

Audi - Fit-out

**Specification
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L20**DOORS/ SHUTTERS/ HATCHES**

To be read in conjunction with Section A and other related sections of the Specification, Preliminaries and Contract Conditions.

L20.1000**SCOPE, SUBMITTALS AND TESTING****L20.1100****SPECIFICATION AND SCOPE**

L20.1101

Prescriptive Works

- a) Supply, deliver, install and warrant the works in strict compliance with the materials and workmanship requirements of the Specification.
- b) Where required to prepare drawings these shall be limited to final detailing of components, systems, etc. shown on the Design Drawings, necessary to demonstrate their safe installation.
- c) Where alternative products are offered by the Contractor and accepted by the Architect, provide full supporting documentation in respect of the complete system or installation.

L20.1102

Scope of Works

This section of the Specification, when read in conjunction with the Design Drawings, provides particular requirements with respect to the following:

- a) Internal timber doors.
- b) Internal glazed 'window'.
- c) Roller Shutters.
- d) Bi-parting doors.
- e) Curtains.
- f) Lifting barrier.

L20.1200**SYSTEM TYPES****Internal Timber Doors**

L20.1201

Type DRM-01 Internal Timber Door

Non fire rated timber door within metal frame.

L20.1202

Type DRM-01B Internal Timber Door

Fire rated timber door within metal frame.

L20.1203

Type DRM-02 Internal Timber Door

Non fire rated timber door within 'jumbo' metal frame.

L20.1204

Type DRM-02B Internal Timber Door

Fire rated timber door within 'jumbo' metal frame.

L20.1205

Type DRM-03 Internal Timber Door/ Side Panel

Non fire rated timber door with glazed side panel within metal frame.

L20.1206

Type IWS-18 Internal Window

Fixed glazed window unit to match door framing.

Roller Shutters

L20.1207

Type DRR-08 Roller Shutter

Manually operated roller shutter door.

L20.1208

Type DRR-08a Roller Shutter

Manually operated fire rated roller shutter door.

Bi-Parting Doors

L20.1209

Type DRR-09 Speed Gate

Electrically operated single skin bi-parting rapid action doors.

L20.1210

Type DRR-10 Speed Gate

Electrically operated twin skin bi-parting rapid action doors, wet areas.

L20.1211

Type DRR-10a Speed Gate

Electrically operated twin skin bi-parting rapid action doors.

Door Curtains

L20.1212

Type DRR-07 Curtains

Plastic strip curtain assembly.

Lifting Barrier

L20.1213	Type DRR-05 Vehicle Lifting Barrier Hydraulically operated power assisted lifting barrier.
L20.1300	SUBMITTALS AND TESTING
	Tender Submittals
L20.1301	Tender Response Not required.
	Samples, Mock-ups, Prototypes and Quality Benchmarks
L20.1302	Pre-contract Samples Not required.
L20.1303	Post Contract Samples In accordance with Section A.4000, post contract samples of the following shall be provided: <ol style="list-style-type: none"> Minimum 300mm x 300mm samples of each all timber door type in the proposed materials and finishes. Minimum 300mm x 300mm samples of each type of glass including any applied treatments or finishes. Door frame minimum 300mm of each type. Minimum 300mm x 300mm samples of each shutter/ speed gate/ curtain doorpanel/ curtain type in the proposed materials and finishes. Minimum 150mm x 150mm samples of each type of metal casing/ component in the proposed materials and finishes. Minimum 300mm length of the vehicle lifting beam in the proposed materials and finishes. Typical controls and switch control gear. Typical samples of fire/ smoke and acoustic seals.
L20.1304	Mock-ups Not required.
L20.1305	Prototypes Not required.
L20.1306	Benchmark Requirements The following quality benchmarks shall be provided in accordance with Section A.4000: <ol style="list-style-type: none"> The first fully installed and completed assembly of each type as accepted by the Architect.
	Testing
L20.1307	Testing Requirements <ol style="list-style-type: none"> Provide certification to demonstrate that doors and frames have been previously tested to meet the requirements of the Specification. Test certificates shall not relieve the Contractor of his responsibilities regarding the performance and service life requirements of the doors and frames. If test certificates are not made available, include for the testing of doorsets.
L20.1308	Secured by Design Provide certification to demonstrate that external door assemblies achieve an enhanced security performance when tested in accordance with PAS 24.
L20.2000	SYSTEMS, MATERIALS AND FABRICATION
L20.2100	SYSTEM DESCRIPTIONS
L20.2101	General The internal doorsets shall match exactly the doorsets used within the shell and core works. Any variation to the design or appearance of the 'fit-out' doorsets shall be reported to the Architect prior to ordering.
L20.2102	Type DRM-01 Internal Doorsets Internal non fire rated timber door leaf with veneered or laminated surface finish set within a metal door frame assembly as indicated on the Door and Ironmongery Schedule. <ol style="list-style-type: none"> Frame: Two piece aluminium 'standard' framed doorset with adjustable framing system to accommodate variant partition thicknesses up to a maximum 123mm. Frame colours: <ol style="list-style-type: none"> Above ground: RAL 7040.

- ii) Below ground: RAL 9005.
- c) Leaf:
 - i) 44mm thick solid core timber door with or without glazed vision panels and including factory applied timber veneer or plastic laminate facings as noted on the Door and Ironmongery Schedule.
 - ii) Door Lippings: Solid timber to match door veneer or solid timber (hardwood) site painted to match door facing colour.
- d) Door stops:
 - i) Standard square profile aluminium to match frame colour.
- e) Vision panel bead: Flush solid maple, square with rebated 'shadow' gap.
- f) All ironmongery as scheduled and as specified in Section P21.
- g) Vision panels: Clear safety glass meeting the doorset performance as scheduled.
- h) Manufacturer: Avanti Systems Ltd, Tel: 01444 247360.

L20.2103

Type DRM-01B Internal Doorsets

Internal fire rated timber door leaf with veneered or laminated surface finish set within a metal door frame assembly as indicated on the Door and Ironmongery Schedule.

- a) Frame: Two piece aluminium 'standard' framed doorset with adjustable framing system to accommodate variant partition thicknesses up to a maximum 123mm.
- b) Frame colours:
 - i) Above ground: RAL 7040.
 - ii) Below ground: RAL 9005.
- c) Leaf:
 - i) 54mm thick solid core timber door with or without glazed vision panels and including factory applied timber veneer or plastic laminate facings as noted on the Door and Ironmongery Schedule.
 - ii) Door Lippings: Solid timber to match door veneer or solid timber (hardwood) site painted to match door facing colour.
- d) Door stops:
 - i) Standard square profile aluminium to match frame colour.
- e) Vision panel bead: Flush solid maple, square with rebated 'shadow' gap.
- f) Fire and smoke seals to suit fire and performance ratings as scheduled.
- g) All ironmongery as scheduled and as specified in Section P21.
- h) Vision panels: Clear safety glass meeting the doorset performance as scheduled.
- i) Fire and acoustic ratings: Refer to Door and Ironmongery Schedules.
- j) Manufacturer: Avanti Systems Ltd, Tel: 01444 247360.

L20.2104

Type DRM-02 Internal Doorsets

Internal non fire rated timber door leaf with veneered or laminated surface finish set within a metal door frame assembly as indicated on the Door and Ironmongery Schedule.

- a) Frame: Two piece aluminium 'jumbo' framed doorset with adjustable framing system to accommodate variant partition thicknesses up to a maximum 200mm.
- b) Frame colours:
 - i) Above ground: RAL 7040.
 - ii) Below ground: RAL 9005.
- c) Leaf:
 - i) 44mm thick solid core timber door with or without glazed vision panels and including factory applied timber veneer or plastic laminate facings as noted on the Door and Ironmongery Schedule.
 - ii) Door Lippings: Solid timber to match door veneer or solid timber (hardwood) site painted to match door facing colour.
- d) Door stops:
 - i) Standard square profile aluminium to match frame colour.
- e) Vision panel bead: Flush solid maple, square with rebated 'shadow' gap.
- f) All ironmongery as scheduled and as specified in Section P21.
- g) Vision panels: Clear safety glass meeting the doorset performance as scheduled.
- h) Manufacturer: Avanti Systems Ltd, Tel: 01444 247360.

L20.2105

Type DRM-02B Internal Doorsets

Internal fire rated timber door leaf with veneered or laminated surface finish set within a metal door frame assembly as indicated on the Door and Ironmongery Schedule.

- a) Frame: Two piece aluminium 'jumbo' framed doorset with adjustable framing system to accommodate variant partition thicknesses up to a maximum 200mm.
- b) Frame colours:
 - i) Above ground: RAL 7040.
 - ii) Below ground: RAL 9005.
- c) Leaf:
 - i) 54mm thick solid core timber door with or without glazed vision panels and including factory applied timber veneer or plastic laminate facings as noted on the Door and Ironmongery Schedule.
 - ii) Door Lippings: Solid timber to match door veneer or solid timber (hardwood) site painted to match door facing colour.
- d) Door stops:
 - i) Standard square profile aluminium to match frame colour.
- e) Vision panel bead: Flush solid maple, square with rebated 'shadow' gap.
- f) Fire and smoke seals to suit fire and performance ratings as scheduled.
- g) All ironmongery as scheduled and as specified in Section P21.
- h) Vision panels: Clear safety glass meeting the doorset performance as scheduled.
- i) Fire and acoustic ratings: Refer to Door and Ironmongery Schedules.
- j) Manufacturer: Avanti Systems Ltd, Tel: 01444 247360.

L20.2106

Type DRM-03 Internal Doorsets

Internal non fire rated timber door leaf with veneered or laminated surface finish and glazed side panel set within a metal door frame assembly as indicated on the Door and Ironmongery Schedule.

- a) Frame:
 - i) Two piece aluminium 'standard' framed doorset with adjustable framing system to accommodate variant partition thicknesses up to a maximum 123mm.
 - ii) Including fixed glazed clear safety glass side panel.
- b) Frame colours:
 - i) Above ground: RAL 7040.
 - ii) Below ground: RAL 9005.
- c) Leaf:
 - i) 44mm thick solid core timber door with or without glazed vision panels and including factory applied timber veneer or plastic laminate facings as noted on the Door and Ironmongery Schedule.
 - ii) Door Lippings: Solid timber to match door veneer or solid timber (hardwood) site painted to match door facing colour.
- d) Door stops:
 - i) Veneered doors: Standard square profile aluminium to match frame colour.
 - ii) Laminate faced doors: Square profile flush timber bead Site painted RAL 9005.
- e) Vision panel bead: Flush solid maple, square with rebated 'shadow' gap.
- f) All ironmongery as scheduled and as specified in Section P21.
- g) Vision panels: Clear safety glass meeting the doorset performance as scheduled.
- h) Manufacturer: Avanti Systems Ltd, Tel: 01444 247360.

L20.2107

Type IWS-18 Internal 'Window'

Internal non fire rated fixed glazed 'window' set within a metal frame assembly as indicated on the Design Drawings.

- a) Frame: Two piece aluminium 'standard' frame to match doorsets with adjustable framing system to accommodate variant partition thicknesses up to a maximum 123mm.
- b) Frame colours:
 - i) Above ground: RAL 7040.
 - ii) Below ground: RAL 9005.
- c) Glass:
 - i) Clear single skin safety glass.
- d) Glazing beads:

- i) Standard square profile aluminium to match frame colour.
- e) Manufacturer: Avanti Systems Ltd, Tel: 01444 247360.

Roller Security/ Fire Shutters

L20.2108

Type DRR-08 Non Fire Rated Security Shutter

- a) Shutter: as manufactured by Bolton Gate Company, (Tel: 01204 871001) or equivalent accepted by the Architect.
- b) Door curtain:
 - i) Laths: Continuously interlocking 76mm curved steel with pressed end locks fitted to alternate laths.
 - ii) Roller manufactured from mild steel tube mounted in bearings or cups on each end plate.
- c) Guides:
 - i) Mild steel galvanised channels with continuous fixing angles.
- d) Other requirements:
 - i) Power operated via direct drive 3 phase motor mounted on one endplate, including manual override and safety brake.
 - ii) Standard controls including open, close and stop.
 - iii) Terminals shall be provided within the control panel to accept a 'remote' access security card reader/ keypad/ key switch for remote control opening.
- e) Finish:
 - i) All visible components shall be polyester powder coated in a standard range RAL colour to be confirmed.

L20.2109

Type DRR-08a Fire Rated Security Shutter

- a) Shutter: Reference Fireroll E240 as manufactured by Bolton Gate Company, (Tel: 01204 871001) or equivalent accepted by the Architect.
- b) Door curtain:
 - i) Laths: Continuously interlocking 76mm curved steel with pressed end locks fitted to alternate laths.
 - ii) Roller manufactured from mild steel tube mounted in bearings or cups on each end plate including a galvanised steel casing.
- c) Guides:
 - i) Mild steel galvanised channels with continuous fixing angles.
- d) Other requirements:
 - i) Power operated with overhead single phase pre wired motor mounted on one endplate, including manual override. The motor shall raise the shutter curtain with the downward motion being gravity failsafe.
 - ii) Standard controls including open, close and stop.
 - iii) Terminals shall be provided within the control panel to accept a normally closed volt-free contact from the BMS/ fire detection system.
- e) Finish:
 - i) All visible components shall be polyester powder coated in a standard range RAL colour to be confirmed.
- f) Other requirements:
 - i) Refer also to the Fire Strategy Drawings.
 - ii) Fire Rating: 60 minutes.

L20.2110

Type DRR-09 Single Skin 'Speed' Shutter

An internal automatically operated uninsulated sliding 'speed' shutter assembly complete with guides and controls as indicated on the Design Drawings.

- a) Reference: Whirlwind-Lite as manufactured by Envirodor Ltd, Tel: 01482 659375 or acceptable equivalent.
- b) Doors:
 - i) Door leaves shall comprise single skin polyester fabric laminated on both sides with PVC including thermoplastic foil vision panels per leaf.
- c) Frame:
 - i) Sheet steel profile in polyester powder coated standard range RAL colour.
- d) Operation:
 - i) Automatic opening comprising microprocessor control with choice of programmes and membrane keypad.

- ii) Operating speed: 3m/ sec.(opening)/ 1.6m/ sec (closing).
- iii) Leading edges of doors to include 'anti-crush' monitoring strips.
- iv) Pull chain emergency release and automatic opening on power failure.
- e) Finishes:
 - i) Doors: Black.
 - ii) Frames and exposed metalwork: RAL 9005, Black.

L20.2111

Type DRR-10 Twin Skin 'Speed' Shutter - Wet Areas

An internal automatically operated wet area sliding 'speed' shutter assembly complete with guides, wet pack and controls as indicated on the Design Drawings.

- a) Reference: Whirlwind HS5v as manufactured by Envirodor Ltd, Tel: 01482 659375 or acceptable equivalent.
- b) Doors:
 - i) Door leaves shall comprise twin skin polyester fabric laminated on both sides with PVC including thermoplastic elastomer foil vision panels per leaf.
 - ii) The thermal performance of the installed door assembly shall be not less than 2.9 W/ m²K.
- c) Frame:
 - i) Sheet steel profile in polyester powder coated standard range RAL colour.
- d) Operation:
 - i) Automatic opening via PIR detector fitted to door head to both sides of opening, tuned for operation by vehicles only.
 - ii) Operating speed: 2m/ sec.(opening)/ 1.5m/ sec (closing).
 - iii) Leading edges of doors to include 'anti-crush' monitoring strips.
 - iv) Lever operated emergency release and 'Flutec' valve for automatic opening on power failure.
- e) Wet pack:
 - i) Gelbau safety edge to door leafs in lieu of 'standard' electrical contact strips.
 - ii) Stainless steel bottom bearings.
 - iii) Stainless steel bottom plates.
- f) Finishes:
 - i) Doors: Black.
 - ii) Frames and exposed metalwork: RAL 9005, Black.

L20.2112

Type DRR-10a Twin Skin 'Speed' Shutter

An internal automatically operated sliding 'speed' shutter assembly complete with guides and controls as indicated on the Design Drawings.

- a) Reference: Whirlwind HS5v as manufactured by Envirodor Ltd, Tel: 01482 659375 or acceptable equivalent.
- b) Doors:
 - i) Door leaves shall comprise twin skin polyester fabric laminated on both sides with PVC including thermoplastic elastomer foil vision panels per leaf.
 - ii) The thermal performance of the installed door assembly shall be not less than 2.9 W/ m²K.
- c) Frame:
 - i) Sheet steel profile in polyester powder coated standard range RAL colour.
- d) Operation:
 - i) Automatic opening via PIR detector fitted to door head to both sides of opening, tuned for operation by vehicles only.
 - ii) Operating speed: 2m/ sec.(opening)/ 1.5m/ sec (closing).
 - iii) Leading edges of doors to include 'anti-crush' monitoring strips.
 - iv) Lever operated emergency release and 'Flutec' valve for automatic opening on power failure.
- e) Finishes:
 - i) Doors: Black.
 - ii) Frames and exposed metalwork: RAL 9005, Black.

Curtains

L20.2113 Type DRR-07 Plastic Curtain

An internal overlapping PVC strip curtain assembly complete with head frame as indicated on the Design Drawings.

- a) Reference: Rollerstrip as manufactured by PVC Curtains Ltd, Tel: 01625 573971, or acceptable equivalent.
- b) Curtain:
 - i) Door curtain shall comprise single skin clear PVC strips mechanically fixed to a head tube, power operated.
- c) Frame:
 - i) The works shall have no side or head framing.
- d) Operation:
 - i) Power operated roll up opening comprising manually operated door bottom with failsafe override and controlled descent limiters.
 - ii) Operating speed: 4.0m/ sec.(opening)/ 4.0m/ sec (closing).
- e) Finishes:
 - i) Doors: Clear PVC.

Vehicle Barriers**L20.2114 Type DRR-05 Vehicle Lifting Barrier**

An proprietary remote activated power operated vehicle lifting barrier as indicated on the Design Drawings.

- a) Reference: VSS 640 as manufactured by VSS Systems Ltd, Tel: 0800 018 2324, or acceptable equivalent.
- b) Barrier:
 - i) Hydraulically operated vehicle lifting beam barrier including stainless steel casing with galvanised mild steel base plate mechanically fixed to concrete substrate using 4no. stainless steel threaded rods , cast-in.
- c) Operation:
 - i) Remote control with key pad access control back up system attached to stainless steel casing.
- d) Finishes:
 - i) Beam: White powder coated aluminium.

L20.2200 MATERIALS**Glass****L20.2201 Glass**

- a) Glass to be toughened and clear unless otherwise specified or indicated on the Design Drawings.
- b) All exposed glass edges to be polished and rounded or chamfered as specified.
- c) Ensure holes for bolted fixings are preformed and accurately formed to suit glass fixing type and size to provide neat fixing connection.
- d) Comply with Section Z25 for glass standards as applicable to toughened glass for internal conditions. However, toughened glass for furniture, desks, etc. is not required to be heat soak tested.

Metalwork**L20.2202 Aluminium**

- a) All extruded aluminium alloy members shall be fabricated from the appropriate grade of aluminium alloy complying with BS EN 754: Parts 3-5 and BS EN 755: Parts 1-9 unless otherwise specified.
- b) Unless specified otherwise, aluminium sheeting shall be a minimum of 3mm thick and satisfy the requirements of BS EN 485: Parts 1-4, BS EN 515 and BS EN 573: Parts 1-3.
- c) All aluminium fixing brackets and cleats shall be manufactured from the appropriate grade of alloy to the requirements of BS EN 515, BS EN 573: Part 3 , and BS EN 755: Parts 1-9. If visible, they shall be finished to match the metal panels and framing members.
- d) Aluminium shall be in accordance with Section Z11.

Laminate**L20.2203 Plastic laminates**

- a) The durability shall be HGP as defined by BS EN 438: Part 3.

- b) The fire ratings shall meet the requirements as indicated on the Door and Ironmongery Schedule.
- c) The laminate colour shall be Formica Diamond Black Ref: F2253 VEL.
- d) Refer also to Section Z10.

Veneers

L20.2204

General

- a) Plywood shall be to BS EN 314: Part 2, BS EN 635: Parts 1-3, BS EN 636 and DD ENV 1099.
- b) Veneers for doors shall be to BS EN 314: Part 2 as follows:
 - i) Supplier: CW Fields & Sons.
 - ii) Species: Maple, Ref: 821.
 - iii) Minimum thickness: 0.7mm.
 - iv) Cut: Crown cut.
- c) Veneers shall be applied to both faces of the door leaf. Core material and veneers shall be conditioned before bonding.
- d) Apply veneers with edges tight butted, with no gaps or other open defects. Set out veneers so that veneers are aligned in regular uniform symmetry unless otherwise specified.
- e) Finished components shall be free from bow, twist, scratches, chipping, pimpling, depressions, glue spill, staining and other defects. Sand to a fine, smooth finish, free from sanding marks.
- f) Refer also to Section Z10.

Seals

L20.2205

Fire and Smoke Seals

- a) Intumescent strips and smoke seals shall be provided to satisfy the performance requirements as scheduled.
- b) The smoke seals shall be compression types that do not distort after use.
- c) The smoke seals and intumescent strips shall be permanently fixed and recessed into frames strictly in accordance with the manufacturer's written recommendations.
- d) Separate neoprene or similar smoke seals set into door frames as indicated on the Design Drawings.

L20.2300

FABRICATION

Tolerances

L20.2301

General

- a) A high degree of accuracy is required in the fabrication and installation of the work.
- b) Carry out all work and use all materials in accordance with the manufacturer's printed recommendations.
- c) Accurately cut and form materials to the required shape and with all exposed surfaces and edges true and free from irregularities and defects, using techniques that will not impair the strength of materials used.
- d) The works elements shall be square, regular to level and plane with all junctions fitting to the stated tolerances.
- e) Wireways must be allowed for connection to equipment within the framing system, back to the building power supply (to allow for wiring by the Electrical Works Contractor). Co-ordinate provisions for electrical service, sensing devices and final connections. Connect all parts of equipment with insulated wiring as required for operation.
- f) Ensure that the shadow gaps shown on the design are maintained at the head and jamb conditions.

L20.2302

Manufacturing Tolerances

- a) Tolerances for Manufacture:
 - i) The works shall appear smooth and flat. The required flatness criterion shall be 1:1000.
 - ii) Manufacturing tolerances shall be in accordance with BS 4787, BS 5277 and BS 5278.
- b) The Working Drawings shall state the tolerances intended to accommodate surrounding constructional elements in order to ensure that all aspects of the installation interface satisfactorily with the building as a whole.

L20.3000

SITE INSTALLATION

L20.3100 INSTALLATION

L20.3101

General

- a) All structural openings shall be exactly 10mm larger than the overall doorset dimension. Doorsets shall recognise the site dimension and take account of tolerance as stated.
- b) Interfacing requirements shall be in accordance with the visual requirements as indicated on the Design Drawings.
- c) During construction, exposed components shall be protected after fitting and care taken to avoid fitting any components whilst 'wet' trades are still in progress. Protect from abrasives, acids and other corrosive materials.
- d) Installation of fire doorsets/ fire door assemblies shall be carried out by sub-contractors who are members of a nationally recognised quality assurance scheme, and ideally the same scheme to which the door manufacturer subscribes.
- e) Installation of fire doorsets/ fire door assemblies shall be in accordance with the recommendations of the Architectural and Specialist Door Manufacturer's Association Installation Guide.

L20.3102

Metal Doorsets

Installation of fire resisting metal doorsets shall be carried out in accordance with the DHF (Door and Hardware Federation) Code of Practice Document CP 201.

L20.3103

Protection of Components

Do not deliver to Site components, which cannot be put immediately into suitable dry, covered storage with a dry floor. Stack on bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

L20.3104

Protection of Components after Installation

Ensure that all exposed components have protective coverings during storage and after installation to protect factory applied finishes. Exposed finishes shall also be protected during on-Site operations.

L20.3105

Moisture Content

- a) All timber shall be subjected to controlled drying to ensure that the moisture content, if not otherwise specified, is suitable for the situation of the finished joinery. When fixed it shall remain stable and free from expansion, contraction or other movements detracting from the required performance or appearance.
- b) During delivery, storage, fixing and thereafter to Practical Completion maintain conditions of temperature and humidity to suit the specified moisture content(s) of timber components. When instructed by the Architect, test components with an accepted electrical moisture meter used in accordance with the manufacturer's written recommendations.

L20.3106

Ironmongery

Assemble and fix carefully and accurately using fastenings with a matching finish supplied by the ironmongery manufacturer. Prevent damage to ironmongery and adjacent surfaces. At completion check, adjust and lubricate as necessary to ensure correct functioning.

L20.3107

Sealant Joints

- a) Refer to Section Z22.
- b) Sealants for door frames shall be silicone where required, as detailed on the Design Drawings.

L20.3108

On-Site Dimensions

- a) Take responsibility for all dimensions and for checking dimensions on Site prior to manufacture.
- b) Accommodate any given tolerances and differences between actual Site dimensions and dimensions shown on the Design Drawings.

L20.3200 FIXINGS

L20.3201

Generally

- a) Refer to Section Z20.
- b) Fixing centres for door frames: When not predrilled or specified otherwise, position fixings 150mm from each end of jamb, adjacent to each hanging point and at 600mm maximum centres.
- c) For ironmongery fixing refer to Section P21.

L20.3300 INSTALLATION TOLERANCES

L20.3301

Generally

- a) At the time of handover the visual requirements of the works shall be as follows:
 - i) The works shall be straight and flat.

- ii) Gaps to head and jambs of doors to frames shall be 3mm all round.
 - iii) Thresholds shall have a 7mm gap where located above a carpeted floor.
 - iv) The maximum variation from plumb shall be $\pm 1.5\text{mm}$.
- b) Take responsibility for checking dimensions on Site.

End of Section