



HERITAGE ARCHITECTURE LTD.
Architects and Heritage Consultants

HOPE PROJECT - KOKO

DOME REINSTATEMENT – TIMBER STRUCTURE

MATERIALS & WORKMANSHIP

June 2020

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This document is to be read in conjunction with the Dome Timber Frame Construction drawings No's 400_1 – 400_11 by Stephen Levrant Heritage Architecture [SLHA] (May 2020) and the Dome Reinstatement Architectural Drawings by Archer Humphryes Architects [AHA] (June 2020).

The section below is divided into general notes for the whole project and specific notes relating to timber works only. All works are to be strictly undertaken as mentioned in the notes below. Section heading numbers refer to the National Building Specification standard numbering system.

1.0 INTRODUCTION / GENERAL CONDITIONS

- 1.1. The dome reinstatement works are necessary remedial works due to damage caused by the fire in January 2020 and consequent water damage resulting in a further deterioration of the building fabric. The local authority will have the right of access at any time to inspect the works.
- 1.2. The requirements of the Historic England and the Local Authority are a like-for-like reinstatement of the dome, of identical design, dimensions, materials and details as the historical fire damaged dome. Due to present day standards and regulations an exact replica will not be possible; joints are to be reinforced with dowels, and the wrought iron straps and bolts are largely ornamental.
- 1.3. The work must be undertaken only in areas identified and marked on the dome reinstatement architectural drawings by AHA [Proposed drawings], the timber structure detail drawings by SLHA [Dome Timber Frame Construction drawings No's 400_1 – 400_11] and below referenced specialists' reports by HTS (C11:320 Trials and Investigations).
- 1.4. Clerk of Works ("CoW") with experience of historic buildings will be appointed to inspect the workmanship, quality and safety of work on construction sites and report back to senior managers and clients.
- 1.5. Where required as noted in this specification, obtain agreement samples, dimensions, materials from the Conservation Architect ("CA") before proceeding. Requests for such agreement to be presented in a timely manner and will be provided in writing.
- 1.6. Programme: As soon as possible, and before starting work on site send a copy of the Contractor's programme to the Main Contractor.
- 1.7. Setting Out: Check the levels and dimensions of the site against those shown on the drawings and record the results on a copy of the drawings. Notify CoW in writing of any discrepancies which will affect the works as approved by. The contractor will mark out on site the exact orientation of the dome and the principal trusses and obtain agreement from the CoW/CA before proceeding.
- 1.8. Prior to commencement of the works, the Contractor must provide a method statement for all works, including protection methods of the items that are to be retained.
- 1.9. The utmost care must be taken during the reinstatement works (timber structure erection) so that there is no damage to any sensitive areas or of any items that are of any historical or architectural merit - **only marked and specified elements and fabric can be fitted**. Any historic features not identified for removal/alteration MUST not be disturbed and are to be protected. If in doubt, check with the CoW/CA before commencing works.
- 1.10. Prevent damage to existing property undergoing alteration or extension and make good to match existing any defects so caused. Remove existing work the minimum necessary and with care to avoid the loss of the irreplaceable historic fabric.

- 1.11. The new replacement concrete slab below the dome is to be used as a working platform for the dome reinstatement works. If in any doubt about the temporary works, the Contractor should contact the Main Contractor [Od Projects] and the Structural Engineer (HTS) for clarification on any structural elements. If any additional temporary structure is needed, this is to be approved by the Structural Engineer and the Main Contractor, before commencing work.
- 1.12. All works on site to be undertaken by appropriate tools and equipment, suitable for the materials in hand. **No hot works are to be undertaken at site.**
- 1.13. The Contractor is to keep all plant, materials and temporary accommodation within the boundary of the work-site.
- 1.14. Waste:
- Remove rubbish, debris, surplus material and spoil regularly and keep the site and Works clean and tidy.
 - Remove all rubbish, dirt and residues from voids and cavities in the construction before closing in.
 - Ensure that non-hazardous material is disposed of at a tip approved by a Waste Regulation Authority.
 - Remove all surplus hazardous materials and their containers regularly for disposal off site in a safe and competent manner as approved by a Waste Regulation Authority and in accordance with relevant regulations.
 - Retain waste transfer documentation on site.

A12 THE SITE / EXISTING BUILDING

101 THE EXISTING BUILDING

- Koko is a listed Grade II building. Make every effort to ensure that no damage occurs to the historic fabric; its loss is irreversible; it can only be replicated, never replaced. It is a criminal offence to carry out any unauthorised works to a listed building that may affect its special interest, and to do so can, upon indictment, carry a penalty of up to 2 years in prison and an unlimited fine.
- The Contractor is to ensure that all the workforce are aware of the above during induction”.
- Original dome structure build-up: *“Diagonally-fixed timber boarding was secured to 2-part sandwiched and curved timber ribs. These were supported by a substantial ring beam/purlin at the approximate mid-span which was supported by 8no. trusses positioned at angles to form the semi-spherical shape of the dome. The trusses comprised a chord/tie-beam, king-post, and 2no. braces/principal rafters and were supported by substantial posts at the base and fixed to an octagonal ring-beam at the apex. An outer ring beam formed the edge of the timber flat roof (cupola base) at the apex, and 2no. plates formed the base of the dome, 1no. at finished floor level, and another ~2m above. Both plates comprised an inner and outer section. Externally, the 24no. segments of the dome were formed by semi-cylindrical timbers under rounded copper rolls.” (H+R, Site note 4)*

102 Comply with the Local Authority’s requirements for restrictions on axle weights, movement of large vehicles etc., and obtain all licenses and permits for vehicle access – **to be coordinated with the Main Contractor.**

103 Comply with the Local Highways Authority’s requirements for licenses for scaffolding, skips, licenses etc. – **to be coordinated with the Main Contractor.**

104 **Sequence of works with other trades to be coordinated with the Main Contractor.**

140 ACCESS TO THE SITE

- Details: Safe and convenient access should be provided to all areas, so as to facilitate security, inspection and maintenance.

150 PUBLIC SAFETY

- Protection of the site operatives and visitors during the strip-out works: Erect temporary fences, hoardings, footpaths, warning lights, etc. before starting work.
- Means of escape in the event of fire: Maintain for the duration of the Works.

160 SITE SAFETY

- Protection: Effective site security to be provided 24/7 to manage the risk of vandalism and unauthorised access. Consideration should be given to providing additional signage on the exterior and interiors of the site warning of the risk of unauthorised access; especially the risk of asbestos containing materials.

C11 SITE INVESTIGATIONS

320 TRIALS, SAMPLES AND INVESTIGATIONS (NOT BY CONTRACTOR) - COMPLETED

General: A number of investigations have been undertaken prior to Contractor possession in order to inform the specification and the nature of the works themselves. Findings and results of these investigations have been incorporated into the specification for the relevant sections. All investigation reports are available for inspection in relation to specific items/materials. In brief, these comprise the following:

1	SLHA, <i>'Dome Historic Timber Structure - Post-fire Inventory Report'</i> (April 2020)
2	Hutton+Rostron, <i>'Strength grading assessment of structural timber Elements'</i> (Site note 1 for 15 March 2017)
3	Hutton+Rostron, <i>'Timber condition investigation of the 'Dome''</i> (Site note 4 for 28 June 2019)
4	Hutton+Rostron, <i>'Timber strength grading assessment of the 'Dome' roof structure'</i> (Site note 5 for 28 June 2019)
5	HTS, <i>'Comments on dome connections'</i> (May 2020)
6	HTS, <i>'Dome Slab Options Report'</i> (May 2020)
7	Scotch Partners LLP, <i>'Acoustic considerations for dome reinstatement'</i> (May 2020)

320A CONTROL SAMPLES AND INVESTIGATIONS (BY CONTRACTOR)

- General: Complete types of work/samples as listed below, submit location of samples for approval and arrange for inspection before proceeding with the remainder:
 - Timber for trusses
 - Timber for carcassing
 - Timber for finishing
 - Wrought iron bolts and bracing
 - Resin dowels
- Retention of samples: Unless instructed otherwise, retain all approved samples on site for quality reference.
- Protection: Protect from adverse weather and damage.

G20 CARPENTRY/ TIMBER FRAMING/ FIRST FIXING

To be read with Preliminaries/General conditions.

GENERAL

102 TIMBER GENERALLY

- Ensure temperate, boreal and tropical forests softwoods and hardwoods comply with European Community Regulations 3626/86.
- Structural softwood specified as *Pinus Sylvestris* (European grown), naturally seasoned air-dried.
- Softwood sizes are as shown on the Dome Timber Frame Construction drawings No's 400_1 – 400_11 by SLHA.
- Where dimensions are required do not scale drawings, request information from CA

103 TIMBER CERTIFICATION

- Requirements for all timbers and timber-based products. Ensure all supplies of timber and timber-based products (including those used for temporary works) conform to the specified certification standard listed below:
- A FSC (refer to clause 103) – All tropical hardwoods, all non-European sourced temperate hardwoods (e.g. North American sourced Oak and Walnut), all non-European sourced softwoods (e.g. North American sourced Western Red Cedar), Plywood (except where formed from Birch or Douglas Fir)
- B PEFC (refer to clause 104*) – All European sourced softwoods (White Wood, Deal, Douglas Fir, Larch, Yew etc.), European sourced hardwoods not listed under D (Oak (European), Birch, Maple etc).
- C Timber of known origin (refer to clause 105*) – Orientated Strand Board (to be of European or North American source), Chipboard (to be of European or North American source)
- D No certification requirement – Beach, Ash, Willow, Cherry (and other temperate fruit woods), MDF

104 TIMBER CERTIFICATION FSC (Forest Stewardship Council)

" A Ensure specified type of timber or timber based products have undergone evaluation, accreditation and monitoring based on the principles for good forest management established by The Forest Stewardship Council (FSC) carried out by the FSC.

" B Provide evidence to the CA for review on request.

105 TIMBER CERTIFICATION PEFC (Pan European Forest Certification)

" A Ensure specified type of timber or timber based products are sourced from sustainable managed forests controlled by a national forest certification scheme assessed and recognised by the PEFC council.

" B Provide evidence to the CA for review on request

106 TIMBER PROCUREMENT

- Timber (including timber for wood based products): Obtained from well managed forests/ plantations in accordance with:
 - The laws governing forest management in the producer country or countries.
 - International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
- Documentation: Provide either:
 - Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied, or
 - Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.

106 TIMBER PROCUREMENT

" A Ensure all suppliers of timber are not wood species that are included in the current editions of Appendix I and II of the Convention on International Trade in Endangered Species (CITES).

" B For detailed current information contact: Department of the Environment, UK CITES Management Authority, Tel: 0117 987 8000.

120 STRUCTURAL DESIGN PROVIDED

- Description: Refer to Structural Engineers Details; see section C11:320.
- Requirements:
 - Generally: All timber is to be of strength grade C24.
 - Additional requirements:
 - o Sufficient bearing transfer is achieved through surface preparation and fit of elements.
 - o Arrow-head bracing for king post trusses – 7no salvaged to be re-used & 1no bracing with visible bolts made to match of genuine hand-forged puddled wrought iron, all 8no with resin dowels (see HTS 'Comments on Dome Connections').
 - o All other bolts, washers, nuts and other iron elements are to be replaced with equivalent size steel elements of grade 8.8 or strength S275 as is relevant for the particular item.
 - o All screws to have pre-drilled holes which are to be sized and installed per Rothoblaas requirements.
 - o All screws to be into element centre lines unless noted otherwise and to be applied to every location.

150 STRENGTH GRADING OF TIMBER

- Grader: A company currently registered under a third-party quality assurance scheme operated by a certification body approved by the UK Timber Grading Committee.
- Requirements: Timber members for main trusses only to be unstamped (grading to be provided in a separate document) / stamped on faces that will not be exposed.

160 GRADING AND MARKING OF SOFTWOOD

- All timber not specified for wet exposure: Graded at an average moisture content not exceeding 20% at the core, with no reading being in excess of 24%, and clearly marked as 'AIR-DRY' (Naturally Seasoned Air-Dried).

- Timber graded undried (green) and specified for installation at higher moisture contents: Clearly marked as 'WET' or 'GRN'.
- Structural timber members cut from large graded sections: Regraded to approval and marked accordingly.

260 GRADED SOFTWOOD FOR STRUCTURAL USE

- Stress graded to BS 4978 or other national equivalent and so marked.
- Strength class to BS 5268: Part 2: SC3 -SC7
- Surface finish: PAR [planed all round]
- Treatment:
 - **Preservative treatment:** Vacuum-pressure impregnation selectively treated vulnerable elements - **lower stud wall plate only**, as per section Z12 and Wood Protection Association Industrial Wood Preservation Manual Specification.

Type/desired service life: to structural engineer's specification

- **Fire retardant treatment:** Surface Spread of flame (Class 1 SSF) to be applied on any exposed timbers or surface finishes – **king post trusses only**, as per section Z12 and Wood Protection Association Commodity Specification FR INT1.
- **Moisture content** at time of erection: **not exceeding 20% at the core**, as clause 450 below

270 UNGRADED SOFTWOOD FOR INTERNAL NONSTRUCTURAL USE

- Quality of timber: Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
- Surface finish: Regularized.
- Treatment: None

311A NONSTRUCTURAL PLYWOOD FOR PARAPET GUTTER BOARDS, EAVES, FACIAS and ANYWHERE SPECIFIED

- Standard: To the relevant national standards and quality control procedures specified in BS5268-2, and so marked.
- Type: Finnish spruce plywood.
- Grade: II/III.
- Nominal thickness: Refer to drawings.
- Appearance and Finish: Appearance Class to BS EN 635: Class II/III
Bond type: External weatherproof to BS6566: Part 8.
- Finish: Sanded.
- Treatment: None

WORKMANSHIP GENERALLY

401 CROSS SECTION DIMENSIONS OF STRUCTURAL SOFTWOOD AND HARDWOOD

- Dimensions: Dimensions in this specification and shown on drawings are target sizes as defined in BS EN 336.
- Tolerances: The tolerance indicators (T1) and (T2) specify the maximum permitted deviations from target sizes as stated in BS EN 336, clause 4.3:
 - Tolerance class 1 (T1) for sawn surfaces.
 - Tolerance class 2 (T2) for further processed surfaces.

402 CROSS SECTION DIMENSIONS OF NONSTRUCTURAL SOFTWOOD

- Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
- Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1:
 - Clause 6 for sawn sections.
 - Clause NA.2 for further processed sections.

403 CROSS SECTION DIMENSIONS OF NONSTRUCTURAL HARDWOOD

- Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
- Maximum permitted deviations from finished sizes: As stated in BS EN 1313-2:
 - Clause 6 for sawn sections.
 - Clause NA.3 for further processed sections.

405 CROSS SECTION DIMENSIONS OF TIMBER

- Shown on drawings are nominal sizes unless stated otherwise. Reduction to finished sizes of planed/regularised timber to be to BS 4471 for softwoods and BS 5450 for hardwoods.

420 WARPING OF TIMBER

- Bow, spring, twist and cup: Not greater than the limits set down in BS 4978 or BS EN 14081-1 for softwood, or BS 5756 for hardwood.

430 SELECTION AND USE OF TIMBER

- Timber members damaged, crushed or split beyond the limits permitted by their grading: Do not use.
- Timbers to be perfectly free from sap, splits and shakes, large and loose knots, sloping grain exceeding one in eighth.

435 NOTCHES, HOLES AND JOINTS IN TIMBER

- Notches and holes: Position in relation to knots or other defects such that the strength of members will not be reduced.
- Scarf joints, finger joints and splice plates: Do not use without approval.

440 PROCESSING TREATED TIMBER

- Cutting and machining: Carry out as much as possible before treatment.
- Extensively processed timber: Retreat timber sawn lengthways, thickness, planed, ploughed, etc.
- Surfaces exposed by minor cutting/ drilling: Treat with two flood coats of a solution recommended by main treatment solution manufacturer.

450 MOISTURE CONTENT

- Moisture content of timber at time of erection to be not more than:
 - Covered in generally unheated spaces: 24%.
 - Covered in generally heated spaces: 20%.
 - Internal in continuously heated spaces: 20%.

510 PROTECTION

- Generally: Keep timber dry and do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.
- Timber and components: Store under cover, clear of the ground and with good ventilation. Support on regularly spaced, level bearers on a dry, firm base. Open pile to ensure free movement of air through the stack.
- Trussed rafters: Keep vertical during handling and storage.
- Arrange sequence of construction and cover timber as necessary during and after erection to ensure that specified moisture content is not exceeded.

550 EXPOSED TIMBER

- Planed structural timber exposed to view in completed work: Prevent damage to and marking of surfaces and arrises.

JOINTING TIMBER

570 JOINTING/FIXING GENERALLY

- Generally:
 - Joints fastening generally by nails, screws and iron bracing, see G20:120; where not specified precisely (see C11:320 - see HTS 'Comments on Dome Connections'), select methods of jointing and fixing and types, sizes and spacings of fasteners in compliance with section Z20.
 - The fastenings to be arranged in such a way to weaken the pieces of timber that they connect as little as possible.
 - Each abutting surface in a joint to be placed as nearly as possible perpendicular to the pressure which it transmits.
 - All joints to be as per Dome Timber Frame Construction drawings No's 400_1 – 400_11]; if in doubt check with CA.

ERECTION AND INSTALLATION ERECTION AND INSTALLATION

750 MODIFICATIONS AND REPAIRS

- Defects due to detailing or fabrication errors: Report without delay.
- Methods of rectification: Obtain approval of proposals before starting modification or remedial work.
- Defective/damaged components: Timber members/ components may be rejected if the nature and/or number of defects would result in an excessive amount of site repair.

760 TEMPORARY BRACING

- Provision: As necessary to maintain structural timber components in position and to ensure complete stability during construction.

770 ADDITIONAL SUPPORTS

- Provision: Position and fix additional studs, noggins and/ or battens to support edges of sheet materials, and wall/ floor/ ceiling mounted appliances, fixtures, etc. shown on drawings.
- Material properties: Additional studs, noggins and battens to be of adequate size and have the same treatment, if any, as adjacent timber supports.

775 BEARINGS

- Timber surfaces which are to transmit loads: Finished to ensure close contact over the whole of the designed bearing area.
- Packings: Where provided, to cover the whole of the designed bearing area.
- Crushing strength: Not less than timber being supported.
- In external locations: Rot and corrosion proof.

780 WALL PLATES

- Position and alignment: To give the correct span and level for trusses, joists, etc.
- Bedding: As per Dome Timber Frame Construction drawings No's 400_1 – 400_11 by SLHA and 'Comments on dome connections' by HTS.
- Joints: As per Dome Timber Frame Construction drawings No's 400_1 – 400_11 by SLHA and 'Comments on dome connections' by HTS.

800 TRUSSED RAFTER INSTALLATION

- Erection: To BS 5268-3, clause 9.3
- Trusses generally: Do not modify without approval.
- Damaged trusses: Do not use.
- Fixing: As per Dome Timber Frame Construction drawings No's 400_1 – 400_11 by SLHA and 'Comments on dome connections' by HTS.

Z12 PRESERVATIVE/ FIRE RETARDANT TREATMENT

To be read with Preliminaries/ General conditions.

Only applicable to selected timbers – see G20:260

110 TREATMENT APPLICATION

- Timing: After cutting and machining timber, and before assembling components.
- Processor: Licensed by manufacturer of specified treatment solution.
 - Operatives: Preferably WPA trained.
- Certification: For each batch of timber provide a certificate of assurance that treatment has been carried out as specified.

120 COMMODITY SPECIFICATIONS

- Standard: Current edition of the Wood Protection Association (WPA) publications 'Industrial Wood Preservation Manual' and 'Flame Retardant Specification Manual'.
- Solution strengths and treatment cycles: Select to achieve specified service life and to suit timber treatability.

130 PRESERVATIVE TREATMENT SOLUTION STRENGTHS/ TREATMENT CYCLES

- General: Select to achieve specified service life and to suit treatability of specified wood species.
 - After treatment: Timber to be surface dry for at least 14 days before using.

160 PRESERVATIVE TREATMENT FOR USE IN TIMBERS NOT IN CONTACT WITH THE GROUND

- Solution: organic solvent or microemulsions water based (see G20:260 above)
 - Manufacturer: TBC
 - Application: Double vacuum + low pressure impregnation, or immersion.
- Moisture content of wood:
 - At time of treatment: As specified for the timber/ component at time of fixing.
 - After treatment: Timber to be surface dry before use.

210 FIRE RETARDANT TREATMENT

- Solution type: Type INT 1, Class 1 surface spread of flame to BS 476: Part 7, Humidity resistant
 - Manufacturer: TBC
 - Application: Vacuum + pressure impregnation.
- Moisture content of wood:
 - At time of treatment: As specified for the timber/ component at time of fixing.
 - After treatment: Timber to be redried slowly at temperatures not exceeding 65°C to minimize distortion and degradation.

610 MAKING GOOD TO PRESERVATIVE TREATMENT ON-SITE

- Preservative solution: Compatible with off-site treatment.
- Application: In accordance with preservative manufacturer's recommendations.

620 MAKING GOOD TO FIRE RETARDANT TREATMENT ON-SITE

- Fire retardant: Compatible with off-site treatment.
- Application: In accordance with fire retardant manufacturer's recommendations.

Z20 FIXINGS AND ADHESIVES

To be read with Preliminaries/ General conditions.

PRODUCTS

310 FASTENERS GENERALLY

- Materials:
 - Hand-forged puddled wrought iron bracing.
 - Bimetallic corrosion resistance appropriate to items being fixed.
 - Atmospheric corrosion resistance appropriate to fixing location.
- Appearance: Submit samples on request.

320 PACKINGS

- Materials: Noncompressible, corrosion proof.
- Area of packings: Sufficient to transfer loads.

330 NAILED TIMBER FASTENERS

- Nails:
 - Steel: To BS 1202-1 or BS EN 10230-1.
 - Copper: To BS EN 1202-2.
 - Aluminium: To BS 1202-3.

370 WOOD SCREWS

- Washers and screw cups: Where required are to be of same material as screw. Refer to structural engineer's drawings and spec.
- All bolts, washers, nuts and other iron elements are to be replaced with equivalent size steel elements of grade 8.8 or strength S275 as is relevant for the particular item.
- All screws into timber are to be countersunk
- All visible screws are to be slot-head

371 BOLTS

- Bolts through truss joints to be of genuine puddled wrought iron, treads formed by with hand tap-and-die for nuts, and washers hand forged to match; All finished by hot quenching in oil, minimum 3No immersions.

380 MISCELLANEOUS SCREWS

- Type: To suit the fixing requirement of the components and substrate.
 - Pattern: Self-tapping, metallic drive screws, or power driven screws.
- Washers and screw cups: Where required to be of same material as screw.

390 ADHESIVES GENERALLY

- Standards:
 - Hot-setting phenolic and aminoplastic: To BS 1203.
 - Thermosetting wood adhesives: To BS EN 12765.
 - Thermoplastic adhesives: To BS EN 204.

EXECUTION

610 FIXING GENERALLY

- Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
- Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers/sleeves to avoid bimetallic corrosion.
- Appearance: All screws to be into element centre lines unless noted otherwise and to be applied to every location.

620 FIXING THROUGH FINISHES

- Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

630 FIXING PACKINGS

- Function: To take up tolerances and prevent distortion of materials and components.
- Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
- Locations: Not within zones to be filled with sealant.

650 NAILED TIMBER FIXING

- Penetration: Drive fully in without splitting or crushing timber.
- Surfaces visible in completed work: Punch nail heads below wrot surfaces.
- Nailed timber joints: Two nails per joint (minimum), opposed skew driven.

660 SCREW FIXING

- All screws to have pre-drilled holes which are to be sized and installed per Rothoblaas requirements.
- Finished level of countersunk screw heads:
 - Exposed: Flush with timber surface.
 - Concealed (holes filled or stopped): Sink minimum 2 mm below surface.

670 PELLETED COUNTERSUNK SCREW FIXING

- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
- Pellets: Cut from matching timber, match grain and glue in to full depth of hole.
- Finished level of pellets: Flush with surface.

680 PLUGGED COUNTERSUNK SCREW FIXING

- Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
- Plugs: Glue in to full depth of hole.
- Finished level of plugs: Projecting above surface.

700 APPLYING ADHESIVES

- Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.
- Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
- Finished adhesive joints: Fully bonded. Free of surplus adhesive.