

25-50-20/120 DRS-100 Doorset system - type A

System outline

25-50-20/120 DRS-100 Doorset system type A

- **Type:** A
- **Description:** White wood doorset, Fire and Acoustic rated.
- **System performance:** 25-50-20/205 Design submittals;
25-50-20/210 Performance requirements generally;
25-50-20/240 Acoustic performance;
25-50-20/250 Mechanical strength requirements to BS EN 1192;
25-50-20/265 Inclusive design;
25-50-20/290 Compliance with performance requirements;
and 25-50-20/218 Fire performance requirements to BS EN 13501 type A.
- **System manufacturer:** Submit proposals.
- **Doorset:**
 - **Type:** 45-25-28/348 Wood doorsets type A.
 - **Fasteners:** Submit proposals.
- **Hardware:** Refer to Door Schedule.
- **Filler between frame and reveal:** Submit proposals.
- **System accessories:** All accessories necessary to complete the installation.
- **Samples required:** 25-50-20/305 Product samples.
- **Execution:** 25-50-20/605 Installation control samples;
25-50-20/610 Preconstruction survey type A;
25-50-20/620 Priming and sealing;
25-50-20/640 Fixing of wood frames;
25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors;
25-50-20/655 Fixing hardware;
25-50-20/680 Frame sealant joints type A;
25-50-20/685 Timing of fixing of doorsets;
25-50-20/690 Building-in permissions;
and 25-50-20/695 Protection of components.
- **System completion:** 25-50-20/810 Documentation relating to doors, door assemblies and doorsets and 25-50-20/895 Verification of performance.
- **System facility management:** 25-50-20/905 Fire door inspection and maintenance.

System performance

25-50-20/205 Design submittals

- **Purpose:** For aesthetic evaluation and to demonstrate compliance with performance requirements.
- **Design submittals:** Typical plan, elevational and section drawings at suitable scales.
- **Validation submittals:** Test certification for doors/ assemblies to show proposals for meeting performance requirements.
- **Timing:** Submit during construction stage before manufacture.

- **Format:** Drawings and specification in BIM compliant format.

25-50-20/210 Performance requirements generally

- **Requirement:** Complete the design of the system to BS EN 1634-1.

25-50-20/218 Fire performance requirements to BS EN 13501 type A

- **Fire resistance:**
 - **Standard:** To BS EN 1634-1; classification to BS EN 13501-2.
 - **Integrity:** Refer to Door Schedule.
- **Smoke leakage:**
 - **Ambient temperature smoke:** To BS EN 13501-2, Class S_a.
 - **Medium temperature smoke:** To BS EN 13501-2, Class S_m.
- **Reaction to fire:** To BS EN 13501-1, class B-s3, d2 or better.

25-50-20/240 Acoustic performance

- **Sound insulation rating:** Refer to Door Schedule.

25-50-20/250 Mechanical strength requirements to BS EN 1192

- **Standard:** To BS EN 1192.
- **Category of duty:** Class 3.
Glass to be impact load resistant.

25-50-20/265 Inclusive design

- **Design standards:** Building Regulations –England Approved Document M1M2 and BS 8300-2.
- **Design considerations:**
 - **Occupancy:** Retail at Ground and Basement, Office all levels, Hotel all levels.
 - **Planning Permission use class:** A1, B1 & C1.
 - **Additional requirements:** The opening force shall meet the requirements of Approved Document M2 Clause 3.10 a.
- **Inclusive design:** Complete design in accordance with recommendations in Building Regulations Eng Approved Document M1M2 and Submit proposals.
- **Best practice design:**
 - **Visual contrast:** As Building Regulations.
 - **Door furniture:**
 - Operability:** Knobs not permitted. Operable with clenched fist.
 - Projection:** 70 mm maximum.
 - Maximum torque:** Oval cross-section handle: 8 N m to depress and 5.5 N to lift.

25-50-20/290 Compliance with performance requirements

- **Purpose:** To demonstrate that the products installed on site comply with the performance requirements of this specification.
- **General requirements:** Test Certification to be provided.
- **Method:**
 - **Previous test results:** For fire and acoustic performance.
- **Testing authority:** UKAS-accredited (or European equivalent)
- **Submissions:**

- **Format:** Declarations of Performance for all CE marked doorsets. Test Certificates for all fire and acoustic doors.
- **Timing:** During construction stage before manufacture.

Products

25-50-20/305 Product samples

- **Manufacturer:** Submit proposals.
- **Submittals:** 1/2 size doorset with associated ironmongery, fire and smoke seals, acoustic seals, and any glazing if relevant.
- **Purpose:** For use as a reference sample.
- **Labelling:** Clearly label all submitted samples.
- **Timing:** Prior to procurement.

45-25-28/348 Wood doorsets type A

- **Manufacturer:** Submit proposals.
- **Third party accreditation:** UKAS accredited
- **Standard:** Internal fire rated doorset to BS 8214 and third party accredited.
- **Wood in joinery standard:** To BS EN 942.
- **Configuration:** Refer to Door Schedule.
- **Doorset size:** Refer to Door Schedule.
- **Format:** Refer to Door Schedule.
- **Performance:**
 - **Fire performance:**
 - Fire integrity:** Refer to Door Schedule.
 - Reaction to fire:** Refer to Door Schedule.
 - **Acoustic performance:** BS EN ISO 10140-2, sound reduction index. Refer to Door Schedule for performance.
 - **Strength and durability:** To BS EN 1192, Class 3.
 - **Accessibility:** In accordance with Building Regulations Approved Document Part M2.
- **Frame:**
 - **Material:** Hardwood.
 - **Species:** Submit proposals.
 - **Appearance class:** J10.
 - **Perimeter seals or inserts:** Acoustic seal and Fire and smoke seal.
 - **Finish:** Primed ready for site finish.
 - **Colour:** White.
 - **Installation fasteners:** Manufacturer's standard.
 - **Frame accessories:** Manufacturer's standard as required to complete the installation.
- **Door leaf:**
 - **Thickness:** 44 mm. minimum, or as required to achieve the fire or acoustic performance.
 - **Core:** Solid Core.
 - **Appearance class:** J10.
 - **Panel details:** Refer to Door Drawings and Schedule.
 - **Facings:** Hardwood veneer for painted finish.

- **Species:** Submit proposals.
- **Cut:** Crown cut veneer.
- **Lippings:** Concealed lippings to all edges.
- **Perimeter seals:** Acoustic seals and Fire and smoke seals.
- **Finish:** Primed ready for site finish.
- **Colour:**
 - Internal:** White.
- **Glazing:**
 - Type:** Clear fire-resisting safety glazing in accordance with BS 6262-4.
- **Beading:**
 - Type:** Internal.
 - Material:** Hardwood.
 - Fixing:** Manufacturer's standard.
- **Door accessories:** All accessories necessary to complete the installation.
- **Planted stops:**
 - **Wood species:** Submit proposals.
 - **Appearance class:** J10.
 - **Finish:** Primed ready for site finish.
- **Hardware:** Allgood Sembla Range for Front of House ironmongery. Allgood Modric range for Back of House ironmongery. Refer to Door Schedule for Ironmongery Sets.
- **Architraves:**
 - **Material:** Hardwood. Submit proposals.
 - **Wood appearance class:** J10.
 - **Finish:** Primed ready for site finish.
 - **Colour:**
 - Internal:** White.
- **Accessories:** All accessories necessary to complete the installation.
- **Execution:** 45-25-28/605 Moisture content of wood products;
45-25-28/630 Installing hardware;
and 45-25-28/640 Workmanship in joinery.

Execution

25-50-20/605 Installation control samples

- **Samples:** Refer to 25-50-20/305 Product samples.
- **Purpose:** For use as an installation reference sample.
- **Locations:** Submit proposals.
- **Features to be included:** To include edges, framing, glazing, hardware and small accessories.
- **Timing:** Construct during preliminary installation in an approved location. First doorset of each type installed and accepted by the Employer's Agent. This will act as a benchmark for all other doorset installations for each type.

25-50-20/610 Preconstruction survey type A

- **Procedure:** Before starting work on designated items, take the site dimensions, record them on shop drawings and use them to ensure accurate fabrication.

- **Designated items:** All door openings
- **Primary support structure:** Survey sufficiently to verify that the required accuracy and security of erection can be achieved.
- **Timing:** Before fabrication.

25-50-20/620 Priming and sealing

- **Application:** Prepare and prime.
- **Wood surfaces inaccessible after installation:** Prime or seal before fixing components.

25-50-20/640 Fixing of wood frames

- **Spacing of fixings (frames not predrilled) (maximum):** 150 mm from ends of each jamb and at 600 mm centres.

25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors

- **Standard:** In accordance with BS EN 16034.
- **Installer:** A firm currently registered under a third party accredited fire door installer scheme.
- **Installation:** In accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.
- **Gaps between frames and supporting construction:** The gap between the door and frame must be suitable for the intumescent seal. It should not exceed 3 mm along the two long edges and along the top of the of the door leaf (tolerance of ± 1 mm).
- **Labelling:** To include manufacturer's name, fire rating and traceable serial number

25-50-20/655 Fixing hardware

- **Holes for components:** No larger than required for satisfactory fit and operation.
- **Adjacent surfaces:** Do not damage.
- **Integrity of the assembly, as established by testing:** Do not compromise.
- **Cutting:** Cut accurately.

25-50-20/680 Frame sealant joints type A

- **Application:** Prepare joints. Form triangular fillets finished to a flat or slightly convex profile.

25-50-20/685 Timing of fixing of doorsets

- **Timing:** After rooms served have been made weathertight and the work of wet trades locally is finished and dried out.

25-50-20/690 Building-in permissions

- **General:** Not permitted unless indicated on drawings.
- **Where permitted:**
 - **Preparation:** Remove horns and provide support.
 - **Fixing cramps:** Fully bed in mortar or affix to subframe or reveal structure.

25-50-20/695 Protection of components

- **General:** Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored and covered storage.
- **Stored components:** Stack on level bearers, separate with spacers to prevent damage by and to projecting hardware, beads, etc.

45-25-28/605 Moisture content of wood products

- **Standard:** To BS EN 942.
- **Moisture content on delivery:** 9–13% for buildings with heating providing room temperatures in the range 12–21°C.

45-25-28/630 Installing hardware

- **Standard:** In accordance with door, door assembly or doorset and hardware manufacturers' recommendations.
- **Submissions:** Evidence of compliance with certification.

45-25-28/640 Workmanship in joinery

- **Standard:** To BS 1186-2.

System completion

25-50-20/810 Documentation relating to doors, door assemblies and doorsets

- **Fire safety information:** Location of every fire door in the building, the fire door certificate relevant to the installed door, fire safety strategy, maintenance information for each component, frequency of inspection and maintenance depending on expected usage of the door.
- **Fire performance evidence:** Provide third party certification of product conformity with the specified fire performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located.
- **Smoke performance:** Provide third party certification of product conformity with the specified smoke performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located. Test evidence must be in the name of the door or doorset manufacturer.
- **Acoustic performance evidence:** Provide third party certification of product conformity for specified acoustic performance for sound attenuating door or doorset supplied.
- **Submittals:**
 - **Manufacturer's operation and maintenance instructions for the following products:**
All products used throughout this system.
 - **Record layout drawings indicating:** General arrangement drawings showing the location of doors, shutters or hatches. Drawings may be cross-referenced to schedule.
 - **Drawing and schedule format:** Electronic.
 - **Number of copies:** Two.

25-50-20/895 Verification of performance

- **Requirements:** Third party test certificates to confirm performance
- **Submissions:**
 - **Format:** Hard copy and electronic
 - **Timing:** Prior to Practical Completion.

System facility management

25-50-20/905 Fire door inspection and maintenance

- **Requirements:** Fire door register to include door identification number, door location, fire rating, installation date and name of installer. Check condition of components against the Fire Certificate data. Replace if worn or damaged
- **Frequency of inspection:** At least once every six months.

Ω End of system

25-50-20/120 DRS-104 Doorset system - type B

System outline

25-50-20/120 DRS-104 Doorset system type B

- **Description:** Riser timber doorset.
- **System performance:** 25-50-20/205 Design submittals;
25-50-20/210 Performance requirements generally;
25-50-20/240 Acoustic performance;
25-50-20/250 Mechanical strength requirements to BS EN 1192;
25-50-20/290 Compliance with performance requirements;
and 25-50-20/218 Fire performance requirements to BS EN 13501 type A.
- **System manufacturer:** Submit proposals.
- **Doorset:**
 - **Type:** 45-25-28/348 Wood doorsets type riser door..
 - **Fasteners:** Submit proposals.
- **Hardware:** Refer to Door Schedule.
- **Filler between frame and reveal:** Submit proposals.
- **System accessories:** All accessories necessary to complete the installation.
- **Samples required:** 25-50-20/305 Product samples.
- **Execution:** 25-50-20/605 Installation control samples;
25-50-20/610 Preconstruction survey type A;
25-50-20/620 Priming and sealing;
25-50-20/640 Fixing of wood frames;
25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors;
25-50-20/655 Fixing hardware;
25-50-20/680 Frame sealant joints type A;
25-50-20/685 Timing of fixing of doorsets;
25-50-20/690 Building-in permissions;
and 25-50-20/695 Protection of components.
- **System completion:** 25-50-20/810 Documentation relating to doors, door assemblies and doorsets and 25-50-20/895 Verification of performance.
- **System facility management:** 25-50-20/905 Fire door inspection and maintenance.

System performance

25-50-20/205 Design submittals

- **Purpose:** For aesthetic evaluation and to demonstrate compliance with performance requirements.
- **Design submittals:** Typical plan, elevational and section drawings at suitable scales.
- **Validation submittals:** Test certification for doors/ assemblies to show proposals for meeting performance requirements.
- **Timing:** Submit during construction stage before manufacture.
- **Format:** Drawings and specification in BIM compliant format.

25-50-20/210 Performance requirements generally

- **Requirement:** Complete the design of the system to BS EN 1634-1.

25-50-20/218 Fire performance requirements to BS EN 13501 type A

- **Fire resistance:**
 - **Standard:** To BS EN 1634-1; classification to BS EN 13501-2.
 - **Integrity:** Refer to Door Schedule.
- **Smoke leakage:**
 - **Ambient temperature smoke:** To BS EN 13501-2, Class S_a.
 - **Medium temperature smoke:** To BS EN 13501-2, Class S_m.
- **Reaction to fire:** To BS EN 13501-1, class B-s3, d2 or better.

25-50-20/240 Acoustic performance

- **Sound insulation rating:** Refer to Door Schedule.

25-50-20/250 Mechanical strength requirements to BS EN 1192

- **Standard:** To BS EN 1192.
- **Category of duty:** Class 3.
Glass to be impact load resistant.

25-50-20/290 Compliance with performance requirements

- **Purpose:** To demonstrate that the products installed on site comply with the performance requirements of this specification.
- **General requirements:** Test Certification to be provided.
- **Method:**
 - **Previous test results:** For fire and acoustic performance.
- **Testing authority:** UKAS-accredited (or European equivalent)
- **Submissions:**
 - **Format:** Declarations of Performance for all CE marked doorsets. Test Certificates for all fire and acoustic doors.
 - **Timing:** During construction stage before manufacture.

Products

25-50-20/305 Product samples

- **Manufacturer:** Submit proposals.
- **Submittals:** 1/2 size doorset with associated ironmongery, fire and smoke seals, acoustic seals, and any glazing if relevant.
- **Purpose:** For use as a reference sample.
- **Labelling:** Clearly label all submitted samples.
- **Timing:** Prior to procurement.

45-25-28/348 Wood doorsets type riser door.

- **Manufacturer:** Submit proposals.

- **Third party accreditation:** UKAS accredited.
- **Standard:** Internal fire rated doorset to BS 8214 and third party accredited.
- **Wood in joinery standard:** To BS EN 942.
- **Configuration:** Refer to Door Schedule.
- **Doorset size:** Refer to Door Schedule.
- **Format:** Refer to Door Schedule.
- **Performance:**
 - **Fire performance:**
 - Fire integrity:** Refer to Door Schedule.
 - Fire insulation:** Refer to Door Schedule.
 - Smoke control:** Refer to Door Schedule.
 - Reaction to fire:** Refer to Door Schedule.
 - **Acoustic performance:** BS EN ISO 10140-2, sound reduction index. Refer to Door Schedule for performance.
 - **Strength and durability:** To BS EN 1192, Class 3.
- **Frame:**
 - **Material:** Hardwood.
 - **Species:** Submit proposals
 - **Appearance class:** J10.
 - **Perimeter seals or inserts:** Acoustic seal and Fire and smoke seal.
 - **Finish:** Primed ready for site finish.
 - **Colour:** White.
 - **Installation fasteners:** Manufacturer's standard.
 - **Frame accessories:** Manufacturer's standard as required to complete the installation.
- **Door leaf:**
 - **Thickness:** 44 mm. minimum, or as required to achieve the fire or acoustic performance.
 - **Core:** Solid Core.
 - **Appearance class:** J10.
 - **Panel details:** Refer to Door Drawings and Schedule.
 - **Facings:** Hardwood veneer for painted finish.
 - **Species:** Submit proposals.
 - **Cut:** Crown cut veneer.
 - **Lippings:** Concealed lippings to all edges.
 - **Perimeter seals:** Acoustic seals and Fire and smoke seals.
 - **Finish:** Primed ready for site finish.
 - **Colour:**
 - Internal:** White.
 - **Door accessories:** All accessories necessary to complete the installation.
- **Hardware:** Refer to Door Schedule for Ironmongery Sets.
- **Accessories:** All accessories necessary to complete the installation.
- **Execution:** 45-25-28/605 Moisture content of wood products;
45-25-28/630 Installing hardware;
and 45-25-28/640 Workmanship in joinery.

Execution

25-50-20/605 Installation control samples

- **Samples:** Refer to 25-50-20/305 Product samples.
- **Purpose:** For use as an installation reference sample.
- **Locations:** Submit proposals.
- **Features to be included:** To include edges, framing, glazing, hardware and small accessories.
- **Timing:** Construct during preliminary installation in an approved location. First doorset of each type installed and accepted by the Employer's Agent. This will act as a benchmark for all other doorset installations for each type.

25-50-20/610 Preconstruction survey type A

- **Procedure:** Before starting work on designated items, take the site dimensions, record them on shop drawings and use them to ensure accurate fabrication.
- **Designated items:** All door openings
- **Primary support structure:** Survey sufficiently to verify that the required accuracy and security of erection can be achieved.
- **Timing:** Before fabrication.

25-50-20/620 Priming and sealing

- **Application:** Prepare and prime.
- **Wood surfaces inaccessible after installation:** Prime or seal before fixing components.

25-50-20/640 Fixing of wood frames

- **Spacing of fixings (frames not predrilled) (maximum):** 150 mm from ends of each jamb and at 600 mm centres.

25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors

- **Standard:** In accordance with BS EN 16034.
- **Installer:** A firm currently registered under a third party accredited fire door installer scheme.
- **Installation:** In accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.
- **Gaps between frames and supporting construction:** The gap between the door and frame must be suitable for the intumescent seal. It should not exceed 3 mm along the two long edges and along the top of the of the door leaf (tolerance of ± 1 mm).
- **Labelling:** To include manufacturer's name, fire rating and traceable serial number

25-50-20/655 Fixing hardware

- **Holes for components:** No larger than required for satisfactory fit and operation.
- **Adjacent surfaces:** Do not damage.
- **Integrity of the assembly, as established by testing:** Do not compromise.
- **Cutting:** Cut accurately.

25-50-20/680 Frame sealant joints type A

- **Application:** Prepare joints. Form triangular fillets finished to a flat or slightly convex profile.

25-50-20/685 Timing of fixing of doorsets

- **Timing:** After rooms served have been made weathertight and the work of wet trades locally is finished and dried out.

25-50-20/690 Building-in permissions

- **General:** Not permitted unless indicated on drawings.
- **Where permitted:**
 - **Preparation:** Remove horns and provide support.
 - **Fixing cramps:** Fully bed in mortar or affix to subframe or reveal structure.

25-50-20/695 Protection of components

- **General:** Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored and covered storage.
- **Stored components:** Stack on level bearers, separate with spacers to prevent damage by and to projecting hardware, beads, etc.

45-25-28/605 Moisture content of wood products

- **Standard:** To BS EN 942.
- **Moisture content on delivery:** 9–13% for buildings with heating providing room temperatures in the range 12–21°C.

45-25-28/630 Installing hardware

- **Standard:** In accordance with door, door assembly or doorset and hardware manufacturers' recommendations.
- **Submissions:** Evidence of compliance with certification.

45-25-28/640 Workmanship in joinery

- **Standard:** To BS 1186-2.

System completion

25-50-20/810 Documentation relating to doors, door assemblies and doorsets

- **Fire safety information:** Location of every fire door in the building, the fire door certificate relevant to the installed door, fire safety strategy, maintenance information for each component, frequency of inspection and maintenance depending on expected usage of the door.
- **Fire performance evidence:** Provide third party certification of product conformity with the specified fire performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located.
- **Smoke performance:** Provide third party certification of product conformity with the specified smoke performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located. Test evidence must be in the name of the door or doorset manufacturer.
- **Acoustic performance evidence:** Provide third party certification of product conformity for specified acoustic performance for sound attenuating door or doorset supplied.
- **Submittals:**
 - **Manufacturer's operation and maintenance instructions for the following products:**
All products used throughout this system.

- **Record layout drawings indicating:** General arrangement drawings showing the location of doors, shutters or hatches. Drawings may be cross-referenced to schedule.
- **Drawing and schedule format:** Electronic.
- **Number of copies:** Two.

25-50-20/895 Verification of performance

- **Requirements:** Third party test certificates to confirm performance
- **Submissions:**
 - **Format:** Hard copy and electronic
 - **Timing:** Prior to Practical Completion.

System facility management

25-50-20/905 Fire door inspection and maintenance

- **Requirements:** Fire door register to include door identification number, door location, fire rating, installation date and name of installer. Check condition of components against the Fire Certificate data. Replace if worn or damaged
- **Frequency of inspection:** At least once every six months.

Ω End of system

25-50-20/120 DRS-106 Doorset system - type C

System outline

25-50-20/120 DRS-106 Doorset system type C

- **Description:** White wood doorset, Fire and Acoustic rated, with reeded glass finish on pull side.
- **System performance:** 25-50-20/205 Design submittals;
25-50-20/210 Performance requirements generally;
25-50-20/240 Acoustic performance;
25-50-20/250 Mechanical strength requirements to BS EN 1192;
25-50-20/265 Inclusive design;
25-50-20/290 Compliance with performance requirements;
and 25-50-20/218 Fire performance requirements to BS EN 13501 type A.
- **System manufacturer:** Submit proposals.
- **Doorset:**
 - **Type:** 45-25-28/348 Wood doorsets type reeded glass finish applied to timber door leaf.
 - **Fasteners:** Submit proposals.
- **Hardware:** Refer to Door Schedule.
- **Filler between frame and reveal:** Submit proposals.
- **System accessories:** All accessories necessary to complete the installation.
- **Samples required:** 25-50-20/305 Product samples.
- **Execution:** 25-50-20/605 Installation control samples;
25-50-20/610 Preconstruction survey type A;
25-50-20/620 Priming and sealing;
25-50-20/640 Fixing of wood frames;
25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors;
25-50-20/655 Fixing hardware;
25-50-20/680 Frame sealant joints type A;
25-50-20/685 Timing of fixing of doorsets;
25-50-20/690 Building-in permissions;
and 25-50-20/695 Protection of components.
- **System completion:** 25-50-20/810 Documentation relating to doors, door assemblies and doorsets and 25-50-20/895 Verification of performance.
- **System facility management:** 25-50-20/905 Fire door inspection and maintenance.

System performance

25-50-20/205 Design submittals

- **Purpose:** For aesthetic evaluation and to demonstrate compliance with performance requirements.
- **Design submittals:** Typical plan, elevational and section drawings at suitable scales.
- **Validation submittals:** Test certification for doors/ assemblies to show proposals for meeting performance requirements.
- **Timing:** Submit during construction stage before manufacture.
- **Format:** Drawings and specification in BIM compliant format.

25-50-20/210 Performance requirements generally

- **Requirement:** Complete the design of the system to BS EN 1634-1.

25-50-20/218 Fire performance requirements to BS EN 13501 type A

- **Fire resistance:**
 - **Standard:** To BS EN 1634-1; classification to BS EN 13501-2.
 - **Integrity:** Refer to Door Schedule.
- **Smoke leakage:**
 - **Ambient temperature smoke:** To BS EN 13501-2, Class S_a.
 - **Medium temperature smoke:** To BS EN 13501-2, Class S_m.
- **Reaction to fire:** To BS EN 13501-1, class B-s3, d2 or better.

25-50-20/240 Acoustic performance

- **Sound insulation rating:** Refer to Door Schedule.

25-50-20/250 Mechanical strength requirements to BS EN 1192

- **Standard:** To BS EN 1192.
- **Category of duty:** Class 3.
Glass to be impact load resistant.

25-50-20/265 Inclusive design

- **Design standards:** Building Regulations –England Approved Document M1M2 and BS 8300-2.
- **Design considerations:**
 - **Occupancy:** Retail at Ground and Basement, Office all levels, Hotel all levels.
 - **Planning Permission use class:** A1, B1 & C1.
 - **Additional requirements:** The opening force shall meet the requirements of Approved Document M2 Clause 3.10 a.
- **Inclusive design:** Complete design in accordance with recommendations in Building Regulations Eng Approved Document M1M2 and Submit proposals.
- **Best practice design:**
 - **Visual contrast:** As Building Regulations.
 - **Door furniture:**
 - Operability:** Knobs not permitted. Operable with clenched fist.
 - Projection:** 70 mm maximum.
 - Maximum torque:** Oval cross-section handle: 8 N m to depress and 5.5 N to lift.

25-50-20/290 Compliance with performance requirements

- **Purpose:** To demonstrate that the products installed on site comply with the performance requirements of this specification.
- **General requirements:** Test Certification to be provided.
- **Method:**
 - **Previous test results:** For fire and acoustic performance.
- **Testing authority:** UKAS-accredited (or European equivalent)
- **Submissions:**

- **Format:** Declarations of Performance for all CE marked doorsets. Test Certificates for all fire and acoustic doors.
- **Timing:** During construction stage before manufacture.

Products

25-50-20/305 Product samples

- **Manufacturer:** Submit proposals.
- **Submittals:** 1/2 size doorset with associated ironmongery, fire and smoke seals, acoustic seals, and any glazing if relevant.
- **Purpose:** For use as a reference sample.
- **Labelling:** Clearly label all submitted samples.
- **Timing:** Prior to procurement.

45-25-28/348 Wood doorsets type reeded glass finish applied to timber door leaf.

- **Manufacturer:** Submit proposals.
- **Third party accreditation:** UKAS accredited.
- **Standard:** Internal fire rated doorset to BS 8214 and third party accredited.
- **Wood in joinery standard:** To BS EN 942.
- **Configuration:** Refer to Door Schedule.
- **Doorset size:** Refer to Door Schedule.
- **Format:** Refer to Door Schedule.
- **Performance:**
 - **Fire performance:**
 - Fire integrity:** Refer to Door Schedule.
 - Fire insulation:** Refer to Door Schedule.
 - **Acoustic performance:** BS EN ISO 10140-2, sound reduction index. Refer to Door Schedule for performance.
 - **Strength and durability:** To BS EN 1192, Class 3.
 - **Accessibility:** In accordance with Building Regulations Approved Document Part M2.
- **Frame:**
 - **Material:** Hardwood.
 - **Species:** Submit species.
 - **Appearance class:** J10.
 - **Perimeter seals or inserts:** Acoustic seal and Fire and smoke seal.
 - **Finish:** Primed ready for site finish.
 - **Installation fasteners:** Manufacturer's standard.
 - **Frame accessories:** Manufacturer's standard as required to complete the installation.
- **Door leaf:**
 - **Thickness:** 44 mm. minimum, or as required to achieve the fire or acoustic performance.
 - **Core:** Solid Core.
 - **Appearance class:** J10.
 - **Panel details:** Refer to Door Drawings and Schedule.
 - **Facings:** Hardwood veneer for painted finish. Reeded-glass panel fixed securely and neatly to pull side of door only. Fixings to be concealed. The application of the reeded

glass panel shall not compromise the performance requirements of the door. Manufacturer to provide certification for compliance with fire requirements.

- **Species:** Submit proposals.
- **Cut:** Crown cut veneer.
- **Lippings:** Concealed lippings to all edges.
- **Perimeter seals:** Acoustic seals and Fire and smoke seals.
- **Finish:** Primed ready for site finish.
- **Door accessories:** All accessories necessary to complete the installation.
- **Planted stops:**
 - **Wood species:** Submit proposals.
 - **Appearance class:** J10.
 - **Finish:** Primed ready for site finish.
- **Hardware:** Allgood Sembla Range for Front of House ironmongery. Allgood Modric range for Back of House ironmongery. Refer to Door Schedule for Ironmongery Sets.
- **Accessories:** All accessories necessary to complete the installation.
- **Execution:** 45-25-28/605 Moisture content of wood products;
45-25-28/630 Installing hardware;
and 45-25-28/640 Workmanship in joinery.

Execution

25-50-20/605 Installation control samples

- **Samples:** Refer to 25-50-20/305 Product samples.
- **Purpose:** For use as an installation reference sample.
- **Locations:** Submit proposals.
- **Features to be included:** To include edges, framing, glazing, hardware and small accessories.
- **Timing:** Construct during preliminary installation in an approved location. First doorset of each type installed and accepted by the Employer's Agent. This will act as a benchmark for all other doorset installations for each type.

25-50-20/610 Preconstruction survey type A

- **Procedure:** Before starting work on designated items, take the site dimensions, record them on shop drawings and use them to ensure accurate fabrication.
- **Designated items:** All door openings
- **Primary support structure:** Survey sufficiently to verify that the required accuracy and security of erection can be achieved.
- **Timing:** Before fabrication.

25-50-20/620 Priming and sealing

- **Application:** Prepare and prime.
- **Wood surfaces inaccessible after installation:** Prime or seal before fixing components.

25-50-20/640 Fixing of wood frames

- **Spacing of fixings (frames not predrilled) (maximum):** 150 mm from ends of each jamb and at 600 mm centres.

25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors

- **Standard:** In accordance with BS EN 16034.
- **Installer:** A firm currently registered under a third party accredited fire door installer scheme.
- **Installation:** In accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.
- **Gaps between frames and supporting construction:** The gap between the door and frame must be suitable for the intumescent seal. It should not exceed 3 mm along the two long edges and along the top of the of the door leaf (tolerance of ± 1 mm).
- **Labelling:** To include manufacturer's name, fire rating and traceable serial number

25-50-20/655 Fixing hardware

- **Holes for components:** No larger than required for satisfactory fit and operation.
- **Adjacent surfaces:** Do not damage.
- **Integrity of the assembly, as established by testing:** Do not compromise.
- **Cutting:** Cut accurately.

25-50-20/680 Frame sealant joints type A

- **Application:** Prepare joints. Form triangular fillets finished to a flat or slightly convex profile.

25-50-20/685 Timing of fixing of doorsets

- **Timing:** After rooms served have been made weathertight and the work of wet trades locally is finished and dried out.

25-50-20/690 Building-in permissions

- **General:** Not permitted unless indicated on drawings.
- **Where permitted:**
 - **Preparation:** Remove horns and provide support.
 - **Fixing cramps:** Fully bed in mortar or affix to subframe or reveal structure.

25-50-20/695 Protection of components

- **General:** Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored and covered storage.
- **Stored components:** Stack on level bearers, separate with spacers to prevent damage by and to projecting hardware, beads, etc.

45-25-28/605 Moisture content of wood products

- **Standard:** To BS EN 942.
- **Moisture content on delivery:** 9–13% for buildings with heating providing room temperatures in the range 12–21°C.

45-25-28/630 Installing hardware

- **Standard:** In accordance with door, door assembly or doorset and hardware manufacturers' recommendations.
- **Submissions:** Evidence of compliance with certification.

45-25-28/640 Workmanship in joinery

- **Standard:** To BS 1186-2.

System completion

25-50-20/810 Documentation relating to doors, door assemblies and doorsets

- **Fire safety information:** Location of every fire door in the building, the fire door certificate relevant to the installed door, fire safety strategy, maintenance information for each component, frequency of inspection and maintenance depending on expected usage of the door.
- **Fire performance evidence:** Provide third party certification of product conformity with the specified fire performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located.
- **Smoke performance:** Provide third party certification of product conformity with the specified smoke performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located. Test evidence must be in the name of the door or doorset manufacturer.
- **Acoustic performance evidence:** Provide third party certification of product conformity for specified acoustic performance for sound attenuating door or doorset supplied.
- **Submittals:**
 - **Manufacturer's operation and maintenance instructions for the following products:** All products used throughout this system.
 - **Record layout drawings indicating:** General arrangement drawings showing the location of doors, shutters or hatches. Drawings may be cross-referenced to schedule.
 - **Drawing and schedule format:** Electronic.
 - **Number of copies:** Two.

25-50-20/895 Verification of performance

- **Requirements:** Third party test certificates to confirm performance
- **Submissions:**
 - **Format:** Hard copy and electronic
 - **Timing:** Prior to Practical Completion.

System facility management

25-50-20/905 Fire door inspection and maintenance

- **Requirements:** Fire door register to include door identification number, door location, fire rating, installation date and name of installer. Check condition of components against the Fire Certificate data. Replace if worn or damaged
- **Frequency of inspection:** At least once every six months.

Ω End of system

25-50-20/120 DRS-105 Doorset system - type D

System outline

25-50-20/120 DRS-105 Doorset system type D

- **Description:** White wood doorset, Fire and Acoustic rated, with Timber grid lining finish on pull side.
- **System performance:** 25-50-20/205 Design submittals;
25-50-20/210 Performance requirements generally;
25-50-20/240 Acoustic performance;
25-50-20/250 Mechanical strength requirements to BS EN 1192;
25-50-20/265 Inclusive design;
25-50-20/290 Compliance with performance requirements;
and 25-50-20/218 Fire performance requirements to BS EN 13501 type A.
- **System manufacturer:** Submit proposals.
- **Doorset:**
 - **Type:** 45-25-28/348 Wood doorsets type timber grid lining finish IWS-300 applied to timber door leaf.
 - **Fasteners:** Submit proposals.
- **Hardware:** Refer to Door Schedule.
- **Filler between frame and reveal:** Submit proposals.
- **System accessories:** All accessories necessary to complete the installation.
- **Samples required:** 25-50-20/305 Product samples.
- **Execution:** 25-50-20/605 Installation control samples;
25-50-20/610 Preconstruction survey type A;
25-50-20/620 Priming and sealing;
25-50-20/640 Fixing of wood frames;
25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors;
25-50-20/655 Fixing hardware;
25-50-20/680 Frame sealant joints type A;
25-50-20/685 Timing of fixing of doorsets;
25-50-20/690 Building-in permissions;
and 25-50-20/695 Protection of components.
- **System completion:** 25-50-20/810 Documentation relating to doors, door assemblies and doorsets and 25-50-20/895 Verification of performance.
- **System facility management:** 25-50-20/905 Fire door inspection and maintenance.

System performance

25-50-20/205 Design submittals

- **Purpose:** For aesthetic evaluation and to demonstrate compliance with performance requirements.
- **Design submittals:** Typical plan, elevational and section drawings at suitable scales.
- **Validation submittals:** Test certification for doors/ assemblies to show proposals for meeting performance requirements.
- **Timing:** Submit during construction stage before manufacture.

- **Format:** Drawings and specification in BIM compliant format.

25-50-20/210 Performance requirements generally

- **Requirement:** Complete the design of the system to BS EN 1634-1.

25-50-20/218 Fire performance requirements to BS EN 13501 type A

- **Fire resistance:**
 - **Standard:** To BS EN 1634-1; classification to BS EN 13501-2.
 - **Integrity:** Refer to Door Schedule.
- **Smoke leakage:**
 - **Ambient temperature smoke:** To BS EN 13501-2, Class S_a.
 - **Medium temperature smoke:** To BS EN 13501-2, Class S_m.
- **Reaction to fire:** To BS EN 13501-1, class B-s3, d2 or better.

25-50-20/240 Acoustic performance

- **Sound insulation rating:** Refer to Door Schedule.

25-50-20/250 Mechanical strength requirements to BS EN 1192

- **Standard:** To BS EN 1192.
- **Category of duty:** Class 3.
Glass to be impact load resistant.

25-50-20/265 Inclusive design

- **Design standards:** Building Regulations –England Approved Document M1M2 and BS 8300-2.
- **Design considerations:**
 - **Occupancy:** Retail at Ground and Basement, Office all levels, Hotel all levels.
 - **Planning Permission use class:** A1, B1 & C1.
 - **Additional requirements:** The opening force shall meet the requirements of Approved Document M2 Clause 3.10 a.
- **Inclusive design:** Complete design in accordance with recommendations in Building Regulations Eng Approved Document M1M2 and Submit proposals.
- **Best practice design:**
 - **Visual contrast:** As Building Regulations.
 - **Door furniture:**
 - Operability:** Knobs not permitted. Operable with clenched fist.
 - Projection:** 70 mm maximum.
 - Maximum torque:** Oval cross-section handle: 8 N m to depress and 5.5 N to lift.

25-50-20/290 Compliance with performance requirements

- **Purpose:** To demonstrate that the products installed on site comply with the performance requirements of this specification.
- **General requirements:** Test Certification to be provided.
- **Method:**
 - **Previous test results:** For fire and acoustic performance.
- **Testing authority:** UKAS-accredited (or European equivalent)
- **Submissions:**

- **Format:** Declarations of Performance for all CE marked doorsets. Test Certificates for all fire and acoustic doors.
- **Timing:** During construction stage before manufacture.

Products

25-50-20/305 Product samples

- **Manufacturer:** Submit proposals.
- **Submittals:** 1/2 size doorset with associated ironmongery, fire and smoke seals, acoustic seals, and any glazing if relevant.
- **Purpose:** For use as a reference sample.
- **Labelling:** Clearly label all submitted samples.
- **Timing:** Prior to procurement.

45-25-28/348 Wood doorsets type timber grid lining finish IWS-300 applied to timber door leaf

- **Manufacturer:** Submit proposals.
- **Third party accreditation:** UKAS accreditation.
- **Standard:** Internal fire rated doorset to BS 8214 and third party accredited.
- **Wood in joinery standard:** To BS EN 942.
- **Configuration:** Refer to drawings (00)_140, (00)_240, (00)_241, (00)_143, (00)_243.
- **Doorset size:** Refer to drawings (00)_140, (00)_240, (00)_241, (00)_143, (00)_243.
- **Format:** Refer to drawings (00)_140, (00)_240, (00)_241, (00)_143, (00)_243.
- **Performance:**
 - **Fire performance:**
 - Fire integrity:** Refer to Door Schedule.
 - Fire insulation:** Refer to Door Schedule.
 - Reaction to fire:** Refer to Door Schedule.
 - **Acoustic performance:** BS EN ISO 10140-2, sound reduction index. Refer to Door Schedule for performance.
 - **Strength and durability:** To BS EN 1192, Class 3.
 - **Accessibility:** In accordance with Building Regulations Approved Document Part M2.
- **Frame:**
 - **Material:** Hardwood.
 - **Species:** Submit proposals.
 - **Appearance class:** J10.
 - **Perimeter seals or inserts:** Acoustic seal and Fire and smoke seal.
 - **Finish:** Primed ready for site finish.
 - **Installation fasteners:** Manufacturer's standard.
 - **Frame accessories:** Manufacturer's standard as required to complete the installation.
- **Door leaf:**
 - **Thickness:** 44 mm. minimum, or as required to achieve the fire or acoustic performance.
 - **Core:** Solid Core.
 - **Appearance class:** J10.
 - **Panel details:** Refer to Door Drawings and Schedule.

- **Facings:** Hardwood veneer for painted finish. Timber wood panelling system IWS-300 to be fixed securely and neatly to pull side of door. Fixings to be concealed. The application of the reeded glass panel shall not compromise the performance requirements of the door. Manufacturer to provide certification for compliance with fire requirements.
- **Species:** Submit proposals.
- **Cut:** Crown cut veneer.
- **Lippings:** Concealed lippings to all edges.
- **Perimeter seals:** Acoustic seals and Fire and smoke seals.
- **Finish:** Primed ready for site finish.
- **Door accessories:** All accessories necessary to complete the installation.
- **Hardware:** Allgood Sembla Range for Front of House ironmongery. Allgood Modric range for Back of House ironmongery. Refer to Door Schedule for Ironmongery Sets.
- **Accessories:** All accessories necessary to complete the installation.
- **Execution:** 45-25-28/605 Moisture content of wood products;
45-25-28/630 Installing hardware;
and 45-25-28/640 Workmanship in joinery.

Execution

25-50-20/605 Installation control samples

- **Samples:** Refer to 25-50-20/305 Product samples.
- **Purpose:** For use as an installation reference sample.
- **Locations:** Submit proposals.
- **Features to be included:** To include edges, framing, glazing, hardware and small accessories.
- **Timing:** Construct during preliminary installation in an approved location. First doorset of each type installed and accepted by the Employer's Agent. This will act as a benchmark for all other doorset installations for each type.

25-50-20/610 Preconstruction survey type A

- **Procedure:** Before starting work on designated items, take the site dimensions, record them on shop drawings and use them to ensure accurate fabrication.
- **Designated items:** All door openings
- **Primary support structure:** Survey sufficiently to verify that the required accuracy and security of erection can be achieved.
- **Timing:** Before fabrication.

25-50-20/620 Priming and sealing

- **Application:** Prepare and prime.
- **Wood surfaces inaccessible after installation:** Prime or seal before fixing components.

25-50-20/640 Fixing of wood frames

- **Spacing of fixings (frames not predrilled) (maximum):** 150 mm from ends of each jamb and at 600 mm centres.

25-50-20/645 Installing fire resisting and smoke control doorsets, door assemblies or doors

- **Standard:** In accordance with BS EN 16034.
- **Installer:** A firm currently registered under a third party accredited fire door installer scheme.

- **Installation:** In accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.
- **Gaps between frames and supporting construction:** The gap between the door and frame must be suitable for the intumescent seal. It should not exceed 3 mm along the two long edges and along the top of the of the door leaf (tolerance of ± 1 mm).
- **Labelling:** To include manufacturer's name, fire rating and traceable serial number

25-50-20/655 Fixing hardware

- **Holes for components:** No larger than required for satisfactory fit and operation.
- **Adjacent surfaces:** Do not damage.
- **Integrity of the assembly, as established by testing:** Do not compromise.
- **Cutting:** Cut accurately.

25-50-20/680 Frame sealant joints type A

- **Application:** Prepare joints. Form triangular fillets finished to a flat or slightly convex profile.

25-50-20/685 Timing of fixing of doorsets

- **Timing:** After rooms served have been made weathertight and the work of wet trades locally is finished and dried out.

25-50-20/690 Building-in permissions

- **General:** Not permitted unless indicated on drawings.
- **Where permitted:**
 - **Preparation:** Remove horns and provide support.
 - **Fixing cramps:** Fully bed in mortar or affix to subframe or reveal structure.

25-50-20/695 Protection of components

- **General:** Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored and covered storage.
- **Stored components:** Stack on level bearers, separate with spacers to prevent damage by and to projecting hardware, beads, etc.

45-25-28/605 Moisture content of wood products

- **Standard:** To BS EN 942.
- **Moisture content on delivery:** 9–13% for buildings with heating providing room temperatures in the range 12–21°C.

45-25-28/630 Installing hardware

- **Standard:** In accordance with door, door assembly or doorset and hardware manufacturers' recommendations.
- **Submissions:** Evidence of compliance with certification.

45-25-28/640 Workmanship in joinery

- **Standard:** To BS 1186-2.

System completion

25-50-20/810 Documentation relating to doors, door assemblies and doorsets

- **Fire safety information:** Location of every fire door in the building, the fire door certificate relevant to the installed door, fire safety strategy, maintenance information for each component, frequency of inspection and maintenance depending on expected usage of the door.
- **Fire performance evidence:** Provide third party certification of product conformity with the specified fire performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located.
- **Smoke performance:** Provide third party certification of product conformity with the specified smoke performance for each door or doorset supplied. Include identifier schedule or similar to allow individual doors to be located. Test evidence must be in the name of the door or doorset manufacturer.
- **Acoustic performance evidence:** Provide third party certification of product conformity for specified acoustic performance for sound attenuating door or doorset supplied.
- **Submittals:**
 - **Manufacturer's operation and maintenance instructions for the following products:**
All products used throughout this system.
 - **Record layout drawings indicating:** General arrangement drawings showing the location of doors, shutters or hatches. Drawings may be cross-referenced to schedule.
 - **Drawing and schedule format:** Electronic.
 - **Number of copies:** Two.

25-50-20/895 Verification of performance

- **Requirements:** Third party test certificates to confirm performance
- **Submissions:**
 - **Format:** Hard copy and electronic
 - **Timing:** Prior to Practical Completion.

System facility management

25-50-20/905 Fire door inspection and maintenance

- **Requirements:** Fire door register to include door identification number, door location, fire rating, installation date and name of installer. Check condition of components against the Fire Certificate data. Replace if worn or damaged
- **Frequency of inspection:** At least once every six months.

Ω End of system