

SECTION 08810—GLASS—PYROEDGE 20™

PART 1 -GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fire-rated glazing materials installed as vision lights in fire-rated doors.
2. Fire-rated glazing materials installed as [transoms] [borrowed lites] [windows] in fire-rated frames.

B. Related Sections include the following:

1. Section 06400 “Architectural Woodwork” for wood frames for doors, sidelights, transoms, borrowed lights.
2. Section 08110 “Steel Doors and Frames” for vision panels in interior doors and interior vision panel (borrowed lites) frames.
3. Section 08210 “Flush Wood Doors” for vision panels in interior doors.
4. Section 08112 “Stile and Rail Wood Doors” for vision panels in interior doors.
5. Section 08510 “Steel Windows”.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM E2074-00: Standard Test Method for Fire Tests of Door Assemblies, Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies.

B. American National Standards Institute (ANSI):

1. ANSI Z97.1: Standard for Safety Glazing Materials Used in Buildings

C. Consumer Product Safety Commission (CPSC):

1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials

D. Glass Association of North America (GANA):

1. GANA – Glazing Manual.
2. FGMA – Sealant Manual.

E. National Fire Protection Association (NFPA):

1. NFPA 80: Fire Doors and Windows.
2. NFPA 252 – Fire Tests of Door Assemblies.
3. NFPA 257 – Fire Tests of Window Assemblies.

F. Underwriters Laboratories, Inc. (UL):

1. UL 9 – Fire Tests of Window Assemblies.
2. UL 10B – Fire Tests of Door Assemblies.
3. UL 10C – Positive Pressure Fire Tests of Door Assemblies.

G. Standard Council of Canada:

1. ULC Standard CAN4-S104: Fire Tests of Door Assemblies.
2. ULC Standard CAN4-S106: Fire Tests of Window Assemblies.

1.3 PERFORMANCE REQUIREMENTS

- A. Fire-rated tempered glass clear and wireless glazing material for use in impact safety-rated locations such as transoms and borrowed lites with fire rating requirements of 20 minutes without hose stream test; for use in interior and exterior applications.
- B. Passes positive pressure test standards NFPA-252, UL 10C, UBC 7-2.

1.4 SUBMITTALS

- A. Product data: Submit manufacturer's technical data for each glazing material required, including installation and maintenance instructions.
- B. Certificates of compliance from glass and glazing materials manufacturers attesting that glass and glazing materials furnished for project comply with requirements. Separate certification will not be required for glazing materials bearing manufacturer's permanent label designating type and thickness of glass, provided labels represent a quality control program involving a recognized certification agency or independent testing laboratory acceptable to authority having jurisdiction.
- C. Product Test Listings: From UL and/or Intertek Testing Services-Warnock Hersey Certification indicating fire-rated glass complies with requirements, based on comprehensive testing of current product.
- D. Samples: Submit, for verification purposes, approx. 8-inch by 10-inch sample for each type of glass indicated.

1.5 QUALITY ASSURANCE

- A. Glazing Standards: FGMA Glazing Manual and Sealant Manual.
- B. Fire-Rated Glass: Each lite shall bear permanent, nonremovable label of UL and/or WHI certifying it for use in tested and rated fire protective assemblies.
- C. Fire Protective Glazing Products for Door Assemblies: Products identical to those tested per NFPA-252 or UL 10C, labeled and listed by UL and/or WHI or other certification agency acceptable to authorities having jurisdiction.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to specified destination in manufacturer's or distributor's packaging, undamaged, complete with installation instructions.
- B. Store off ground, under cover, protected from weather and construction activities.

1.7 WARRANTY

- A. Provide manufacturer's limited warranty.

PART 2 -MATERIALS

2.1 MANUFACTURERS

- A. Manufacturer: PyroEdge 20™ as manufactured by AGC InterEdge Technologies, LLC, Sausalito, CA Telephone: 877-376-3343, Fax: 1-415-289-0326, e-mail: sales@firesafe-glass.com, web site: www.firesafe-glass.com
- B. Properties:
 - 1. Thickness: 1/4 inch or 3/8 inch
 - 2. Weight: 3.0 - 4.5 lbs./sq. ft.
 - 3. Approximate Visible Transmission: 89 to 87 percent.
 - 4. Approximate Visible Reflection: 9 to 8 percent.
 - 5. Fire-rating: 20 minutes (WITHOUT HOSE STREAM TEST).
 - 6. Impact Safety Resistance: ANSI Z97.1 and CPSC 16CFR1201 (Cat. I and II).
- C. Labeling: Permanently label each piece of PyroEdge20™ with the PyroEdge 20™ logo, UL or Warnock-Hersey logo and fire rating in sizes up to 3,154 sq. in.
- D. Fire Rating: Fire rating listed and labeled by UL or Intertek Testing Services – Warnock-Hersey Certification for fire rating scheduled at opening locations on drawings, when tested in accordance with [ASTM E2074-00] [NPFA 252] [UL10C].
- E. Substitutions: No substitutions allowed.

2.2 GLAZING COMPOUND FOR FIRE-RATED GLAZING MATERIALS

- A. Glazing Tape: Steel Systems: Closed cell foam, coiled on release paper over adhesive on one side, maximum water absorption by volume of 1 percent. Wood Systems: Pemko 3000S45 glazing tape.
- B. Setting Blocks: Calcium silicate: Width of glass x 3” x 1/4”
- C. Cleaners, Primers, and Sealers: Type recommended by manufacturer of glass and gaskets.

2.3 FABRICATION

- A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with recommendations of product manufacturer and referenced glazing standard as required to comply with system performance requirements.

PART 3 -EXAMINATION

- A. Examine glass framing, with glazier present, for compliance with the following:
 - 1. Manufacturing and installation tolerances, including those for size, squareness, offsets at corners.
 - 2. Minimum required face or edge clearances.
 - 3. Observable edge damage or face imperfections.
- B. Do not proceed with glazing until unsatisfactory conditions have been corrected.
- C. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings that are not firmly bonded to substrates.

3.2 INSTALLATION (GLAZING)

- A. Comply with referenced GANA standards and instructions of manufacturers of glass, glazing sealants, and glazing compounds.

- B. Protect glass from edge damage during handling and installation. Inspect glass during installation and discard pieces with edge damage that could affect glass performance.
- C. Set units of glass in each series with uniformity of pattern, draw, bow, and similar characteristics.
- D. Cut glazing tape to length and set against permanent stops, flush with sight lines to fit openings exactly, with stretch allowance during installation.
- E. Place setting blocks located at quarter points of glass with edge block no more than 6-inches from corners.
- F. Glaze vertically into labeled fire-rated metal frames or partition walls with same fire rating as glass and push against tape for full contact at perimeter of pane or unit.
- G. Place glazing tape on free perimeter of glazing in same manner described above.
- H. Provide minimum edge clearance of 1/4 inch (+1/8 inch, -1/16 inch) and a minimum edge cover of 3/8 inch for steel systems or 1/4" for wood beaded systems.
- I. Install removable stop and secure without displacement of tape.
- J. Install in vision panels in fire-rated doors to requirements of NFPA 80.
- K. Install so that appropriate markings remain permanently visible.

3.3 PROTECTION AND CLEANING

- A. Protect glass from contact with contaminating substances resulting from construction operations. Remove any such substances by method approved by glass manufacturer.
- B. Wash glass on both faces not more than four days prior to date scheduled for inspections intended to establish date of substantial completion. Wash glass by method recommended by glass manufacturer.

3.4 GLAZING SCHEDULE

Rating	Assembly	Max. Exposed Area (Sq. In.)	Max. Width Of Exposed Glazing (In.)	OR	Max. Height Of Exposed Glazing (In.)	Stop Height
20 min. [W/O HOSE STREAM TEST]	Doors, sidelites – Steel or	3,154	90 3/4		90 3/4	5/8"
	Wood Doors with Metal Lite Kit	1,242	35 _		35 1/4	5/8"
	Other than doors Doors – Wood with Wood Bead	2,868	87 9/16		87 9/16	1/2"

END OF SECTION