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TOWN & COUNTRY  
Conservatories

## Standard Specifications

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# Standard Specifications & General Information

## *(Hardwood Conservatories)*

### HARDWOOD CONSTRUCTION

- For painted conservatories and roof lanterns our standard roof and frame construction is in Sapele hardwood, with the door and window leaves in Idigbo. Sapele is a dense African hardwood, stronger than American or Honduran Mahogany. It has a fine texture with good machining workability. It averages about 674 kg/m<sup>3</sup> (42lb/ft<sup>3</sup>) at 12% moisture content and its mechanical properties are generally higher than those of white oak. Idigbo is also an African Hardwood with even less movement in service than Sapele. Both hardwoods display excellent properties of durability and paint adhesion.
- The British government requires that these timbers be imported from managed sources.
- For non-painted conservatories and roof lanterns we recommend either Oak or Iroko construction, or stained Sapele interiors with painted Sapele exteriors. *Oak is not recommended for North American projects.*

### GLAZED ROOFS

- Roof pitch is set as appropriate to each design and as the constraints of the site allow.
- Our roofs are primarily constructed from delicately moulded 45mm x 140mm (1 3/4" x 5 1/2") section glazing bars (rafters), hips, valleys, profiled roof plates, and substantial ridge and wall plates.
- Roofs are engineered to North American snow and wind loads, meeting or exceeding local code requirements. *In hurricane or seismic locations, this includes IBC code requirements for Coastal Zones.*
- We offer a range of roof ornamentation: turned timber finials, cast metal finials, cast metal ridge cresting and profiled timber cresting.
- Exterior rafter cappings are pre-finished in long-lasting urethane enamel to eliminate maintenance on the areas most difficult to access. Powder-coated aluminum is recommended for coastal locations. Color choices included a range of 376 colors from the B.S.(British Standard) and RAL color charts. Within that range are 28 standard colors which are included in the price of the conservatory with an additional 600 colors available from the Sikkens color chart.
- Where specified, gable designs can include intricate radial or tracery glazing patterns, all in individually shaped true-divided single or double panes or applied or genuine leaded light panes.
- Where specified, feature lanterns (surmounting a conservatory roof), and independent roof lanterns, can include glazed side-frames. The lantern side-frame windows can include intricate radial or tracery glazing patterns, all in individually shaped true-divided single or double panes or applied or genuine leaded light panes.
- When required, the roof construction is augmented by internal roof tie bars, cast metal braces and timber encased steel framing, galvanized or red-oxidized to resist corrosion. Steel framing indicates flat steel, flitch plates, tube steel and steel spider joints at rafter/boss connections where required.
- Recessed electrical conduit channels with flush fitting demountable access covers, are incorporated within the underside of roof ridges. *In North America, attachable boss pendants can be specified with finial mounting disks to accommodate electrical boxes.*

**ROOF VENTILATION** (an essential component of glazed roof design)

- Roof ventilation is provided by ridge mounted opening lights (ventilators), operated either manually by solid brass worm-screw openers and an elegant hand pole, or electronically by discreet chain actuated openers. The latter can be specified with rain sensors. *Removable vent screens are standard for North America.*
- Where ridge mounted opening lights cannot be specified, we offer alternative means of roof ventilation: mechanical fan housed within a roof pinnacle; passive trickle vents within a roof ridge; top-hung outward opening windows within lantern side-frames.

**FLAT ROOF** (where specified surmounting or adjacent to a glazed roof)

- Where suggested in our design, we supply pre-engineered flat roof sections with built in slopes for drainage. The construction consists of a carcass of preservative treated Redwood joists, premium brand high-performance foil backed insulation, furring pieces, external quality ply deck and weathering up stand. Mild steel channels and/or I-beams are incorporated where necessary.
- The flat roof exterior is prepared to accept a choice of weathering finishes:- heavy gauge aluminium; code-5 lead; three-coat bitumen asphalt. *In North America, preferred finishes are copper, lead-coated copper or rubber ply or EPDM membranes.*
- The flat roof interior is prepared to accept a choice of finishes: premium grade ply; tongue and grooved match boarding by Town & Country; builders work plasterboard (*drywall*) and skimmed plaster finish.

**RAINWATER GOODS** (gutters and down pipes)

- All guttering is in heavy-gauge aluminium, sufficient to support the weight of ladders to or on the roof and workers.
- Glazed roof elevations drain externally into large section ogee-pattern cornice guttering, essentially laid level with discreet internal joints.
- Where adjacent to new or existing structures, or where an entablature is specified above the glazed wall-frames (typical of orangeries), the glazed roof elevations drain into substantial aluminium-lined parapet/box guttering, laid to falls and incorporating stepped junctions, if needed. Beneath these gutters is the structural timber carcassing (preservative treated Redwood), mild steel bracketing and mild steel channelling that support the adjacent roof plate and the gutters themselves. The internal vertical face of this assembly is finished in profiled MDF or recessed moulded panelling. The internal underside of this assembly is finished in premium grade ply or builders work plasterboard and skimmed plaster finish or finish grade plywood.
- Rainwater is discharged by aluminum down pipes, and where appropriate, aluminium hoppers.

**WALL-FRAME** (doors and windows plus frame assembly)

- Our wall-frames are constructed from 92mm(3-5/8inches) section rebated jambs, head rails, and transoms, and substantial mid-sills and thresholds.
- Wall-frames are sub-divided into an arrangement of bays, as defined by the structural jambs. Within each bay all door and window leaves are individually framed.
- Frames are secured to base construction with engineer specified anchors including Fisher fixings (UK), Hilti anchors, lag screws, expansion bolts and tapcons, depending on the underlying structure.

- Door and window leaves can include radial or tracery glazing patterns, either in individually shaped true-divided single or double panes, or applied or genuine leaded light panes.
- The wall-frames can include a clerestory – a rise of individually framed windows above a transom over the doors and windows- built above the side frames or as part of a full height frame. The arrangement of the clerestory frame typically follows that of the doors and windows below. Clerestory window leaves can be specified operable.
- Clerestory window leaves can include intricate radial or tracery glazing patterns, either in individually shaped true-divided single or double panes, or applied or genuine leaded light panes.
- Doors can be either inward or outward opening and wherever possible are specified to open through 180 degrees. *North American doors open outward as a standard to provide the opportunity for screen doors made either in timber or side-mounted recessed roll screen doors with a center latch.*
- Opening window leaves can be either top or side-hung outward-opening. Top hung is standard and is primarily recommended.
- A generous window board (window sill), is fitted internally capping the builders work masonry base. *In North America, the mid-sill is omitted to allow customization of interior kneewall details.*
- The wall-frame jambs can be specified to include enhancements:- internal and external pilasters; corbels; stop-chamfered profiles.
- The wall frame can be specified to include a substantial profiled entablature. (Typical of orangery designs). The timber topside of the entablature is dressed in code-5 lead, *with North American builders typically preferring copper or lead over Ice & Water Shield.*
- The wall-frames can be specified to include a substantial timber base, panelled both sides and thermally insulated, instead of

builders work dwarfwalls (kneewall). Panels are weather resistant marine ply. Panels are true-fielded recessed, with applied molding.

- The wall-frames can be specified to include traditional counter-balanced box-sash window frames.
- Our rebated wall-frames are grooved to accept patent draught seals. Opening sashes are trimmed on all sides with anti-capillary grooves.
- *North American internal side frames feature a chamfered post topped by a shelf and decorative pelmet that conceals custom made retractable insect screens in charcoal gray fiberglass.*

**GLAZING** (a range of glazing specifications to suit individual circumstances)

#### Roof

- Roof: for glazing units less than 2400mm (8 ft) in length, the double-glazing units comprise two leaves of 4mm (3/16inch) clear toughened (tempered) safety glass, a 16mm (5/8inch) cavity, and include Low-emissivity heat reflective coating to the cavity face of the inner leaf. The thermal (European) U-value of roof glazing units is 1.7.

*or*

- Roof: for glazing units greater than 2400mm in length, the double-glazing units comprise two leaves of 6mm(1/4inch) clear toughened safety glass, a 12mm(1/2inch) cavity, and include Low-emissivity heat reflective coating to the cavity face of the inner leaf. The thermal (European) U-value of roof glazing units is 1.7.

*and*

- *Roof - North America Standard: Same overall thickness specification as above, but standard glass is high-performance Low-E with winter (American) U-value of .29, Shading coefficient .44, Visible light transmittance 69%, UV transmittance 14%*
- Roof glazing units are rebated into a substantial ridge beam and

secured by a two-part dry-glazed compression system – stainless steel screws securing an aluminium clip with internal gutter with Thermo Plastic Elastomer compression gaskets reinforced to reduce stretching by polypropylene cord. This assembly is topped by a screwless exterior cap. End seals are protected by an aluminium hanger clip secured to the roof plate with an interlocking support bracket. End caps feature a weep and condensate channel.

- End caps form a drip edge of varying lengths, depending on roof pitch (minimum 50mm-2inches) with the low-profile cap dying into the ogee profile gutter site line.
- *North American projects in snow zones are fitted with commercial grade heating cables concealed within the gutter and downpipes with optional control systems, by Owner.*

#### **Side Frames**

- Wall-frames, lantern side-frames and gables with true-divided panes - glazing units are retained with profiled beads internally fixed into 34mm(1-5/16inch) rebated glazing bars - have sealed double-glazing units made in individually-shaped panes, comprising two leaves of 4mm(3/16inch) clear toughened (*tempered*) safety glass, a 12mm(1/2inch) cavity, and include Low-emissivity heat reflective coating to the cavity face of the inner leaf. The thermal (European) U-value of these units is 1.9.

*or*

- Wall-frames, lantern side-frames and gables with simulated divided lite glazing patterns - the glazing units are continuous between a 26mm flush glazing bar internally, and corresponding 26mm applied glazing bars externally - and further secured in an enamel coated aluminum frame inset within the timber sash with integrated weep channels making them particularly suitable for high-stress (growing or humid) locations. Frames have sealed double-glazing units comprising two leaves of 4mm clear toughened (tempered) safety glass,

a 12mm cavity, and include Low-emissivity heat reflective coating to the cavity face of the inner leaf. The thermal U-value of window and door glazing units is 1.9.

*or*

- Wall-frames and lantern side-frames are single-glazed in individually shaped panes of 4mm clear toughened safety glass, retained with profiled beads internally fixed into 22mm(7/8inch) rebated glazing bars.
- or*
- Genuine formed single-glazed leaded light panes, or applied pattern leaded double-glazed panes are also available. The latter are formed by applying the lead to the inside and outside surface of the outer leaf of glass, creating the appearance of authentic lead whilst preserving the use of insulated glazing units.
  - Tints and special glazing options are available upon request.
  - *North American side glass is also high-performance Low-E. Glazing options are extensive.*
  - *In general, North American projects are supplied with U.S. made glass.*

#### **FINISHES AND PREPARATIONS**

- All timber roof and wall frame components are spray shop prepared to undercoat finish (*two coats*) using acrylic based finishes, oil-based by request. Door thresholds are normally mahogany-stained, *painted in North America.*
- Glazed roof elevations are fully pre-finished (in the workshops) externally. The roof double-glazing units are secured with aluminium cappings pre-finished in two-pack spray urethane enamel finish.
- Ogee-pattern cornice gutters are pre-finished in two-pack spray urethane enamel finish.

- Aluminium Parapet/box gutters are pre-finished in two-pack spray urethane enamel finish. *North American parapet/box gutters are typically copper, aluminum or membrane by others.*
- The exterior finish colour (roof cappings, gutters and metalwork) may be chosen from our palette of 28 standard colours or from an additional range of 1000 colors. *Finish coat of interior and exterior side walls is by Owner.*
- Code-5 lead is supplied and fitted weathering the abutment of our buildings to adjacent structures.
- *Copper or lead work in North American projects is supplied by the Owner.*

**IRONMONGERY (BRASSWARE)** (cast polished brass, de-laquered brass, chrome, satin chrome plate, bronze or nickel colored finish)

**Pairs of doors are fitted with:**

- pairs of projection hinges.
- pair of handles or knobs.
- 5-point throughbolt lockset (concealed bolt).
- 4No. substantial surface mounted slide bolts.
- 2No. cabin hooks with eyes.

*or*

- Surface mounted espagnolettes to order.

**Top hung opening windows are fitted with:**

- 1No. key-operated mortise security bolt. *(omitted in North America)*
- 1No. casement stay and pins. *(2 each for opening sashes exceeding 700mm,28inches)*

**ENGINEERING**

- No project is manufactured without structural engineering calculations. *In North America, stamped and sealed engineering calculations are available for all states and Canada.*

**DELIVERY AND INSTALLATION**

- All Town & Country buildings in the UK and US are delivered and installed by experienced Town & Country installers. Subcontractor installations are not permitted and void all warranties.

**DRAWINGS**

- All Town & Country contracts include the preparation of workshop production (shop) drawings and include attaching details and dimensions and base or dwarfwall (*kneewall*) setting out dimensions for the Owner's contractor. Frame opening dimensions are provided for infill Owner's builders work.

**SPECIFICATION OPTIONS**

- A range of options are available including electric or manual "cordless" roof blinds in a variety of colors and fabrics, cornices, extended window boards to form window seats or radiator grills - either open or paneled, and matching joinery.

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