

PROPRIETARY ITEM: VISIONEERING™ EI60 FIRE WINDOWS AND DOORS FIRE RESISTANT GLAZED WINDOWS, WALLS AND DOORS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Fire resistant fixed glazed window systems.
 - 2. Fire resistant automatic closing glazed window systems
 - 3. Fire resistant fully glazed steel fire doors
- B. Related Requirements:
 - 1. Load Bearing Header Framing
 - 2. Finish: Powder coating of specified components.
 - 3. Preparation of wall openings
 - 4. Water proofing

1.02 REFERENCES

- A. National Construction Code:
 - 1. Specification C1.1 Fire-resisting construction
 - 2. Clause A2.3 Fire Resistance of Building Elements
 - 3. Part J as required for windows forming part of the *envelope* unless otherwise specified.
 - 4. Volume 1, Clause F5.5 Sound insulating ratings of walls
- B. Standards:
 - 1. AS1530.4 – Methods for fire tests on building materials, components and structures, Part 4 Fire-resistance test of elements of construction.
 - 2. AS1288 – Glass in Buildings – Selection and Installation
 - 3. AS1170 – Structural Design Actions, Part 2 Wind Actions
 - 4. AS2208 – Safety glazing materials ion buildings
 - 5. AS2047 – Windows in buildings – Selection and Installation

1.03 SUSTAINABLE DESIGN REQUIREMENTS

- A. ESD: Comply with sustainable design requirements including, without limitation, submittal and documentation requirements.
- B. Credit/Point Goals Applicable To This Section: In addition to global project credit/point goals:
 - 1. Materials & Resources - construction waste management
 - 2. Materials & Resources - recycled content
 - 3. Materials & Resources - regional materials
 - 4. Indoor Environmental Quality - construction IAQ management plan

1.04 SUBMITTALS

- A. Comply with Submittal Procedures:
 - 1. NCC Clause A2.3 Evidence of Suitability – submit full scale fire test report and Formal Opinion from a Registered Testing Authority clearly identifying Fire Resistance Level, maximum allowable sizes and fixing details.
 - 2. Manufacturers Product data
 - 3. Shop drawings:
 - i. Curtain location and unique identification number
 - ii. Include opening dimensions
 - iii. Show and identify related work performed under other sections of the specifications including access and electrical requirements
 - 4. Quality Assurance/Control Submittals:
 - i. Site Inspection and Test Plan.
 - ii. Manufacturers ISO 9001 Certificate of Accreditation

1.05 CLOSEOUT SUBMITTALS

- A. Comply with Project Closeout:
 - 1. Certificate of Compliance with reference to Fire Engineers Report and Evidence of Suitability.
 - 2. Operation and maintenance manual.
 - 3. Manufacturer’s warranty.

1.06 QUALITY ASSURANCE

- A. Certifications:
 - 1. AS1530.4 full scale fire test on a complete assembly in a fire rated masonry/concrete slab
 - 2. AS1905 Components for the fire protection of openings in fire resistant walls Part 1: Fire doors
 - 3. AS1530.7 full scale air (smoke) leakage test on a complete assembly
- B. Pre-Installation Meeting:
 - 1. Schedule and convene a pre-installation meeting prior to commencement of field operations with representatives of the following in attendance: Owner, Architect, General Contractor, fire curtain sub-contractor, mechanical sub-contractor, electrical sub-contractor, and ceiling/fitout sub-contractor
 - 2. Review substrate conditions, requirements of related work, installation instructions, storage and handling procedures, and protection measures.
 - 3. Document the responsibilities of various parties and deviations from specifications and installation instructions.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Comply with project delivery, storage, and handling requirements.
- B. Comply with manufacturer’s instructions.

1.08 WARRANTY

- A. Provide manufacturer's standard one year warranty for Defect Liability Period.
- B. Provide manufacturer's standard 5 year product and installation warranty in conjunction with a Smoke Control's standard 5 + 5 year maintenance contract
- C. Maintenance and Testing:
 - 1. Perform minimum quarterly maintenance and testing on each fire curtain as required by the manufacturer's warranty, AS1851 - Maintenance, and as required by the Fire Engineers Report.
 - 2. Provide Commissioning documentation including Project name, project address, location and curtain number, number of cycles tested, observations, comments (eg: curtain out of alignment), notes (eg: curtain alignment repaired), Pass/fail.
 - 3. Re-certification after the defect liability period

PART 2 - PRODUCTS

2.01 MANUFACTURED UNITS

- A. Proprietary item;
 - i. Model Visioneering™ EI60 glazed walls
 - ii. Model Visioneering™ EI60 windows
 - iii. Model Visioneering™ EI6030 glazed doors
 - iv. Model Visioneering™ EI6060 large glazed doors
- B. Manufacturer:
 - 1. Smoke Control Systems Pty Ltd
 - 2. Distributed by Smoke Control Systems Pty Ltd, 26 Ferndell St, South Granville, NSW 2142, Australia www.smokecontrol.com.au
- C. Label each Glazed section including door leaf with following information:
 - 1. Manufacturer's name and contact details.
 - 2. Curtain location and unique identification number
 - 3. Fire Resistance Level
 - 4. Date of installation

2.02 DESIGN CRITERIA

- A. Country of Manufacture: Australia
 - B. Maximum allowable opening size (Single pane):
 - i. Model Visioneering™ EI60 fixed fire window.
 - i. 2400 (h) x 1390mm (w) without mullions or transoms*
 - ii. 1400 (h) x 2400mm (w) without mullions or transoms*
 - iii. 2400 (h) x unlimited (w) when incorporating mullions*
 - iv. 1400 (h) x unlimited (w) when incorporating mullions*
- Note: height can be increased with the addition of transom*

- ii. Model Visioneering™ EI6030 fully glazed fire door
 - i. Single leaf; 2400 (h) x 1300mm (w)
 - ii. Double leaf; 2400 (h) x 2600mm (w)
 - iii. Model Visioneering™ EI6060 fully glazed fire door
 - i. Single leaf; 2700 (h) x 1400mm (w)
 - ii. Double leaf; 2700 (h) x 2800mm (w)
- C. Frame profile type;
- i. galvanized steel
 - ii. stainless steel (required within 500m of salt water, strongly recommended within 3km of salt water)
- D. Frame profile nominal dimensions (both internal and external applications);
- i. Type I: 65 x 50mm
- E. Beading; concealed fixing, snap on bead with sufficient thermal expansion clearance to comply with fire tested prototype.
- F. Glass type (internal); Laminated using individual proprietary formulated Class A safety fire glass panes, incorporating clear, UV stabilized intumescent interlayers with overall thickness of 28mm (nom) thick.
- Glass type (external); Laminated using individual proprietary formulated Class A safety fire glass panes, incorporating clear, UV stabilized intumescent interlayers and factory sealed 14mm thick argon gap (argon filled) and 6mm thick low emissivity outer panel. Overall thickness 48mm (nom) thick.
- G. Glazing accessories; Provide approved BLACK glazing gaskets, fire resistant glazing sealants, glazing tapes, setting blocks, spacers, edge blocks, and other glazing accessories that are compatible with glazing products and each other
- H. Hardware; approved hardware only (contact Smoke Control for compatible options to those listed below)
- i. Fixed window; N/A
 - ii. Door
 - i. Single leaf;
 - Closer; Dorma TS93*
 - Lock; Lockwood 5582 mortice
 - Handle; Lockwood 4800 series or 5800 series lever handles
 - Strike; Universal stainless steel
 - Hinges; Proprietary screw on 100 x 80mm
 - ii. Double leaf;
 - Active leaf
 - Closer; Dorma TS93*
 - Lock; Lockwood 5582 mortice
 - Handle; Lockwood 4800 series or 5800 series lever handles
 - Strike; Universal stainless steel
 - Sequence selector; TS93 GSR
 - Hinges; Proprietary screw on 100 x 80mm
 - Inactive leaf
 - Closer; Dorma TS93*

- Handle; Lockwood 4800 series or 5800 series lever handles
- Strike; Universal stainless steel
- Head latch; Auto flush bolt
- Hinges: Proprietary screw on 100 x 80mm

**Note: Door closer strength to suit required door size. The Visioneering™ EI6060 door leaf requires an approved electronic door closer contact us for details.*

I. Finishes;

- i. Option 1; Dulux Duralloy colour range;
- ii. Option 2; other as specified here

J. Mounting orientation; as per approved shop drawings

K. Customisation;

- i. Coloured glass
- ii. Screen printed
- iii. Acid etched
- iv. Silvered
- v. Tinted
- vi. Low iron
- vii. Security
- viii. Bullet resistant (ballistic)

2.03 PERFORMANCE CRITERIA

1. Fire Resistance Level (FRL):

- i) Windows -/60/60
- ii) Doors -/60/30

2. Internal glazing

- i. $U_w =$
- ii. $SHGC =$
- iii. $R_w =$

3. External glazing

- i. $U_w =$
- ii. $SHGC =$
- iii. $R_w =$

4. Fabrication; Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.
5. Safety Glass; Class A safety glass as defined by AS2208 Safety Glazing Materials in Buildings
6. Maintenance shall be conducted quarterly by the Manufacturer and/or their nominated representative to the Manufacturers recommendations and for warranty compliance.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates upon which work will be installed.
 - 1. Verify related work performed under other sections is complete and in accordance with shop drawings.
 - 2. Verify wall surfaces are acceptable for installation of window or door system components
 - 3. Verify setout point locations.
- B. Coordinate with responsible entity to perform corrective work on unsatisfactory substrates.
- C. Commencement of work by installer is acceptance of substrate.

3.02 INSTALLATION

- A. Install fire resistant glazing system components in accordance with fire test approvals and manufacturer's installation instructions.
- B. Protect glass edges from damage during handling and installation. Remove damaged glass from work area and legally dispose of. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
- C. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites
- D. Install setting blocks, sized and located to comply with referenced glazing publications unless otherwise required by glass manufacturer.
- E. Cut BLACK glazing tape to lengths recommended by gasket manufacturer to fit openings.
- F. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
 - i. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
 - ii. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
 - iii. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped.
- G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.
- I. Tool exposed surfaces of sealants to provide a substantial washaway from glass
- J. Immediately after installation, remove nonpermanent labels and clean surfaces.
- K. Builder to protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains. Clean as required.
- L. Remove and replace glass that is damaged during construction period.

3.03 FIELD QUALITY CONTROL

1. Inspect installed window, ensure perimeter is sealed against opening prior to fitting storm molds.
2. External; Ensure water proofing is in place and effective. The window sub-contractor is responsible for water proofing between the glass and the frame. The builder is responsible for waterproofing the opening including the perimeter of the window frame between the frame and the opening.

END OF SECTION