21 Moorfields

Specification, INTERNAL DOORS, L20
Status: Contract
Date: 09/09/2019
Revision: Issue C03
21M-WEA-XX-XXX-SP-A-00076

WilkinsonEyre.Architects
33 Bowling Green Lane
EC1R 0BJ
London
Tel: 020 7608 7900
Fax: 020 7608 7901

Table of Contents

L20 INTERNAL DOORS

To be read in conjunction with Section A, other related Sections of the Specification and the Design Drawings.

L20.1000 TYPE, SYSTEMS, MATERIALS AND PERFORMANCE

L20.1100 SPECIFICATION TYPE

L20.1101 Descriptive Work

a) For general design and performance requirements, refer to Section A of the Specification. Specific design and performance requirements are provided in this Section.

b) Undertake the Detailed Design, supply, install and warrant the Works complying with the visual intent indicated on the Design Drawings and criteria stated in the Specification.

c) Where no material, product or supplier is indicated in the Specification, propose suitable materials and systems prior to Contract award which comply with the visual intent and performance criteria stated and remain fully responsible for the Detailed Design of the Works.

d) Where a material, product or supplier is indicated in the Specification, such material, product or supplier shall be deemed indicative representing the Employer's design intent only. The Contractor may complete the installation using that product, or such other confirmed as acceptable by the Employer in writing, but shall remain fully responsible for the Detailed Design and performance of the Works.

e) Interfaces:

   i) Co-ordinate with the work of others including interfacing as required.

   ii) Maintain performance at interface conditions.

   iii) Undertake the Detailed Design of interfaces with adjoining trades prior to commencement of the Works.

L20.1200 SYSTEM DESCRIPTIONS

Architectural and Functional Requirements

L20.1201 General

a) Door leaves and door frames shall be by the same manufacturer. Alternatively, the frames may be manufactured by a source recommended in writing by the door leaf manufacturer. Doorsets shall be pre-hung and be certified to achieve the performance criteria.

b) The Works shall be securely fixed and sealed in accordance with the manufacturer's recommendations, not compromising the performance and certification of the doorset.

c) Ironmongery shall be in accordance with Section P21 and the Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040)–. The doorset manufacturer shall make sure that the ironmongery does not compromise the certification of the Works.

d) Where applicable, the final glass thickness, type, make-up, type of breakage and containment in the various locations shall be determined, paying full attention to the safety requirements. Final selection of glass thickness, together with type and location of interlayer and coatings shall remain the Contractor's responsibility.

e) Doorsets shall be checked with regards to security and the relevant security symbols.

f) Fixing of signage shall be undertaken by methods that maintain the performance and integrity of the doorsets.

g) Doorsets shall be factory pre-machined, and reinforced as necessary, for specified ironmongery, prior to the application of factory finishes. Check that the doorset manufacturer is in receipt of specimen furniture at the earliest opportunity after order placement to enable configurations of machinery.

h) Timber leaves shall have a suitable solid core to achieve the performance requirements of the Specification.

i) Metal door leaves shall have a suitable internal structure to achieve the performance requirements of the Specification.

~~j) Factory finished doors shall have colour matched pellets to conceal fixings.~~

k) ~~Door~~Wherever possible door frames shall include integral or planted door stops that are within the frame profile, as accepted by the Employer.

l) To achieve performance requirements of door frames, provide for seals and components to subframes, partitions or masonry.

m) Provide additional support angles, bracketry and framing to secure the frames to supporting walls.

n) Pack any gaps between door frame and wall with suitable material to achieve performance requirements.

o) Shadow gap detail between wall and frame shall be as indicated on the Design Drawings, where required.

p) Door leaf(ves) and associated panels shall arrive on Site with adequate surface protection. Material used for surface protection shall be of low flammability and shall be in accordance with the requirements of LPS 1207.

q) Door closers shall be sufficiently robust for the specific weight/ load of each door to which they are fitted.

r) Frames for regular metal doors shall be supplied as knock-down.

s) Frames for security doors shall be supplied as fully welded.

t) Frames for timber doors shall be supplied as fully assembled.

u) Screw holes for metal doors shall be covered with flush metal caps with finish matching frame/ door.

v) Fixings for timber doors/ frames shall be concealed behind intumescent strips/ seals, unless otherwise agreed with the Employer.

w) Any door loop (for cabling) shall be concealed except for ~~Security~~security doors when necessary.

L20.1202 Services

a) Refer to the Services Engineer's documentation and the Fire Strategy Report with regard to door operations, security and additional devices, etc.

b) Where applicable, framing sections shall be capable of containing electrical cables serving security/ access equipment to activators and other components, as indicated on the Design Drawings.

c) Openings for the installation of cables shall be provided by the Contractor, after discussion and agreement with the Employer.

d) Connect parts of equipment with insulated wiring as required for operation.

L20.1203 Performance Requirements

a) Performance, as indicated on the associated Door Schedule, of the doorset/ assembly type shall vary dependent on location. The Contractor shall use the applicable manufacturer's details of the required visual range to achieve the stated performance.

b) Each type of doorset shall be tested to confirm that they achieve the performance requirements.

c) Testing of the doorsets inclusive of fittings, frames, ironmongery and glass panels shall be undertaken by an accredited manufacturer/ company. The Contractor shall allow sufficient time for testing the doors to prevent delays to the programme.

d) Industry recognised independent third party certification is required indicating compliance of individual doorsets with the specified performance.

e) Duty categories as described shall be in accordance with BS EN 1192.

f) Vision panels shall maintain the performance requirements of the doorsets and shall be factory fitted.

L20.1204 Design Requirements

Refer to the Design Drawings and Door Schedule for the configuration and design intent of doorsets.

a) Door and doorset T-Sheet references shall be common to doors of equivalent visual appearance. Variations in performance requirements, dimensions, configurations (i.e. single leaf, leaf and a half, double leaf) and structural opening dimensions shall be as stated on the Door Schedule and as indicated on the Design Drawings.

b) The inclusion of any additional requirements, such as but not limited to vision panels and door protection shall be as indicated on the Door Schedule and/ or the Design Drawings.

c) There shall be a minimum ~~3no~~of 3 No. hinges per door leaf unless otherwise agreed with the ~$architect$~ and manufacturer. Hinges shall be evenly spaced out and centred on the doorset long edge.

L20.1205 Architraves

a) Architraves shall be provided as part of the doorset.

b) Architrave profiles shall be selected from the doorset manufacturer's standard range and to the acceptance of the Employer.

c) Unless otherwise specified, architraves shall be finished to match door frames and leaves.

L20.1206 Vision Panels

a) Vision panels shall be, unless otherwise stated, clear, unwired, Kite marked safety glass in accordance with BS 6206 and BS EN 12600.

b) Where fire resistant doorsets are indicated on the Design Drawings and Door Schedule, vision panels shall be clear, unwired fire resistant safety glass such as Pyroguard or acceptable equivalent.

c) Beading profile, for vision panels, shall have a finish to match the facing of the doorset and shall be ~~a finish to match the facing of the doorset and shall be~~ to the acceptance of the Employer through sampling. Refer to the Design Drawings for type of beading profile.

L20.1207 Demountability

a) Elements of the Works shall be individually and independently removable to provide access for maintenance and/ or replacement of units in the event of damage.

b) The Detailed Design shall provide systems that enable maintenance and cleaning of components, while minimising progressive dismantling and associated disruption.

c) The removal of units shall not affect the performance or safety of adjacent work or any other part of the Works. Submit a method statement for removal and replacement of components for acceptance by the Employer.

d) Refer to the Design Drawings (21M-WEA-XX-XXX-DR-32000 series) and Door Schedule (21M-WEA-XX-XXX-SH-A-00030) for profiles and dimensions.

Internal Doorset - Metal

L20.1208 Type DRS-301 Metal Doorset

High performance fire resistant internal metal doorset.

a) Locations, fire resistance, vision panel, kick plates and other accessories and surface finish shall be as indicated on the Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and/ or the Design Drawings (21M-WEA-XX-XXX-DR-32000 series).

b) Indicative manufacturer: Assa Abloy or acceptable equivalent.

c) Reference: Powershield Personnel Doorset (fire resistant doorsets).

d) Door leaf:

   i) 1.2mm thick coated steel fire resistant core, 44mm thick.

   ii) Galvanised steel door skins shall overlap to prevent jemmying.

   iii) Reinforced and insulated core.

e) Metal door frames:

   i) The door frames shall consist of steel profiles manufactured to comply with the basic requirements of BS 1245.

   ii) The door frames shall include integral doorstops that are within the frame profile.

   iii) The door frames shall be securely held and sealed.

   iv) The tops of doors shall align with that of the adjacent panel.

   v) Frames shall be provided to the profiles indicated to satisfy wall/ partition depth, fabricated from 1.5mm steel Galvatite ZF "Galvaneal", or acceptable equivalent.

   vi) The method of installation of door frames to subframes, partitions or blockwork shall provide a seal to achieve the air infiltration requirements and weatherproofing.

   vii) The door frames shall be reinforced at hinges, fixings, strikes and door closer locations and shall provide cut-outs required for the installation of security items.

   viii) Suitable cut-outs shall be provided in the frames for mortice ironmongery. Metal reinforcements shall be provided for attaching ironmongery hardware.

   ix) Where indicated on the Design Drawings, mild steel support angles shall be provided in order to secure the frames to supporting walls. Such angles shall be screwed firmly back to the support structure using 50mm screws into rawlplugs.

f) Polyester powder coated. Colour and finish to be agreed with the Employer, selected from the manufacturer's standard colour range.

g) Fire resistance: Refer to the Fire Strategy Report.

h) Ironmongery shall be in accordance with the Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040).

   i) Hold-open devices such as manufactured by Dorma or Geze shall be included.

i) Refer to the Design Drawings, Door Schedule and Ironmongery Schedule for individual door configurations and performance requirements.

L20.1209 Type DRS-302 Metal Doorset

High performance internal acoustic rated and fire resistant metal doorset.

a) Locations, fire resistance, vision panel, kick plates and other accessories and surface finish shall be as indicated on the Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and/ or Design Drawings (21M-WEA-XX-XXX-DR-32000 series).

b) Indicative manufacturer: Assa Abloy or acceptable equivalent.

c) Reference: Powershield Acoustic (acoustic and fire resistant doorsets).

d) Door leaf:

i) 1.5mm thick coated steel acoustic and fire resistant core, 43mm thick.

ii) Galvanised steel door skins shall overlap to prevent jemmying.

iii) Reinforced and insulated core.

e) Metal door frames:

i) The door frames shall consist of steel profiles manufactured to comply with the basic requirements of BS 1245.

ii) The door frames shall include integral doorstops that are within the frame profile.

iii) The door frames shall be securely held and acoustically sealed.

iv) The tops of doors shall align with that of the panel subframes.

v) Frames shall be provided to the profiles indicated to suit wall/ partition depth, fabricated from 1.5mm galvanised steel, or acceptable equivalent.

vi) The method of installation of door frames to subframes, partitions or blockwork shall provide a seal to achieve the air infiltration requirements and weatherproofing.

vii) The door frames shall be reinforced at hinges, fixings, strikes and door closer locations and shall provide cut-outs required for the installation of security items.

viii) Suitable cut-outs shall be provided in the frames for mortice ironmongery. Metal reinforcements shall be provided for attaching ironmongery hardware.

ix) Where indicated on the Design Drawings, mild steel support angles shall be provided in order to secure the frames to supporting walls. Such angles shall be screwed firmly back to the support structure using 50mm screws into rawlplugs.

f) Polyester powder coated. Colour and finish to be agreed with the Employer, selected from the manufacturer's standard colour range.

g) Fire resistance: Refer to the Fire Strategy Report.

h) Acoustic performance: Refer to the Sandy Brown Stage 4 Acoustics Design Report 14252-R14-B.

i) Ironmongery shall be in accordance with the Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040).

i) Hold-open devices such as manufactured by Dorma or Geze shall be included.

j) Refer to the Design Drawings, Door Schedule and Ironmongery Schedule for individual door configurations and performance requirements.

L20.1210 Type DRS-307 Metal Doorset

High performance internal metal doorset.

a) Locations, fire resistance, vision panel, kick plates and other accessories and surface finish shall be as indicated on the Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and/ or Design Drawings (21M-WEA-XX-XXX-DR-32000 series).

b) Indicative manufacturer: Assa Abloy or acceptable equivalent.

c) Reference: Powershield Personnel Doorset (fire resistant doorsets).

d) Door leaf:

i) 1.2mm thick coated mild steel/ proprietary fire resistant core, 44mm thick.

ii) Zinc coated mild steel door skins shall overlap to prevent jemmying.

iii) Reinforced and insulated core.

e) Metal door frames:

i) The door frames shall consist of steel profiles manufactured to comply with the basic requirements of BS 1245.

ii) The door frames shall include integral doorstops that are within the frame profile.

iii) The door frames shall be securely held and sealed.

iv) The tops of doors shall align with that of the panel subframes.

v) Frames shall be provided to the profiles indicated to suit wall/ partition depth, fabricated from 1.6mm zinc annealed steel, or acceptable equivalent.

vi) The method of installation of door frames to subframes, partitions or blockwork shall provide a seal to achieve the air infiltration requirements and weatherproofing.

vii) The door frames shall be reinforced at hinges, fixings, strikes and door closer locations and shall provide cut-outs required for the installation of security items.

viii) Suitable cut-outs shall be provided in the frames for mortice ironmongery. Metal reinforcements shall be provided for attaching ironmongery hardware.

ix) Where indicated on the Design Drawings, mild steel support angles shall be provided in order to secure the frames to supporting walls. Such angles shall be screwed firmly back to the support structure using 50mm screws into rawlplugs.

f) Bespoke black stainless steel finish to match Granex™ M1A manufactured by Rimex Metals (UK) Ltd or acceptable equivalent.

g) Ironmongery shall be in accordance with the Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040).

h) Refer to the Design Drawings, Door Schedule and Ironmongery Schedule for individual door configurations and performance requirements.

L20.1211 Type DRS-309 Metal Doorset

High performance security rated metal doorset with actuator (motorised operation).

a) Locations, fire resistance, vision panel, kick plates and other accessories and surface finish shall be as indicated on the Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and/ or Design Drawings (21M-WEA-XX-XXX-DR-32000 series).

b) Indicative manufacturer: Stafford Bridge or acceptable equivalent.

c) Reference: Halton.

d) Door leaf:

i) ~~3mm~~Proprietary fire resistant hardwood cores, 59mm thick ~~coated mild steel/ proprietary fire resistant core, 59mm thick~~.

ii) Steel encapsulation: Zinc coated mild steel door skins shall overlap to prevent jemmying.

~~iii) Reinforced and insulated core.~~

iv) Facings: 2 No. 4mm WBP plywood skins per face.

v) SR4 security rated, compliant with LPS 1175 (including local area additional lock protections).

e) Metal door frames:

i) The door frames shall consist of steel profiles manufactured to comply with the basic requirements of BS 1245.

ii) The door frames shall include integral doorstops that are within the frame profile.

iii) The door frames shall be securely held and sealed.

iv) The tops of doors shall align with that of the panel ~~subframes~~sub-frames.

v) Frames shall be provided to the profiles indicated to suit wall/ partition depth, fabricated from 1.6mm zinc annealed steel, or acceptable equivalent.

vi) The method of installation of door frames to subframes, partitions or blockwork shall provide a seal to achieve the air infiltration requirements and weatherproofing.

vii) The door frames shall be reinforced at hinges, fixings, strikes and door closer locations and shall provide cut-outs required for the installation of security items.

viii) Suitable cut-outs shall be provided in the frames for mortice ironmongery. Metal reinforcements shall be provided for attaching ironmongery hardware.

ix) Where indicated on the Design Drawings, mild steel support angles shall be provided in order to secure the frames to supporting walls. Such angles shall be screwed firmly back to the support structure using 50mm screws into rawlplugs.

f) Polyester powder coated. Colour and finish to be agreed with the Employer, selected from the manufacturer's standard colour range.

g) Ironmongery shall be in accordance with the Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040).

i) SR4 security rated.

ii) Motorised lock for access control.

iii) Threshold with 6mm steel sole plate.

h) Refer to the Design Drawings, Door Schedule and Ironmongery Schedule for individual door configurations and performance requirements.

L20.1212 Type DRS-310 Metal Sliding Doorset

Internal manually top hung manually operated straight sliding doorset.

a) Indicative location: Cycle Facility Changing Room.

b) Indicative manufacturer: Selo UK Ltd or acceptable equivalent.

c) Reference: Enigma Sliding Pocket Door Concealed Frame with a lock.

d) Door leaf:

i) Material: Core such as Halspan Core manufactured by Selo UK Ltd or acceptable equivalent .

ii) Door thickness: 44mm.

iii) Configuration: Top hung straight sliding door.

iv) Finish: Pre-painted. Colour to be confirmed by Employer.

e) Frame shall be profiled to achieve a concealed frame appearance.

i) The assembly shall include a rebated frame forming the opening as indicated on the Design Drawings.

ii) Door shall be fully recessed when open and shall be installed to prevent surface mounted door handles clashing with pocket frame.

iii) Anchoring to wall: Anchoring system shall be in accordance with the requirements of adjacent wall type.

iv) Frames shall be provided to the profiles indicated to suit wall/ partition depth.

v) The door frames shall be reinforced at hinges, fixings, strikes and door closer locations and shall provide cut-outs required for the installation of security items.

vi) Suitable cut-outs shall be provided in the frames for mortice ironmongery. Metal reinforcements shall be provided for attaching ironmongery hardware.

vii) Finish: Primed for site painting.

f) Sliding gearset:

i) Track: Self supporting top hung concealed track such as manufactured by Geze or acceptable equivalent.

- Material: Anodised aluminium.

ii) Operation: Manual.

iii) Cavity cassette: Stud to suit the door leaf.

iv) Fixings: Self supporting. The system shall not be top fixed.

g) Fire resistance: Non fire rated.

h) Refer to the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series), Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040) for individual door configurations and performance requirements.

i) Accessories:

i) Touch latch.

ii) Brush seal.

Riser Doorsets

L20.1213 Type DRS-402 Metal Doorset to Risers

Fully pre-hung concealed metal doorset to riser, as indicated on the Design Drawings (21M-WEA-XX-XXX-DR-32000 series).

a) Manufacturer: Selo UK, or acceptable equivalent.

b) Reference: Quadra riser door.

c) Door leaf:

i) Concealed flush finish beaded mild steel frame to receive plasterboard infill and decoration.

ii) Reinforced and insulated core.

iii) Finish shall be polyester powder coated finish to RAL 9016 colour with textured finish for overpainting on Site.

d) Metal door frames:

i) The door frames shall consist of mild steel profiles manufactured to comply with the basic requirements of BS 1245.

ii) The door frames shall be concealed and securely held.

iii) Finish shall be polyester powder coated finish to RAL 9016 colour with textured finish for overpainting on ~~site~~Site.

e) FDKL signage shall be self adhesive fixed to leading edge.

f) Fire resistance: FD120 as standard. Refer to the Riser Door Schedule (21M-WEA-XX-XXX-SH-A-00033).

g) Acoustic rating: Refer to Riser Door Schedule.

h) Hardware shall be to the acceptance of the Employer. Refer to Section P21 and Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040).

i) Integral concealed quick-release pivot door hinge.

ii) Concealed lock with flush coverplate. 3 point budget lock with square key and provision for euro cylinder.

L20.1214 Type DRS-405 Metal Doorset to Risers

Fully pre-hung concealed wall access metal doorset to riser, as indicated on the Design Drawings (21M-WEA-XX-XXX-DR-32000 series).

a) Manufacturer: Profab Access Ltd, or acceptable equivalent.

b) Reference: 1000 Series range.

c) Door leaf:

i) Finish shall be polyester powder coated finish to RAL 9016 colour with textured finish for overpainting on ~~site~~Site.

d) Metal door frames:

i) The flush finish door frames shall be electro-galvanised mild steel ~~profiles frame~~profile frames and located within the depth of the partition.

- Indicative manufacturer: Profab or acceptable equivalent.
- Reference: Dutch Foled Frame (DFF) .

ii) The door frames shall be concealed and securely held.

iii) Finish shall be polyester powder coated finish to RAL 9016 colour with textured finish for overpainting on ~~site~~Site.

e) Fire resistance: Refer to Riser Door Schedule (21M-WEA-XX-XXX-SH-A-00033).

f) Acoustic rating: Refer to Riser Door Schedule.

g) Hardware shall be to the acceptance of the Employer. Refer to Section P21 and thr Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040).

i) Integral concealed quick-release pivot door hinge.

ii) Lock arrangement: Budget lock.

Internal Timber Doors

L20.1215 Type DRS-501 Paint Grade Timber Doorset

Internal paint grade high performance fire resistant (FD30, FD60 and non-fire resistant) timber doorset.

a) Manufacturer: Shadbolt or acceptable equivalent.

b) Reference: Shadmaster range.

c) Solid laminated timber core and timber face as required to achieve performance and visual requirements (including FD30, FD60 and non-fire resistant).

d) Solid timber laminated spruce sections core supported by non-combustible stiles and rails with timber facings to achieve performance requirements and finishes.

e) Pre-primed fibre paper finish applied to both sides after fitting. Colour: RAL 7045.

f) Concealed close grain hardwood timber lipping.

g) Hardwood timber split frames with hook over architrave to match the profile from the indicative range, as indicated on the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series) and/ or Door Schedule (21M-WEA-XX-XXX-SH-A-00030).

i) Frames shall be finished as indicated on the Design Drawings and/ or Door Schedule or as confirmed with the Employer.

h) Fire performance: Refer to the Door Schedule.

i) Acoustic performance: Refer to the Door Schedule.

j) Flush profiled hardwood vision panel beads with stainless steel trims, where required, as indicated on the Design Drawings and/ or Door Schedule, and as accepted by the Employer through sampling.

k) Refer to the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series), Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040) for individual door configurations and performance requirements.

L20.1216 Type DRS-505 Cavity Slider Timber ~~Veneer~~ Paint Grade Doorset

Internal cavity slider paint grade high performance non-fire resistant timber doorset.

a) Manufacturer: Shadbolt or acceptable equivalent.

b) Reference: Shadmaster range.

c) Solid laminated timber core and timber face as required to achieve performance and visual requirements.

d) Pre-primed fibre paper finish applied to both sides after fitting. Colour: RAL 7045.

e) Concealed close grain hardwood timber lipping.

f) Hardwood timber standard frames to match the profile from the indicative range, as indicated on the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series) and/ or Door Schedule (21M-WEA-XX-XXX-SH-A-00030).

i) Frames shall be finished as indicated on the Design Drawings and/ or Door Schedule or as confirmed with the Employer.

g) Finish: Paint finish on Site, Type PTS-211; refer to Section M60.

h) Acoustic performance: Refer to the Door Schedule.

i) Flush profiled hardwood vision panel beads with stainless steel trims, where required, as indicated on the Design Drawings and/ or Door Schedule, and as accepted by the Employer through sampling.

j) Refer to the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series), Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040) for individual door configurations and performance requirements.

L20.1217 Type DRS-506 Primed Timber Doorset

Internal ~~veneer faced~~ pivot timber doorset with ~~wraparound~~wrap-around frame.

a) Manufacturer: Shadbolt or acceptable equivalent.

b) Reference: Pivot Door range.

c) Solid laminated timber core and timber face shall be as required to achieve performance and visual requirements.

d) Finish: Factory primed for on ~~site~~Site painting.

e) Concealed close grain hardwood timber lipping.

f) Hardwood or softwood frames as indicated on the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series) and/ or Door Schedule (21M-WEA-XX-XXX-SH-A-00030).

i) Frames shall be finished as indicated on the Design Drawings and/ or Door Schedule or as confirmed with the Employer.

g) Finish: Paint finish on Site, Type PTS-211; refer to Section M60.

h) Fire performance: Not applicable.

i) Acoustic performance: Not applicable.

j) Include emergency release, retractable doorstop and radiused edge.

k) Refer to the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series), Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040) for individual door configurations and performance requirements.

L20.1218 Type DRS-508 Veneer Faced Timber Doorset

Internal veneer faced hinged timber doorset with half ~~wraparound~~wrap-around on front (door pulling) side.

a) Manufacturer: Shadbolt or acceptable equivalent.

b) Reference: Shadmaster range.

c) Solid laminated timber core and timber face shall be as required to achieve performance and visual requirements (including FD30, FD60).

d) Finish:

i) Quarter cut veneer finish to one side, ~~such as Shinnoki Smoked Walnut manufactured by Decospan or acceptable equivalent,~~refer to the Design Drawings and ~~to match accepted sample(s)~~the Finishes Schedule.

ii) Factory primed for on ~~site~~Site painting on one front side.

iii) Finish: Paint finish on Site, Type PTS-211; refer to Section M60.

e) Concealed close grain hardwood timber lipping.

f) Hardwood or softwood frames as indicated on the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series) and/ or Door Schedule (21M-WEA-XX-XXX-SH-A-00030).

i) Frames shall be finished as indicated on the Design Drawings and/ or Door Schedule or as confirmed with the Employer.

g) Fire performance: Refer to the Door Schedule.

h) Acoustic performance: Refer to the Door Schedule.

i) Refer to the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series), Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040) for individual door configurations and performance requirements.

L20.1219 Type DRS-509 Concealed Timber Doorset

Concealed timber doorset within lining Type LIN-803, as indicated on the Design Drawings.

a) Concealed metal frame and MDF core door as required to support ribbed timber lining to match Type LIN-803, refer to Section K13.

b) Concealed metal frames as indicated on the Design Drawings (21M-WEA-XX-XXX-DR-A-22500 series) and/ or Door Schedule (21M-WEA-XX-XXX-SH-A-00030).

i) Frames shall be finished as indicated on the Design Drawings and/ or Door Schedule or as confirmed with the Employer.

c) Timber lining setting out:

i) As indicated on the Design Drawings.

ii) Timber lining shall be flush with the adjacent wall lining

iii) The door lining shall continue the rib pattern seamlessly from wall to door.

d) Doorset hardware shall allow for setting out as indicated on the Design Drawings.

e) Fixings: Concealed.

f) Fire performance: Not applicable.

g) Acoustic performance: Not applicable.

h) Refer to the Design Drawings (21M-WEA-XX-XXX-DR-A-32500 series), Door Schedule (21M-WEA-XX-XXX-SH-A-00030) and Ironmongery Schedule (21M-WEA-XX-XXX-SH-A-00040) for individual door configurations and performance requirements.

L20.1300 MATERIALS

L20.1301 General

a) Elements of the doorset shall fulfil the sustainability requirements stipulated within Section A.7000 of the Specification.

b) The doors and frames shall be unaffected by micro-organisms, mildew, insects and vermin, nor provide harbourage for same.

Metalwork and Finishes

L20.1302 Metalwork

Refer to Section Z11.

L20.1303 Finishes

a) Refer to Section Z30 for general finishes to metalwork.

b) Refer to Section Z31 for powder coatings.

Timber and Veneer

L20.1304 General

~~Refer to Section Z10.~~

a) Refer to Section Z10.

b) All timber to be Forest Stewardship Council's (FSC) `FSC Pure' or `FSC Mix'. Any composite wood or agri fibre products used shall contain no added urea-formaldehyde resins.

Board and Sheet Materials

L20.1305 Plywood

Plywood used in the Works shall achieve the following minimum requirements:

a) Service class 3 (WBP) plywood in accordance with BS EN 636.

b) Minimum class 3 (WBP) bond quality in accordance with BS EN 314.

c) Plywood durability shall be minimum hazard class 3 in accordance with BS EN 335 (i. e. moisture content frequently above 20%) unless otherwise accepted by the Employer.

d) Dimensional tolerances shall be in accordance with BS EN 315.

e) Plywood appearance shall be in accordance with BS EN 635, and accepted by the Employer.

f) Refer also to the requirements of DD CEN/TS 1099.

L20.1306 Laminate Sheet

a) Laminate facings shall be in accordance with BS EN 438: Part 3.

b) The laminate shall be afforded a period of atmospheric conditioning not less than 48 hours before being applied to the substrate.

Preservative/ Fire Retardant Treatments

L20.1307 General

a) Refer to Section Z12.

b) Preservative/ fire retardant treatments shall be in accordance with Section A.7000.

c) Methods shall meet the service conditions, carried out by a processor licensed by the treatment solution manufacturer for the specific treatment. For each batch of timber a certificate of compliance shall be issued.

d) Where timber components are visible, the preservative/ fire retardant treatment shall not alter the visual characteristics of the timber or finish.

Glass

L20.1308 General

Refer to Section Z25.

Seals

L20.1309 Fire, Smoke and Acoustic Seals

a) Fire, smoke and acoustic seals shall be those on which the manufacturer's performance certification is based, with any visual variance being selected by the Employer during the sample submission process.

b) Comply with with Fire Strategy Report and/ or Sandy Brown Stage 4 Acoustics Design Report 14252-R14-B and relevant Building Regulations.

Fixings

L20.1310 General

a) Refer to Section Z20.

b) Fixings shall be in accordance with the system manufacturer's recommendations, to suit the service conditions.

c) Where necessary, fixing components shall be capable of adequate three-dimensional adjustment to accommodate building structure and system fabrication/ installation tolerances.

d) Fixings shall be inherently corrosion resistant or fully protected to prevent corrosion.

e) Visible fixings shall be a type agreed with the Employer prior to installation.

Adhesives

L20.1311 General

a) Refer to Section Z20.

b) Determine suitable adhesives to achieve the requirements of the Specification and satisfy the requirements of BS EN 204.

c) Adhesives shall be compatible with the proposed finishes and any preservative/ fire retardant treatments.

Sealants and Gaskets

L20.1312 Sealants

a) Refer to Section Z22.

b) Use sealant products in accordance with the system manufacturer's recommendations, to suit the service conditions.

L20.1313 Gaskets

Refer to Section Z23.

Insulation

L20.1314 Requirements

a) Insulation shall be in accordance with the appropriate British Standard and/ or be British Board of Agrément (BBA) certified or certified by an equivalent internationally recognised body acceptable to the Employer.

b) Insulation shall be inert, durable, rot-proof and vermin-proof and not be degradable by moisture, extreme temperatures or water vapour.

c) Insulation materials generally shall be in accordance with the LPC Design Guide for the Fire Protection of Buildings.

d) Insulation shall not bulge, sag, delaminate or detach during its installation or in its installed position during the life of the Works.

e) Insulation shall have zero Ozone Depleting Potential (ODP), be CFC and HFC free and have a Global Warming Potential (GWP) of less than five. Refer also to Section A of the Specification.

f) Insulation shall be selected to achieve the recommendations of the Green Guide to Specification.

g) Expanded polystyrene (EPS) shall not be used within the Works.

L20.1400 PERFORMANCE REQUIREMENTS

L20.1401 General

a) Comply with the general performance requirements of Section A of the Specification and the following specific performance requirements.

b) Doorsets shall maintain the performance requirements of the walls/ systems that they are set in.

Strength Requirements

L20.1402 Strength of Doors and Frames

a) The Works, including ironmongery, shall achieve the 'heavy duty' category as defined in BS EN 1192.

b) Submit evidence to demonstrate that the Works, including ironmongery, have been tested to achieve the minimum acceptance criteria given in BS EN 12400 and BS EN 1192 for the following:

i) Resistance to repeated opening and closing.

ii) Heavy body impact.

iii) Hard body impact.

iv) Torsion.

v) Vertical load deformation.

Acoustics

L20.1403 General

a) Design and construct the Works in accordance with the Sandy Brown Stage 4 Acoustics Design Report 14252-R14-B.

b) Values achieved in laboratory conditions shall be exceeded by a minimum of 2dB to correct the diminution anticipated once installed on Site.

c) Frames of sound-rated doors shall be sealed such that there is no noise leakage around the frame.

d) Sound-rated doors shall be supplied complete with perimeter (including threshold, where indicated on the Door Schedule) seals and ironmongery so that the seals operate effectively. No light shall be visible on either side of the doorset when viewed in darkness with a light source on the other side.

e) Open keyholes and other openings shall not occur in sound-rated doorsets.

f) Doors shall close quietly without 'slamming noise'. The maximum sound level caused by door operation shall be 68dB (audible), as measured at 1m from both faces of the door with a sound level meter set to 'F' (fast) in response.

g) If required by the Employer, Site sound transmission loss tests shall be carried out in accordance with BS EN ISO 10140. A test report demonstrating that doors installed within partitions requiring to be sound rated achieve the performance criteria for the partition as specified shall be submitted.

Fire and Smoke

L20.1404 Generally

a) The Works shall as a minimum achieve the requirements of the Building Regulations.

b) Comply with the performance requirements indicated in the Fire Strategy Report.

c) Unless otherwise stated in the Fire Strategy Report, compliance with the Building Regulations shall be achieved by the application of the principles laid out in Approved Document B of the Building Regulations, BS 7974 and BS 9999.

d) The Works shall be in accordance with any recommendations or conditions from Statutory Authorities, Fire Services and the Building Insurers.

e) Submit test certificates, calculations and reports to demonstrate that materials/ systems achieve the fire performance requirements.

Accessibility

L20.1405 General

Where applicable, doors shall be in accordance with the requirements of BS 8300: Part 2.

L20.1406 Opening Forces

a) The maximum opening forces required to open fire resistant or non-fire resistant doors on disabled access routes shall be in accordance with BS 8300: Part 2. Refer also to Section P21 of the Specification.

b) The Contractor shall verify and confirm that opening forces requirements are achieved during sourcing, installation and setting processes.

Security

L20.1407 General

a) Doors/ doorsets shall prevent unauthorised entry by removal of any component that would permit access.

b) Materials and installation shall comply with the requirements of the 'Secured by Design' scheme.

c) Doors shall have certification confirming compliance with the specified security rating as defined within LPS 1175, as certified by the Loss Prevention Certification Board.

Durability

L20.1408 General

a) The performance requirements shall be achieved for the full service life of the Works.

b) The Works shall perform throughout the service life without failure resulting from defects in design, materials or workmanship. Failure shall be defined as breakage, disengagement of components, deflection beyond stated values, reduction in performance or unacceptable change in appearance.

c) There shall be no electrochemical corrosion or staining resulting from exposure to moisture or from water running from one material to another.

L20.1409 Impact Resistance

The Works shall accommodate the following in terms of impact resistance and safety:

a) Hard body impact loads shall be in accordance with BS EN 1192 - Class 3 (Heavy duty).

b) Soft and heavy body impact loads shall be in accordance with BS EN 1192 - Class 3 (Heavy duty).

c) Soft body impact loads to glazed elements in accordance with BS EN 12600: Classification 1.

d) ***Security glazing shall resist impacts from handheld objects in accordance with BS EN 356: Category of resistance ***P2A/ P3A/ P4A/ P5A***.

L20.2000 SUBMITTALS AND TESTING

L20.2100 SUBMITTALS

Tender Submittals

L20.2101 Tender Response

a) Provide tender submittals in accordance with the requirements of Section A.4000 of the Specification.

b) Submit a design response with the tender proposal, to include profiles of typical conditions, with dimensions.

c) The tender design response shall include:

i) Samples where specified.

ii) List of Tests included.

iii) QA/ QC programme.

iv) List of proposed Working Drawings.

v) Summary of deviations from the Design Drawings and the Specification.

vi) Outline technical specifications reflecting proposed materials/ systems.

vii) A list of proposed suppliers and subcontractors to be used.

Samples, Mock-ups, Prototypes and Quality Benchmarks

L20.2102 Pre-contract Samples

Refer to the Mock ups and Benchmark Schedule (21M-WEA-XX-XXX-SH-A-00500).

L20.2103 Post Contract Award Samples

Refer to the Mock ups and Benchmark Schedule (21M-WEA-XX-XXX-SH-A-00500).

L20.2104 Mock-up Requirements

Refer to the Mock ups and Benchmark Schedule (21M-WEA-XX-XXX-SH-A-00500).

L20.2105 Prototype Requirements

Refer to the Mock ups and Benchmark Schedule (21M-WEA-XX-XXX-SH-A-00500).

L20.2106 Quality Benchmark Requirements

Refer to the Mock ups and Benchmark Schedule (21M-WEA-XX-XXX-SH-A-00500).

L20.2200 TESTING

L20.2201 General

a) Refer to Section A clause series A.6000 for the general requirements for testing.

b) Testing procedures shall be undertaken to internal doorsets as appropriate and agreed with the Employer.

c) Submit certification to demonstrate that doors and frames have been previously tested to achieve the requirements of the Specification and to confirm successful achievement of test criteria stipulated within BS 476: Parts 22 and 31, or BS EN 1634: Parts 1 and 3.

d) Independently certified test data for off-Site testing shall include static and dynamic results, where applicable.

e) Where data from previous independently certified tests and Agrément certificates demonstrate that the proposed systems achieve the performance requirements of the Specification, off-Site independent testing need not be undertaken.

f) Undertake on-Site testing specified herein, which shall be carried out by an independent testing body accredited by the United Kingdom Accreditation Service (UKAS).

g) Test certificates shall not relieve the Contractor of his responsibilities regarding the performance and service life requirements of the doors and frames.

h) Doorsets/ door assemblies which, by nature of their size, design or configuration fall outside the manufacturer's test coverage, shall require independently conducted testing or at worst, a dedicated technical assessment carried out by a nationally recognised authority.

i) Submit independently certified evidence that specified variants of components comply with performance requirements.

Off-Site Testing

L20.2202 Impact Testing

a) A hard body impact test shall be carried out in accordance with BS EN 950, conforming to the category requirements specified.

b) Soft body and heavy body impact tests shall be carried out in accordance with BS EN 949, conforming to the category requirements specified.

c) A soft body impact test to glazed elements shall be carried out in accordance with BS EN 12600, conforming to the category requirement specified.

d) A manual attack test shall be carried out in accordance with LPCB's LPS 1175, conforming to the category requirements specified.

e) A test for resistance to impacts from hand held objects shall be carried out in accordance with BS EN 356, conforming to the category requirements specified.

f) The extent of any damage determined through testing shall be recorded and quantified. Samples shall also be submitted to the Employer.

L20.2203 Acoustic Testing

The Works shall achieve the specified requirements when tested in accordance with BS EN ISO 10140.

L20.3000 EXECUTION

L20.3100 WORKMANSHIP

Fabrication

L20.3101 General

a) Fabrication of materials/ components shall, as a minimum, be in accordance with current regulations and standards.

b) Manufacturing tolerances shall be in accordance with BS 5277, BS 5278, BS EN 951, BS EN 1529 and BS EN 1530.

c) Steel door frames shall be manufactured in accordance with BS 1245.

d) Timber doorsets shall be manufactured in accordance with BS 4787.

e) Where preceding work is complete before fabrication, the Contractor shall take site measurements. If these measurements indicate that the dimensions indicated on the Design Drawings are unachievable, the Contractor shall seek instruction from the Employer before proceeding.

f) Where applicable and practical, fabrication and assembly shall take place in properly equipped workshops with site work restricted to fixing.

g) Form sections true to shape, accurate in size, square, free from distortions, irregularities and defects to profiles indicated on the Design Drawings.

h) Do not use materials/ components that are damaged or have any other physical imperfections in the Works.

i) Fabricate joints so that the assembly shall be tight and close fitting to produce rigid materials/ components free from distortion.

L20.3102 Metalwork

Refer to Section Z11.

L20.3103 Joinery and Carpentry

Refer to Section Z10.

Workmanship

L20.3104 General

a) Workmanship shall generally be in accordance with the relevant and applicable parts of BS 8000.

b) Where applicable, carry out the Works in accordance with the manufacturer's recommendations.

c) Operatives shall be trained, experienced and appropriately skilled in the installation of the Works and, where applicable, be recommended by the system/ product manufacturer.

Inspection/ Preparation

L20.3105 Inspection

a) Before commencing installation, survey the structure. Check dimensions, line, level and fixing points. Report immediately to the Employer if the structure is unsuitable to receive the Works.

b) If the structure/ substrate is unsuitable, propose remedial action to make the structure suitable.

L20.3106 Suitability of Base/ Backing

a) Bases/ backgrounds shall be rigid, dry, sound, smooth, clean, free from dust, dirt, grease and other contaminants before systems/ products are installed.

b) Cutting, chasing, plugging, making good and other necessary procedures required to the substrate or to adjacent work, that cannot/ should not be undertaken after the installation of the Works, shall be completed.

c) Tolerances of the structure/ substrate shall be suitable to permit the required configuration and specified tolerances of the finished systems/ products.

Installation

L20.3107 General

a) Make allowance for future moisture and temperature movement.

b) The Works shall be set out and installed square, true to line, level and plane, free from undulations, with lines and joints aligned, straight and parallel unless specified otherwise, within stated tolerances and in the correct relationship with the building structure.

c) Cutting of materials/ components:

i) Where required, cut materials/ components in accordance with the manufacturer's recommendations.

ii) There shall be no damage to the finished face of the materials/ components or any damage that would adversely affect the performance.

iii) Keep cut edges to a minimum.

d) Inspect each material/ component of the Works immediately before installation. The Works shall be installed using materials/ components being properly sized, free from marks, defects, flaws, steps, waves, or damage of any nature.

e) Do not alter materials/ components with prefinished surfaces unless accepted by the Employer.

f) Do not repair damaged units unless accepted by the Employer.

g) Do not cut, drill or otherwise alter interfacing work to accommodate the system installation unless accepted by the Employer.

h) Make provision for movements/ expansion/ contraction in accordance with the system/ product manufacturer's recommendations.

L20.3108 Fire Resisting Doorsets

a) Installation of fire doorsets/ fire door assemblies shall be carried out by subcontractors who are members of a nationally recognised quality assurance scheme, and ideally the same scheme to which the door manufacturer subscribes.

b) Installation of fire doorsets/ fire door assemblies shall be in accordance with the recommendations of the Architectural and Specialist Door Manufacturers Association Installation Guide.

c) Installation of fire resisting metal doorsets shall be carried out in accordance with the DHF (Door and Hardware Federation) Code of Practice Document COP 1005.

L20.3109 Ironmongery

Ironmongery shall be assembled and fixed using fastenings with a matching finish supplied by the ironmongery manufacturer.

L20.3110 Fixing Requirements

a) Refer to Section Z20.

b) Install and position fixings and fastenings as recommended by the manufacturer. Where visible, positions shall be to the acceptance of the Employer.

c) The Works shall be fixed securely to prevent pulling away, bowing or other movement during use and without causing stress or distortion. Include additional bracing and stiffening as required.

d) Isolating tape, plastic washers or other suitable means shall be provided to prevent bi-metallic corrosion between dissimilar metals, or between preservative treated timber and metal.

L20.3111 Packings

a) Provide suitable tight packings to take up tolerances and prevent distortion.

b) Packings shall be of non-compressible, rot-proof and non-corrosive materials/ components that maintain the performance of the systems/ products with which they interface.

c) Packings shall not intrude into zones that are to be filled with sealant. The performance of the Works and interfacing systems shall be maintained.

L20.3112 Sealants

For general sealants refer to Section Z22 of the Specification.

Protection and Completion

L20.3113 Protection

Finished areas shall be adequately protected from damage until Practical Completion.

L20.3114 Cleaning

a) At Practical Completion of the Works, or when otherwise agreed with the Employer, clean exposed areas/ surfaces of the Works.

b) Cleaning materials and methods shall be as recommended/ accepted by the system/ product manufacturer, where applicable.

c) Do not use materials or methods that could alter the character of the exposed finishes.

d) Protect adjacent surfaces from damage due to cleaning operations.

L20.3115 Completion

a) Repair defects without delay to minimise damage and nuisance.

b) On Practical Completion, check the Works for damage and defects. Replace damaged or defective materials/ components.

L20.3200 TOLERANCES

L20.3201 General

Measure tolerances against the relevant Base Reference Datum; Location Reference Point; Location Reference Plane; Location Reference Surface or Reference Element as defined in Section A.6000.

a) Refer to RBG Structural Engineer's Movement & Tolerance Report (21M-RBG-XX-XXX-RP-S-00002) for the building structure tolerances.

b) The Works shall be set out to the correct position as shown on the Working Drawings, within ±3mm.

c) Gaps to head and jambs of doors to frames shall be consistent, of minimal dimensions and shall maintain the performance and functional requirements of the door(s).

d) The gap at the threshold of a door shall provide a 3mm clearance above the floor finish level.

e) Measurement of defects of general flatness of door leaves shall be in accordance with BS 5277.

f) Measurement of dimensions and of defects of squareness of door leaves shall be in accordance with BS 5278 and BS EN 951.

g) The maximum variation from plumb shall be ±1.5mm.

h) Cut-outs for interfacing work shall be to the dimensions shown on the Working Drawings ±1mm.

i) Horizontal plan position: For any element at any level whose position is defined in relation to a primary reference grid, the maximum allowed deviation from the Design Dimension to that reference grid is ±2mm.

j) Where a series of doors is configured in an array of two or more, the maximum allowed deviation of the horizontal distance between any two adjacent elements is ±2mm from the corresponding Design Dimension.

k) Planarity: Any door whose position is defined from a reference plane shall not deviate from the Design Dimension of the reference plane by more than ±2mm measuring perpendicular to the defined plane.

l) The width of any joint shall not deviate from the width by more than ±1mm of the joint width. Any variation shall be equally distributed with no sudden changes. The misalignment between joints shall not exceed 1mm.

m) Line and level shall be within ±2mm of the specified level.

n) The Works shall be erected such that no point on any part is more than 1mm from its theoretical plane.

o) The dimensional and detailed provisions to accommodate the construction tolerances of surrounding elements, so that all aspects of the Works relate satisfactorily to the Works as a whole, shall be stated and shown on the Working Drawings.

p) Tolerances stated shall be measured and monitored at a mean temperature to be agreed with the Employer.

q) Before work begins on Site the proposed method of dimensional setting-out and cross-checking with adjacent trades and elements, to satisfy the accuracy requirements, shall be submitted to the Employer. The checking of any setting-out or of any line or level by the Employer, or his representative, shall not in any way relieve the Contractor of his responsibility for the correctness thereof.

r) Alternative tolerances to those specified may be permitted at the Employer's discretion, provided they are agreed in advance of the manufacture of components.

s) Tolerances shall not be cumulative.

t) Where an element/ component is subject to more than one applicable tolerance, the most onerous tolerance shall apply.

END OF SECTION