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H10 PATENT GLAZING

To be read with Preliminaries/General conditions.

TYPE(S) OF PATENT GLAZING

115 PATENT GLAZING

- Drawing reference(s):
- Supporting structure:
- Patent Glazing system: To BS 5516, with performance criteria as specified in this section.
- Manufacturer and reference: The Standard Patent Glazing Company Ltd, Flagship House, Forge Lane, Dewsbury, West Yorkshire, WF12 9EL. Tel :01924 461213
- Type: 2 EDGE SUPPORTED PATENT GLAZING SYSTEM
- Glazing bar: ...
- Material: Grade 6063 temper T6 aluminium alloy, conforming to BS EN 755-2.
- Finish:
- Colour/texture:
- Minimum film thickness:
- Spacing:mm average
- Slope: To suit location
- Bottom overhang/lap: 75mm
- Pane/infilling material(s):
- Incorporated components:

GENERAL REQUIREMENTS

211 DESIGN:

- Complete detailed design of the patent glazing in accordance with BS 5516 and the requirements of this specification.
- Coordinate detailed design with that for all related works.
- Submit detailed design to the CA before commencement of patent glazing work.

221 PRODUCT SAMPLES: Before commencing detailed design provide the CA with identified samples of:

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Obtain approval of appearance before proceeding.

231 SAMPLES OF FIXINGS: When submitting detailed design, provide the CA with identified samples of each type of fixing, with details of methods of adjustment and tolerances.

DESIGN/PERFORMANCE REQUIREMENTS

311 GENERALLY: Performance requirements specified in this section apply to the entire patent glazing assembly, including flashings and junctions with adjacent parts of the building. Full allowance must be made for deflections and other movements.

321 VERIFICATION OF PERFORMANCE: Submit reports and calculations to the CA before commencement of patent glazing work. Reports and calculations must be based on approved laboratory testing or computer modelling.

331 INTEGRITY: Calculate size(s) and spacing(s) of glazing bars, thickness of glazing/infilling, types and locations of fixings and other structural requirements in accordance with BS 5516 and CP 3:Chapter V:Part 2 (making due allowance for any internal pressure) to ensure that the patent glazing will resist all dead loads and design live loads, and accommodate all deflections and thermal movements without damage.

- Basic wind speed (V):m/s
- Topography factor (S1):
- Ground roughness, building size and height factor (S2):
Determine from CP 3:Chapter V:Part 2, Table 3.
- Statistical factor (S3): 1.

- Snow load: Determine from BS 6399:Part 3.
- Permanent imposed loads:

335 INTERGRITY: Calculate size(s) and spacing(s) of glazing bars, thickness of glazing/infilling, types and locations of fixings and other structural requirements in accordance with BS 5516 and BS 6399: Part 2 (making due allowance for any internal pressure) to ensure that the patent glazing will resist all dead loads and design live loads, and accommodate all deflections and thermal movements without damage.

- Basic wind speed (Vb):m/s.
- Altitude factor (Sa):
- Directional factor (Sd): Determine from BS 6399:part 2, Table 3.
- Seasonal factor (Ss):1.
- Probability factor (Sp):1.
- Terrain and building factor (Sb): Determine from BS 6399: Part 2, Table 4.
- Size effect factor: Determine from BS 6399:Part 2, Figure 4.
- Snow load: Determine from BS 6399:Part 3.
- Permanent imposed loads:

341 FIRE RESISTANCE OF PATENT GLAZING: To BS 476: Part 22 and not less than

345 SURFACE SPREAD OF FLAME OF PATENT GLAZING:

To BS 476:part 7:

Internal: Class

External Class

351 AIR PERMEABILITY: Permissible air leakage rates of 1.5m³/hr/m² for fixed glazing/infilling and 2.0 m³/hr/lin.m for opening lights must not be exceeded when the patent glazing is tested in accordance with Centre for Window and Cladding Technology, Test methods for curtain walling, section 4 to a peak positive pressure of Pascal's.

361 WATER PENETRATION onto internal surfaces or into cavities not designed to be wetted must not occur when the patent glazing is tested in accordance with Centre for Window and Cladding Technology, Test methods for curtain walling, section 5 to a peak positive pressure of Pascal's.

371 HEAT CONSERVATION: The average thermal transmittance (U-value) of the patent glazing must be not more than Wm²k in the following conditions:

External air temperature: -4oC

Internal air temperature: +21oC

Internal relative humidity: 45% (dewpoint temperature 8.8oC).

381 CONDENSATION must not form on the internal surfaces of framing members of glazing/infilling in the following conditions:

External air temperature: -4oC

Internal air temperature: +21oC

Internal relative humidity:%.

391 SOLAR CONTROL: Glazing units must have:

- A shading coefficient of not more than
- Average light transmission of not less than% of average daylight.

401 THERMAL SAFETY: Glazing units must have adequate resistance to thermal stress generated by orientation, shading, solar control and construction.

411 SOUND REDUCTION of the patent glazing must be not less than dB for noise at a frequency ofHz.

421 SECURITY: Patent glazing bars must have internally fixed caps/wings, or externally fixed caps/wings with nonremovable fasteners.

FABRICATION AND INSTALLATION

510 WORKMANSHIP GENERALLY:

- To BS 5516.
- All fixings must be concealed unless indicated on detailed drawings.
- Machine cut and drill all components in the workshop wherever possible.
- Site drill or cut into structure only in approved locations.

520 GLASS:

- To BS 952 generally, free from bubbles, cracks, rippling, dimples and other defects. Panes to be accurately sized with clean, undisfigured and undamaged edges and surfaces.
- Insulating glass units to BS 5713, hermetically sealed and Kitemark certified.

530 TOUGHENED GLASS to be fixed in the following locations must be subjected to a heat soaking process designed to remove 90% of nickel sulphide inclusions which may otherwise cause spontaneous breakage in situ:

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540 PLASTICS GLAZING:

- Sheets to be accurately sized with clean, undisfigured and undamaged edges and surfaces.
- Glazing bars must provide adequate edge cover to sheets to prevent displacement due to thermal movement and flexing under load.
- Sealing and glazing materials must be compatible with and adhere to sheets.

550 INFILLING must be:

- Accurately sized with undisfigured and undamaged edges and surfaces.
- Adequately rigid to comply with all design/performance requirements.

560 SUITABILITY OF STRUCTURE: Not less than two weeks before commencement of patent glazing installation, survey the supporting building structure, checking line, level and fixing points. Report immediately to the CA if the structure is unsuitable to received the patent glazing.

570 PROTECTION AND FINAL CLEANING:

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