

DETAILS OF EXTERNAL MATERIALS

**** To be read in conjunction with drawing: MER2989 (99) – Typical Construction Details**

ROOF STRUCTURE

Our roof system incorporates a high-performance, double-glazed system supported by very fine glazing rafters. The glass rests on structural aluminium glazing rafters and immensely strong integral frame produced in our welding department.

Externally an aluminium glaze bar cap secures the glass in position. This cap is powder-coated lead grey, ensuring the longevity and low maintenance of the roof.

The orangery is designed to incorporate a traditional eaves detail with a secret gutter positioned behind. The insulated secret gutter has been designed as an integral part of the roof structure and is fabricated from aluminium and supported by a structural aluminium and timber chassis. A GRP membrane lines the inset gutter areas making them watertight.

The roof glass is 6mm float, 16mm Argon filled cavity and a 6.4mm laminate, with a soft coat Low E glass internal coating. It offers superb thermal efficiency and will remain intact in the unlikely event of damage from falling tiles etc. The laminate layer also provides a high UV protection.

Rainwater will dispense into decorative cast aluminium hoppers, which allows water to expel into aluminium downpipes.

Ventilation in the roof is by means of two thermostatically operated ridge ventilators.

SIDE STRUCTURE

The orangery will sit on a low wall constructed in brick to match the existing materials as closely as is achievable – see section 4.0 of the *Heritage, Design & Access Statement* for details.

Main frames, doors and windows are manufactured in a combination of painted Grade 1 Douglas Fir and Sapele Mahogany, and other timbers where appropriate all on hardwood cills. Side frames, doors and panels receive Protim pressure treatment, where appropriate, for long life and protection against rot and fungal attack. All timberwork is traditional mortice and tenon jointed and enhanced with decorative moulded edges and profiles.

The orangery incorporates a set of outward opening, traditional double doors. All door thresholds are fitted with a unique Architectural Bronze water-bar sitting on a large hardwood sill, stained in Walnut. Top hung opening windows have also been incorporated within the design. Doors and windows are fitted with storm proof seals.

Side units are double glazed with an inner leaf of 4mm soft coat Low E glass, with an Argon filled cavity of 14mm, and an outer leaf of 4mm. All side glazing is a combination of standard float, with toughened units where required by Building Regulations.

Glazing spacer bars will be finished in black.