

## L10 ROOFLIGHTS/ SCREENS/ WINDOWS/ FRAMED DOORS

- rev \* 10.08.15 For Billing  
rev A 30.08.15 For Billing; clause 310, 320, 460 revised; revisions marked in bold or struck through.  
rev B 21.09.15 For Billing; clauses 310, 411 revised; clause 437 added; revisions marked in bold or struck through.  
rev C 09.10.15 For TENDER.

To be read with Preliminaries/General conditions

### COMPONENTS

- 310 THERMALLY BROKEN GLAZED STEEL SCREENS/ WINDOWS/ DOORS
- Location: Refer to general arrangement plans, sections and elevations, schedule CSD 506 and details referred to therein
  - Materials and workmanship: As section Z11
    - Frame members:  
Generally: Jansen Janisol Primo system, thermally broken steel hollow profiles.  
W108, W109, W110, W111 and D108 only: Jansen Janisol Primo system, thermally broken stainless steel hollow profiles.
    - Finish: Powder coated as section Z31 with zinc-rich primer.  
Colour: Allow for any six RAL Classic colours, 30% gloss, to be selected by the Architect. Allow for different colours internally to externally.
  - Jointing: Mitred, welded and ground smooth
  - Glazing details: As drawings and section L40
  - Fixing: Screwed to masonry/ steelwork/ concrete as clause 781
  - Ironmongery/ accessories: Refer to drawings
  - Other requirements:
    - Concealed galvanised steel straps as drawings.
    - Continuous pressed plate supports as drawings, powder coated to match frames.
    - Pressed facings/ trim panels as shown on drawing, powder coated to match frames.
    - Caice ventilators as clause 652.
    - Provide drawings to fully describe fabrication and installation for comment eight weeks prior to commencing fabrication.
    - Concealed cableways, door loops and holes for access control, security alarm and mechanical controls wiring and door/ window contacts. (Refer to services engineer's drawings for locations).
    - Sample window required for external wall sample panel, refer to drawing CSD 240. If panel acceptable, window may be removed for incorporation in the works.
- 320 FIRE RESISTING GLAZED STEEL DOORS
- Location: Refer to general arrangement plans, sections and elevations, schedule CSD 506 and details referred to therein
  - Materials and workmanship: As section Z11
    - Frame members: Jansen Janisol EI60 system, thermally broken steel hollow profiles
    - Finish: Powder coated as section Z31 with zinc-rich primer.  
Colour: Allow for any four RAL Classic colours, 30% gloss, to be selected by the Architect. Allow for different colours internally to externally.

- Jointing: Mitred, welded and ground smooth
- Glazing details: As drawings and section L40
- Fixing: Screwed to masonry/ steelwork/ concrete as clause 781
- Ironmongery/ accessories: Refer to schedule.
- Other requirements:
  - Janisol sub-frame with pressed metal facings to form door head panels as drawings.
  - Provide drawings to fully describe fabrication and installation for comment eight weeks prior to commencing fabrication.
  - Concealed cableways, door loops and holes for access control, security alarm and mechanical controls wiring and door/ window contacts. (Refer to services engineer's drawings for locations).

#### 460 STUDIO E ROOFLIGHTS

- Drawings references: General arrangement plans, sections and elevations; detail drawing no. CSD 238.
- Supporting structure:
  - Concrete upstands with softwood packing.
- Manufacturer: Vitral
  - Product reference: A74 Monopitch Fixed
- Type: Mono-pitch.
  - Panel centres: 1200 mm – refer to roof plan.
  - Pitch: 15°.
- Frame: A74 Monopitch Fixed System
  - Finish: Panel frames, sill covers, external cover caps, flashings and fixings: polyester powder coated to any one RAL Classic colour, 30% gloss, to be selected by the Architect.
- Glazing: As section L40:
  - Outer pane: Clear toughened Saint-Gobain Coolite Xtreme 60/28 II
  - Cavity: Argon-filled.
  - Inner pane: Clear laminated.
  - Thermal performance:
    - Mid-pane U-value: 1.1W/m<sup>2</sup>K
    - Average U-value across the roof glazing assembly: Maximum 1.6 W/m<sup>2</sup>K.
  - Acoustic performance (minimum):  $R_w + C_{tr} = 35\text{dB}$
  - Perimeter seals: Resistant to UV light degradation on exposed edges.
  - Colour of TPS perimeter spacers: Black
  - Perimeter taping: Not to be used.
  - Assembly and weather sealants: Compatible with perimeter seals.
- Accessories / fixings:
  - Installation to incorporate high density isolation material at connections to the supporting structure
  - All ridge, sill and verge/gable cover flashings and all associated gaskets and sealants.

## DESIGN AND PERFORMANCE REQUIREMENTS

#### 410 TENDERING

- Information to be provided with tender:
  - Areas of non-compliance with specification.

411 GENERALLY

- Requirements specified in this section apply to the entire glazing assembly, including flashings and junctions with adjacent parts of the building. Full allowance must be made for deflections and other movements.
- The drawings show the required appearance and divergence from this will not be permitted without written agreement.
- Notwithstanding the details and fixing methods shown on the drawings the Contractor is to satisfy himself that the design/ performance requirements are met by his design.
- Reasonable alternative proposals, using the specified window systems, which do not diverge from the required appearance will be considered.

420 FIRE RESISTANCE

- Standard: To BS 476-22
- Minimum periods and criteria: Refer to schedule CSD 506.

435 INTEGRITY

- Requirement: Determine sizes and spacings of panels, glazing bars, thickness of glazing/ infilling, types and locations of fixings and other structural requirements to ensure that the glazing will resist all wind loads, dead loads and design live loads, and accommodate deflections and thermal movements without damage.
- Wind loads: Calculate to BS 6399-2.
- Snow load (rooflight only): Determine from BS 6399-3.
- Permanent imposed loads: Self weight.
- Temporary imposed loads (windows/ screens only): Guarding as BS 6399: Part 1 and BS 6180 and as shown on drawings.

437 SOUND INSULATION

- The required performance of each window/screen/door is shown on the window schedule CSD 501.
- Calculation of acoustic rating values: To BS EN ISO 717-1:2013:Part 1.
- 3.3 Site performance
- 3.3.1 Sound insulation
- Site performance: Ensure that the laboratory sound insulation performance is not reduced when site performance is measured to BS EN ISO 16283-1:2014:Part 1. It should be noted that any individual laboratory test result that does not exceed the required performance value by at least 2 dB does not provide a reliable indication that the required performance will in fact be achieved, because of the level of reproducibility of such acoustic tests.
- Site sound insulation measurements may be undertaken by the acoustic consultant to check compliance with the acoustic performance requirements.
- Submit with fabrication drawings either one of the following:
  - Test certificates from an independently accredited laboratory demonstrating that laboratory performance requirements have been met
  - An assessment carried out to the acoustic consultant's satisfaction, demonstrating that laboratory performance requirements have been met. Such an assessment shall set out clearly the principles on which it is based, together with relevant test data on similar configurations of the cladding and/or its elements.

461 WATER PENETRATION

- Requirement: Under site exposure conditions, water must not penetrate onto internal surfaces or into cavities not designed to be wetted.

471 HEAT CONSERVATION

- Average thermal transmittance (U-value) of glazing (except lightwell rooflight as clause 135): 2.0 W/m<sup>2</sup>K

480 CONDENSATION GENERALLY

- Requirement: Condensation must not form on internal surfaces of framing members or glazing/ infilling in the following conditions:
- External air temperature: -5°
- Internal air temperature: 20°C
- Internal relative humidity (maximum): 40%

491 THERMAL SAFETY

- Glazing panes/ units: Must have adequate resistance to thermal stress generated by orientation, shading, solar control and construction.

496 SECURITY

- Fixings to patent glazing bars caps/ wings: secured to prevent unauthorized removal.

## FABRICATION AND INSTALLATION

510 WORKMANSHIP GENERALLY:

- Panes and panels to be accurately sized with clean, undisfigured and undamaged edges and surfaces.
- Keep materials dry until fixed
- Obtain approval before drilling or cutting parts of the structure other than where shown on drawings.
- Use isolating tape, plastic washers, or other suitable means to prevent bimetallic corrosion between dissimilar metals and to provide a thermal break between the main structure and the glazing system and cover trims/flashings.
- Set out panels at evenly spaced centres, straight, parallel and truly aligned with other features where shown on drawings.
- The finished work must be square, regular, true to line, level and plane with a satisfactory fit at all junctions.

520 GLASS:

- To BS 952 and the relevant parts of BS EN 572, free from scratches, bubbles, cracks, rippling, dimples and other defects.
- Panes to be accurately sized with clean, undisfigured and undamaged edges and surfaces.

540 INSULATION GLASS UNITS

- Double glazed units to BS 5713 and Kitemark certified.

560 INFILLING must be:

- Accurately sized with undisfigured and undamaged edges and surfaces.

- Adequately rigid to comply with all design/performance requirements.

570 SUITABILITY OF STRUCTURE

- Not less than two weeks before commencement of glazing installation, survey the supporting building structure, checking line, level and fixing points. Report immediately if the structure is unsuitable to receive the glazing.

580 PROTECTION AND FINAL CLEANING:

- Remove any cement and plaster based spillage whilst wet.
- Prevent staining, scratching and other disfigurement of the glazing during installation and by following trades.
- At Practical Completion or when otherwise agreed, remove any protective coverings and thoroughly clean external and internal surfaces as approved by the glazing manufacturer.

652 PROJECT-SPECIFIC WINDOW HEAD VENTILATORS

- Manufacturer: Caice Systems (tel: 0118 9186470)
- Product reference: Acoustic Ventilator
- Sizes(s): 55mm x 338mm x width to suit window frame – refer to drawings.
- Finish as delivered: Polyester powder coated as section Z31. Allow for any six RAL Classic colours, 30% gloss level, to be selected by the Architect (external end cap different to internal end cap/ body).
- Other requirements:
  - Extended external end caps as drawings
  - Body of ventilator powder coated to match internal end cap
  - Internal stiffeners/ brackets to receive window head fixings – refer to drawings
  - Specification discussed with technical Sales Manager Andy Smith.

## INSTALLATION GENERALLY

710 PROTECTION OF COMPONENTS

- General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.
- Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads etc.

730 PRIMING/ SEALING

- Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components

740 CORROSION PROTECTION

- Surfaces to be protected: Uncoated steel surfaces
- Protective coating: Two coats of bitumen to BS 6949 or an approved mastic impregnated tape
- Timing of application: before fixing components

775 BUILDING-IN

- General: Not permitted unless indicated on drawings.
  - Brace and protect components to prevent distortion and damage during construction of adjacent structure.

781 FIXING OF STEEL FRAMES

- Standard: As section Z20
- Fasteners
  - To masonry or concrete: Resin anchors
  - To timber: Coach screws
  - To steelwork: Bolts or self-drilling screws.
  - Spacing: When not needed or specified otherwise, position fasteners not more than 50 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.
- Accessories: Fixing straps as required and also as shown on drawings.
- Material for fixings and straps: Galvanised steel.

790 GAP FILLING

- Completely fill with mineral wool (min. density 45 kg/cu.m) and seal both sides (wherever possible). Sealant as clause 815.

815 SEALANT

- Sealant:
  - Manufacturer: Adshead Ratcliffe
  - Product reference: Concealed locations: Arbosil 1071  
Exposed locations: Arbosil XL1099.
  - Colour: Architect to select any four colours from the full range for the product.
  - Application: As section Z22 to prepared joints.

820 IRONMONGERY

- Fixing: Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
- Checking/ Adjusting/ Lubricating: Carry out at completion and ensure correct functioning.