

FIRE RATINGS

FIRE RATINGS AND CODE INFORMATION

All sizes (exceptions listed below) of Premiere Series and Thinline™ Series glass blocks have at least a 45 minute fire rating when used as a window assembly within a one hour fire-rated wall assembly. All THICKSET® 90 (thick-faced) and solid glass blocks have fire ratings of up to 90 minutes, and the THICKSET® 60 and ESSEX® AA Pattern glass blocks have fire ratings of up to 60 minutes, when used as window assemblies and when permitted by code.

Pittsburgh Corning Glass Block units that are not fire-rated:

- All 12" x 12" sizes
- All DELPHI®, pattern block
- All HEDRON® Corner block, TRIDRON 45° Block® units, EndBlock®, ENCURVE® and ARQUE® finishing units
- All paver units
- VISTABRIK® Corner Block

PANEL SIZES AND DIMENSION LIMITATIONS

Pittsburgh Corning Glass Block listed above have been tested and classified by Underwriters Laboratories® (UL®) for use as fire-rated window assemblies to panel sizes and dimension limitations listed below:

- With the exception of all 12" x 12" sizes, finishing blocks, corner blocks and the DELPHI® pattern block, all Premiere Series and Thinline™ Series glass blocks in panels up to 120 square feet in masonry walls or 94 square feet in non-masonry walls are classified by Underwriters Laboratories, for use as 45-minute rated window assemblies.
- The Uniform Building Code (U.B.C.) limits the area of 45-minute rated window assemblies to 84 square feet, with no dimension exceeding 12 feet. These panels are usually acceptable as window assemblies for use in fire separation walls that are rated one hour or less.

- THICKSET® 60 Block are listed for use as 45- or 60-minute fire rated window assemblies in panels up to 100 square feet.
- THICKSET® 90 Block and VISTABRIK® Solid Glass Block are all listed for use as 45-, 60- or 90-minute fire rated window assemblies in panels up to 100 square feet.
- Where permitted by building codes, glass block fire-rated window assemblies having a fire resistance rating of not less than 45 minutes may be used as "opening protectives." These assemblies shall not exceed 25% of the wall areas separating a tenancy from a corridor or a corridor from an enclosed vertical opening or one fire-rated area from another fire-rated area.
- **Exception:** Although glass block masonry systems have been tested as window assemblies (not wall assemblies), they may be used as one hour fire partitions as required for corridors in the enclosure of atriums only when sprinkler protection is provided on occupied sides.

45- AND 60-MINUTE RATED CONSTRUCTION

- All 45- and 60-minute rated Pittsburgh Corning Glass Block may be used in both masonry and non-masonry (steel or wood stud framing with gypsum board) walls.
- These rated glass block windows may be framed and anchored with either PC® Panel Anchor construction or channel-type restraints.
- The use of a fire retardant type sealant for head and jamb locations is required.
- Specifications and construction details for such panels are as per Pittsburgh Corning Corporation recommendations.
- Non-masonry, fire-rated steel stud with gypsum board wall assemblies must conform to UL® listed wall assembly #U465.

- Framing and support of the rated glass block window assembly shall be provided with double-studding at the jamb locations with height of supporting wall limited to no more than 3 feet.

90-MINUTE RATED CONSTRUCTION

- Where permitted by building codes, all 90-minute rated Pittsburgh Corning Glass Block may be used in masonry walls only.
- 90-minute rated glass block window assemblies must be framed and anchored with 1/4" thick steel (not aluminum) channel-type restraints or masonry chases. The use of panel anchor construction is not permitted.
- The use of a fire retardant type sealant for head and jamb locations is required.
- Specifications and construction details of such panels are as per Pittsburgh Corning Corporation recommendations.
- Twice the typical thickness (3/4" total) of expansion material is required at head and jamb locations.

45-MINUTE RATED CURVED CONSTRUCTION

- The glass blocks noted under 90-minute rating and those 8" x 8" x 4" sized glass block noted under 45-minute rating are classified for use in masonry walls as curved window assemblies, provided that the radius of the assembly is at least twice the opening width (i.e. chord length).

CODE COMPLIANCE

All of our fire-rated glass block products are listed in the Underwriters

Laboratories current issue of the Fire Resistance Directory – Volume 3. A listing of our products can also be viewed on the Underwriters Laboratories Website at www.ul.com.

- U.L. Classification: R2556 (For Glass Block)
- Underwriters Laboratories of Canada Guide Number 23017 (For Glass Block)
- U.L. Classification: R18572 (For Plastic Spacers)
- In accordance with NFPA 80, Chapter 14

CITY CODE APPROVALS

- New York City Materials and Equipment Acceptance MEA 406- 90-M. Vol.IV
- Los Angeles Research Report RR-24486
- Eugene, OR, "Approved Glass Products, Storm Windows, and Insulated Window Units"
- Dade County Acceptance
- State of Florida Approvals
- Texas Department of Insurance WIN #s 62, 63, and 64

BUILDING CODE AND NATIONAL STANDARDS REFERENCES:

- The BOCA National Building Code (N.B.C.)
- The Standard Building Code (SBCCI)
- The Uniform Building Code (U.B.C.)
- International Building Code (IBC)
- Canadian Standards Association (CSA) A371-94 "Masonry Construction for Buildings"
- Canadian Standards Association (CSA) S304.1-94 "Masonry Design for Buildings"
- ACI 530/ASCE 5/TMS 402 "Building Code Requirements for Masonry Structures"
- ISO 9001:2000 Certification: Manufacture test and distribution of Pittsburgh Corning Glass Block products.

FIRE RATINGS — GLASS BLOCK ASSEMBLIES

Premiere Series Glass Blocks, THICKSET® 60 Blocks, THICKSET® 90 Blocks and VISTABRIK® Solid Glass Block units have been tested and classified by Underwriters Laboratories (UL®) for use in fire-rated window assemblies to panel sizes and dimension limitations as listed.

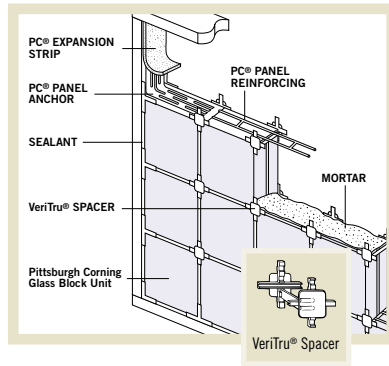
Product	Masonry Wall Construction					Non-Masonry Wall Construction			
	Panel Limitations		Fire Rating			Panel Limitations		Fire Rating	
	Max. Area/Panel	Max Ht. or Width	45 Min.	60 Min.	90 Min.	Max. Area/Panel	Max Ht. or Width	45 Min.	60 Min.
Premiere Series	120	12	X			94	10.75	X	
THICKSET® 60 and ESSEX® AA Pattern	100	10	X	X		94	10.75	X	X
THICKSET® 90	100	10	X	X	X*	94	10.75	X	X
VISTABRIK®	100	10	X	X	X*	94	10.75	X	X

*1/4" steel channel. 3/4" thick expansion material at head and jambs, and fire retardant sealant are required.

ACCESSORIES

PANEL CONSTRUCTION USING VeriTru® SPACERS

The one-piece, all plastic VeriTru® Spacer speeds construction, assures uniform placement and helps keep panel flush. Can now be used in fire-rated panels. Special spacers are available for the VISTABRIK® and ARQUE® Block.



PC® PANEL REINFORCING, PANEL ANCHORS & EXPANSION STRIPS

PC® Panel Reinforcing (top) — in panels — is embedded horizontally in the mortar joints between every other course. PC® Panel Anchors (middle) are used to tie Pittsburgh Corning Glass Block panels into the surrounding framework when channels are not used. PC® Expansion Strips (bottom), made of white polyethylene, are inserted at the head and jambs. The strips replace mortar at these locations to cushion the glass block and allow the panel to expand and contract freely.

used to tie Pittsburgh Corning Glass Block panels into the surrounding framework when channels are not used. PC® Expansion Strips (bottom), made of white polyethylene, are inserted at the head and jambs. The strips replace mortar at these locations to cushion the glass block and allow the panel to expand and contract freely.

THE KWIK'N EZ® RIGID TRACK SILICONE SYSTEM

The KWIK'N EZ® Rigid Track spacer design system allows you to easily install glass block in many areas. Precision cut vertical spacers combine with the horizontal spacers to make installing your Pittsburgh Corning Glass Block panel quicker and easier than ever before. Rigid Track spacers are available for use with either Thinline™ Series or Premiere Series Glass Block.



OTHER ACCESSORIES

Additional materials — such as mortar, channels or framing, packing, sealants and asphalt emulsion are available from other manufacturers.



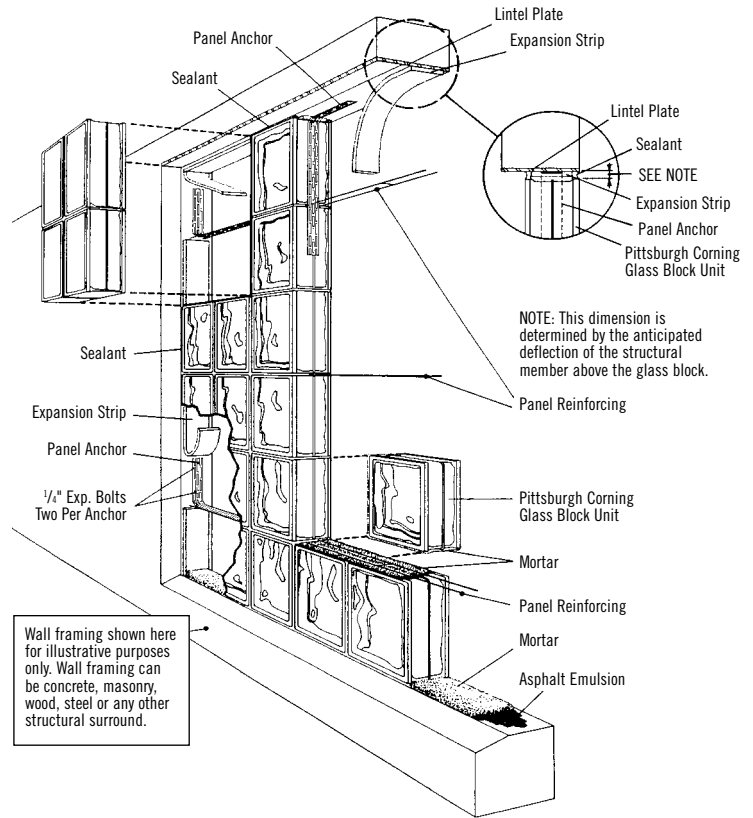
ProVantage™ INSTALLATION SYSTEM



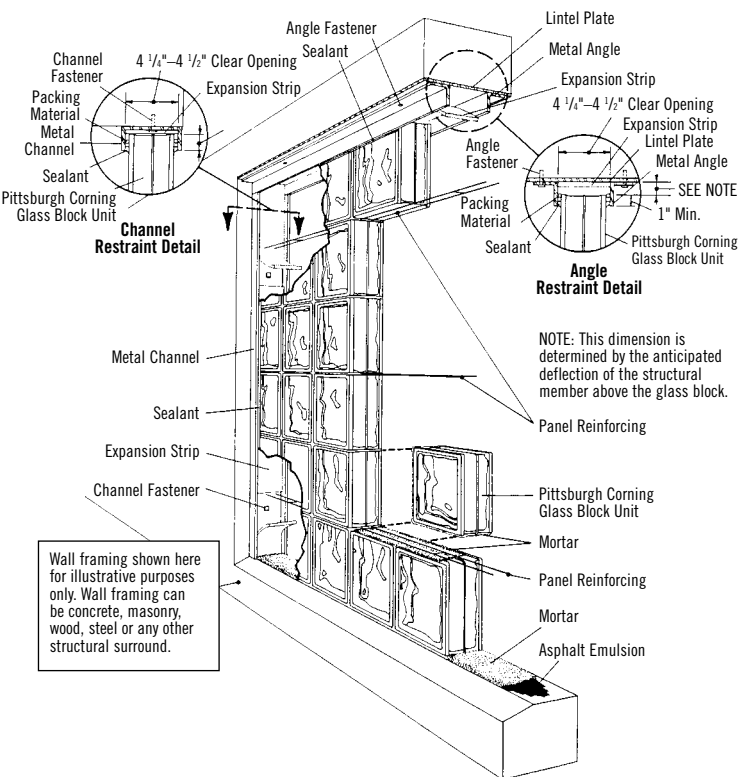
Unlike previous systems using silicone and spacers, the new ProVantage™ Installation System for use with Premiere Series glass blocks, can turn corners, make radius walls, build showers and is suitable for interior or exterior applications. The system utilizes spacers to align and hold the blocks in place for easy assembly, and silicone is used to bond the spacer and blocks together. The consistent, even-spaced joints are then finished with a special tile grout resulting in a clean, smooth professional look. For smaller straight wall panels, with 3-side support, silicone can be used in the joints to provide an all-glass look.

TYPICAL CONSTRUCTION DETAILS

PANEL ANCHOR CONSTRUCTION



CHANNEL-TYPE RESTRAINT CONSTRUCTION



GLOSSARY OF TERMS (Detail Drawings pages 12-18)

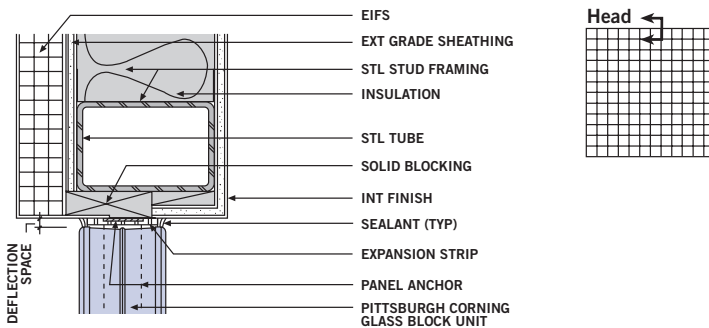
BLDG – Building	CONC – Concrete
CMU – Concrete Masonry Unit (concrete block)	EIFS – Exterior Insulation Finishing System
CONT STL – Continuous Steel (used to reinforce wall)	EXT – Exterior
ELEV – Elevation (side view of building)	HEAD – Top of Panel
GYP BD – Gypsum Board	HORIZ – Horizontal
HM – Hollow Metal (door frame)	JAMB – Side of Panel
INT – Interior	PLAN – View of Building from above, typically the floor
MAX HT – Maximum Height (for Pittsburgh Corning Glass Block panel 20ft./6m)	STL – Steel
SILL – Bottom of Panel	WD – Wood
TYP – Typical (detail)	
CLG – Ceiling	

Materials shown other than glass block are for illustration purposes only as examples of typical construction details.

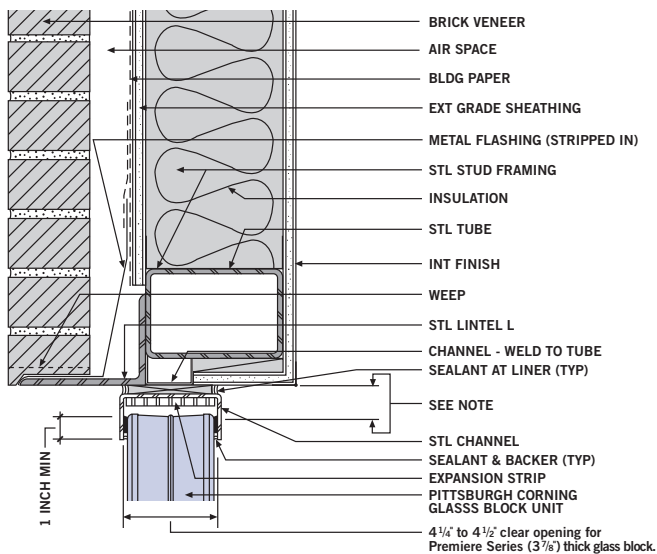
DETAILS CAN BE DOWNLOADED AS .DWG OR .DXF FILES FROM OUR WEBSITE

www.pittsburghcorning.com/architects/specdetails.asp

TYPICAL HEAD DETAILS (Exterior Openings)



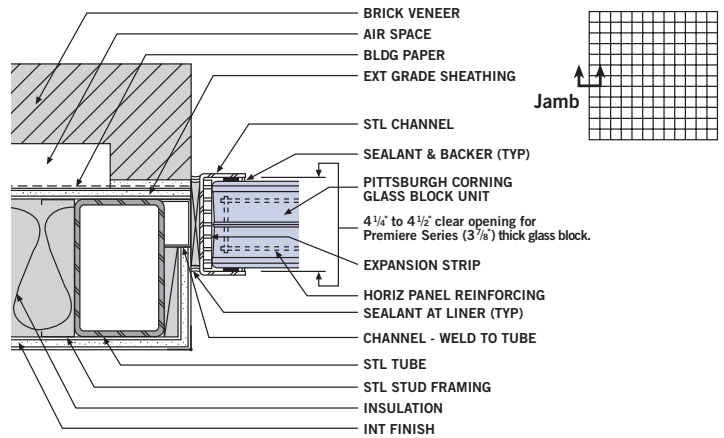
(PCD 031) Head – Glass Block in Steel Stud Wall with Synthetic Plaster Finish



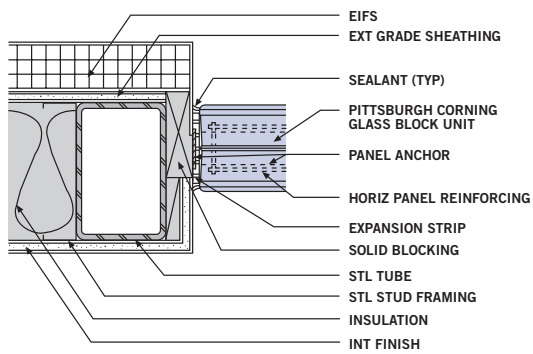
NOTE: This dimension is determined by the anticipated deflection of the structural member above the glass block.

(PCD 061) Head – Glass Block in Steel Stud Wall with Brick Veneer

TYPICAL JAMB DETAILS (Exterior Openings)

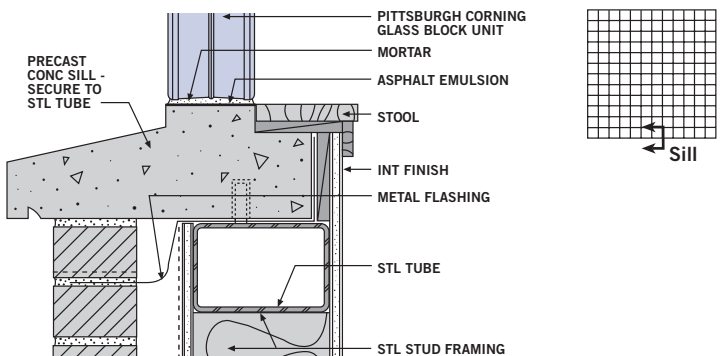


(PCD 062) Jamb – Glass Block in Steel Stud Wall with Brick Veneer

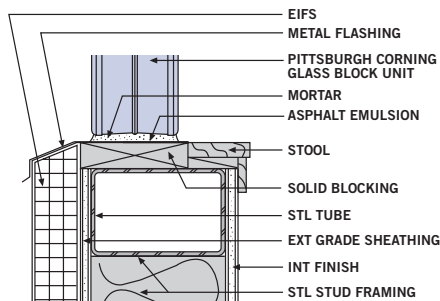


(PCD 032) Jamb – Glass Block in Steel Stud Wall with Synthetic Plaster Finish

TYPICAL SILL DETAILS (Exterior Openings)



(PCD 063) Sill – Glass Block in Steel Stud Wall with Brick Veneer

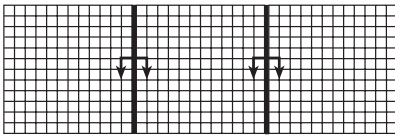


(PCD 033) Sill – Glass Block in Steel Stud Wall with Synthetic Plaster Finish

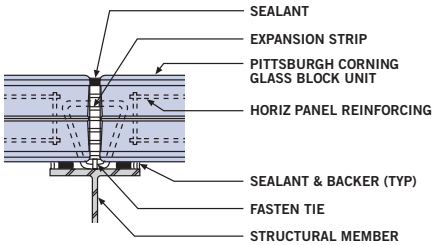
TYPICAL CONSTRUCTION DETAILS

TYPICAL STIFFENER DETAILS

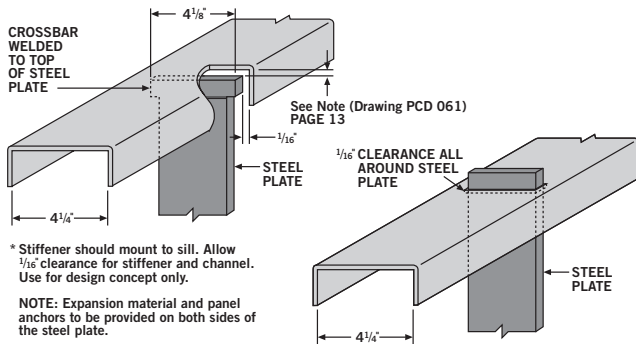
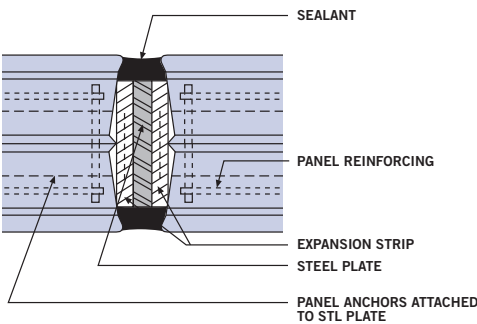
Continuous Panels ≤ 144 Sq. Ft. Each



Vertical Stiffener



(PCD 132A) Intermediate Vertical Support in Multiple Horizontal Panels

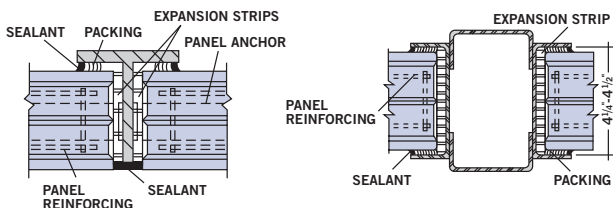


* Stiffener should mount to sill. Allow 1/16" clearance for stiffener and channel. Use for design concept only.

NOTE: Expansion material and panel anchors to be provided on both sides of the steel plate.

NOTE: Panels with an expansion joint stiffener incorporating a vertical hidden plate should be limited to a maximum 10' in height.

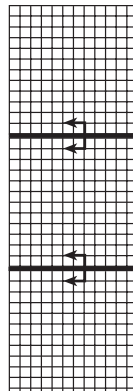
(PCD 132B) Intermediate Support in Multiple Horizontal Panels



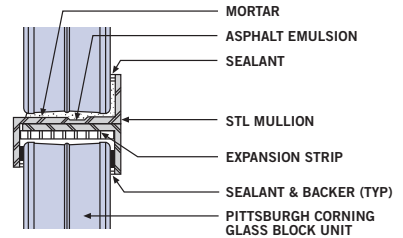
(PCD 132C & D) Intermediate Support in Multiple Horizontal Panels

TYPICAL SHELF ANGLE DETAILS

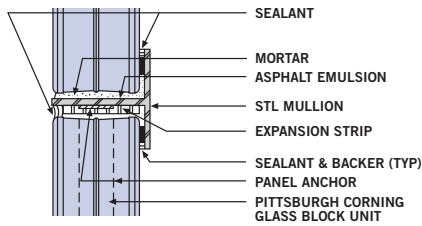
Continuous Panels ≤ 144 Sq. Ft. Each



Horizontal Stiffener

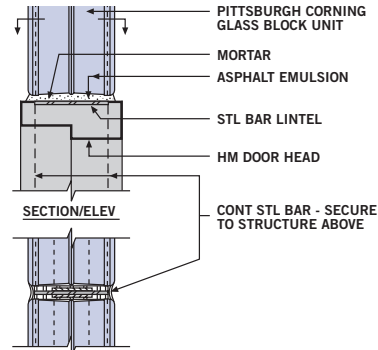


(PCD 128) Intermediate Horizontal Support in Multiple Vertical Panels



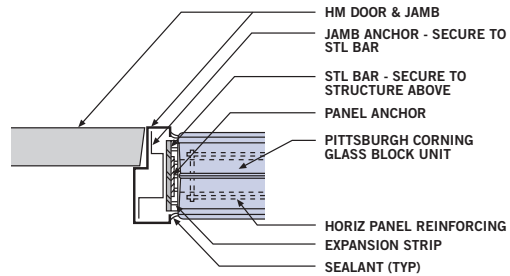
(PCD 129) Intermediate Horizontal Support in Multiple Vertical Panels

HOLLOW METAL DOOR FRAME DETAILS



PLAN (JOINT ABOVE JAMB)

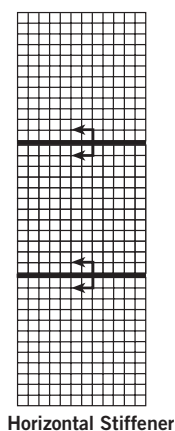
(PCD 153) Head – Hollow Metal Door Frame at Glass Block



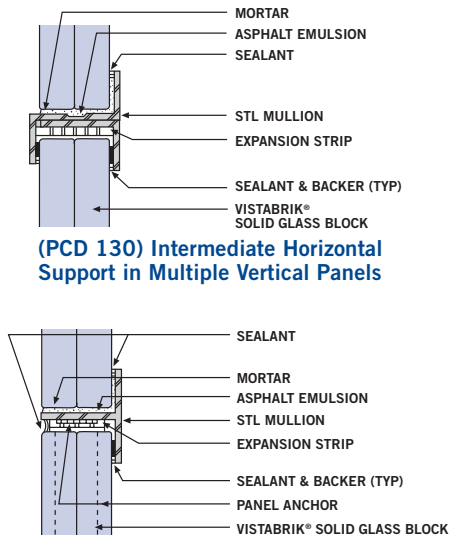
(PCD 154) Jamb – Hollow Metal Door Frame at Glass Block

TYPICAL SHELF ANGLE DETAILS – FOR VISTABRIK® PANELS

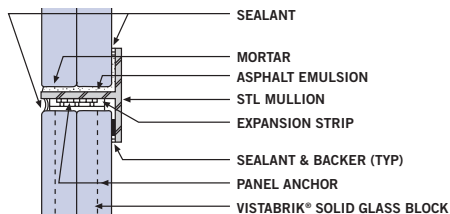
Continuous Panels ≤ 100 Sq. Ft. Each



Horizontal Stiffener



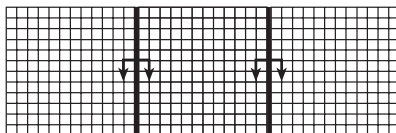
(PCD 130) Intermediate Horizontal Support in Multiple Vertical Panels



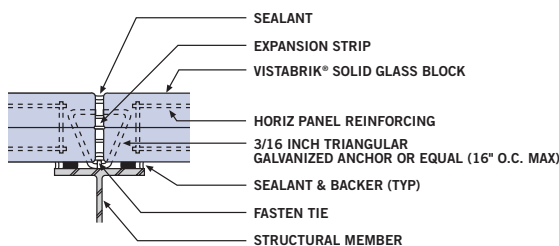
(PCD 131) Intermediate Horizontal Support in Multiple Vertical Panels

TYPICAL STIFFENER DETAILS – FOR VISTABRIK® PANELS

Continuous Panels ≤ 100 Sq. Ft. Each

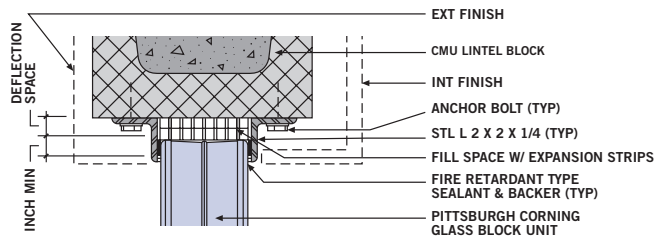


Vertical Stiffener

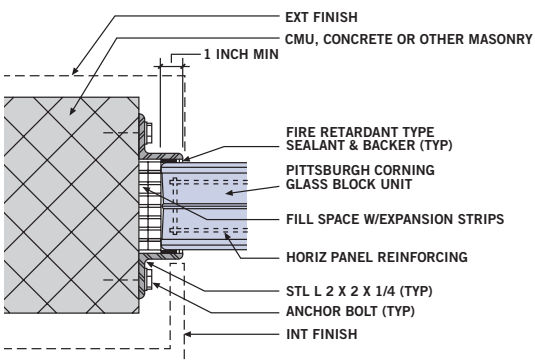


(PCD 133) Intermediate Vertical Support in Multiple Horizontal Panels

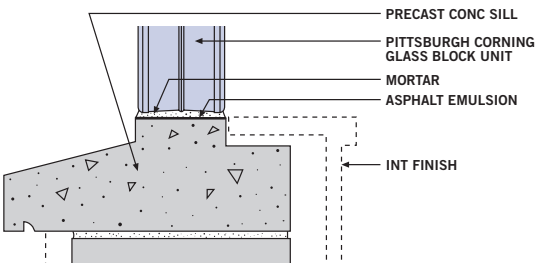
DETAILS FOR FIRE RATED CONSTRUCTION



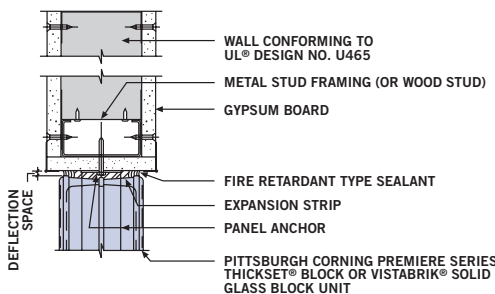
(PCD 004) Head – 90 Minute Fire Rated Glass Block in CMU Wall



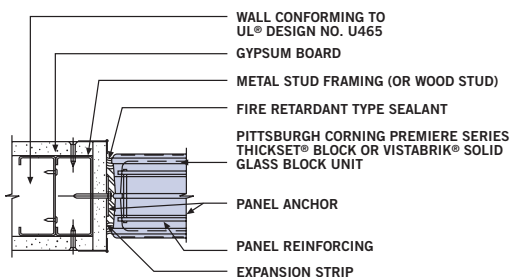
(PCD 005) Jamb – 90 Minute Fire Rated Glass Block in CMU Wall



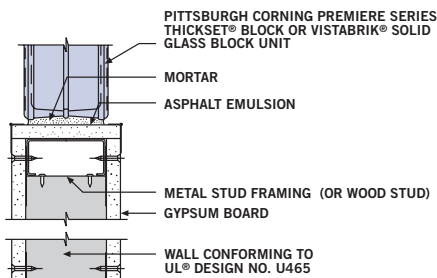
(PCD 006) Sill – 90 Minute Fire Rated Glass Block in CMU Wall



(PCD 159) Head – 45 & 60 Minute Fire Rated Glass Block Panel



(PCD 160) Jamb – 45 & 60 Minute Fire Rated Glass Block Panel



(PCD 161) Sill – 45 & 60 Minute Fire Rated Glass Block Panel