C'** - 40 PSF
- **CURVE 'D'** - 50 PSF
- **CURVE 'E'** - 60 PSF

**Single Span Reinforced**

- **RP-1806**
  - 7.146" [181.50]
  - 2.362" [60.00]
  - 0.500" [12.70]

**Twin Span Reinforced**

- **RP-1806**
  - 7.146" [181.50]
  - 6.250" [158.75]
  - 2.362" [60.00]

W/ (2) 6-1/4" x 1/2" Steel Bars
Dead Load Charts (Tubular)

1/4" Glass

A = 1/4 POINT LOADING
B = 1/8 POINT LOADING

1" Glass
Dead Load Charts (Tubular)

1/4" Glass

A = 1/4 POINT LOADING
B = 1/8 POINT LOADING

1" Glass
Structural Silicone Glazing Options

Profiles are steel, pre-galvanized, typical powder coat finish. Available in 304 stainless steel with #4 brushed finish.

2 3/8 [60MM] wide profiles only

Extruded silicone gasket / cont

Extruded aluminum cassettes shop applied to glass, shipped to field, set into framing.

Structural bond line dependent on wind load, glass dimensions. Formula:

Bond line = WL x GD x 0.5
12 x 20

WL = Design wind load (PSI)
GD = Glass dimension (in ft) smallest of width, height dim.
12 = Converts GD dim, to inches
20 = Allowable silicone tension (PSI)

Silicone compatible foam tape

Structural silicone

Aluminum or stainless steel toggles at 3-12 OC, dependent on wind load conditions

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800.426.0279
## Thermal Charts

### Thermal Transmittance (btu/hr + ft² + °F)

<table>
<thead>
<tr>
<th>Glass U-Factor</th>
<th>Overall U-Factor Stainless Steel Cover Cap</th>
<th>Overall U-Factor Aluminum Cover Cap</th>
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<tbody>
<tr>
<td>0.48</td>
<td>.51</td>
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<tr>
<td>0.123</td>
<td>.19</td>
<td>.20</td>
</tr>
</tbody>
</table>

NOTE: For glass values that are not listed, linear interpolation is permitted.

1. U-Factors are determined in accordance with NFRC 100.
2. Glass properties are based on center of glass values and are obtained from your glass supplier.
3. Overall U-Factor is based on the standard NFRC specimen size of matrix 2000 mm wide by 2000 mm high (78-3/4” by 78-3/4”).