

**L20 – DOORS/SHUTTERS/HATCHES****IRAL-NH[L20]0001**

<b>Rev</b>	<b>Summary of Changes</b>	<b>Author</b>	<b>Date</b>	<b>Check</b>	<b>Status</b>
F00	Stage F issue	TMQ	31.07.08	AS	Stage E
K00	Stage K– Issued for construction	AC	19.01.09	AS	Stage K
K01	Clauses 340, 345, 235 added	CR,PB	03.02.09	AS	Stage K
K02	Clauses 230, 235 and 635 revised.	AC	20.05.09	AS	Stage K
K03	Revised Clauses 230, 235, 240, 285, 295, 300, 320, 340, 345	TM	06.16.09	TM	Stage K
K04	Revised 345 (deleted incorrect reference in description)	TM	22.06.09	TM	Stage K
<b>K05</b>	<b>Revised 310 (RFI-000311)</b>	<b>TM</b>	<b>15.07.09</b>	<b>TM</b>	<b>Stage K</b>

**L20 DOORS/ SHUTTERS/ HATCHES**

To be read with A00 Preliminaries/ General Conditions.

**GENERAL**

**110 EVIDENCE OF PERFORMANCE**

- Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

**115 FIRE RESISTING DOORS/ DOORSETS/ ASSEMBLIES**

- Evidence of fire performance: Provide certified evidence, in the form of a product conformity certificate, directly relevant fire test report or engineering assessment, that each door/ doorset/ assembly supplied will comply with the specified requirements for fire resistance if tested to BS 476-22, BS EN 1634-1 or BS EN 1634-3. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.

**150 SITE DIMENSIONS**

- Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
- Designated items:  
ED-B11-1, ED-B15-1, ED-G06-1  
DG01-1, D-G05-1, D-G09-1, D-102-1, D-201-1, D-203-1, D-206-1, D-211-1,  
D-301-1, D-303-1, D-306-1

**170 CONTROL SAMPLES**

- Procedure:
  - Finalize component details.
  - Fabricate a small 500x500 version one of each of the following designated items including ironmongery items as per P21/141:
    - Door type 02 (clause: L20/225)
  - Fabricate a small 500x500 version one of each of the following designated items including ironmongery items as per P21/141::
    - Door Type 03 (clause: L20/230)
  - 300 x 300 sample of each glazing unit type to include specified spacers bars, laminates, finish treatments and interlayers as clause 635.
  - Threshold sill with etched grooves as clause 360, 300mm x 300mm
  - Obtain approval of appearance and quality before proceeding with manufacture of full size control samples. (Full size control samples as part of the quantity required for the project.

**180 SHOP DRAWINGS**

- Provide shop drawings for each door type, including integrated ironmongery for CA approval before fabrication.

**PRODUCTS**

**210 STAINLESS STEEL GLAZED EXTERNAL DOUBLE DOORSET – TYPE E01**

- Description: Main entrance glazed and pivot hinged double door assembly with glazed semi-circular over panel fitted in existing opening.
- Location: Main entrance door. ED-G06-1
- Drawing reference(s): Door Schedule IRAL-2400  
GA Plans for locations  
IRAL-2410 for Door Types  
IRAL-2440 for details

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- Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts  
Performance Steel Doorsets  
Millen Road  
Sittingborne  
Kent  
ME10 2AA
  - Product reference: Purpose made door set
  - Fire resistance rating: no requirement
  - Sound insulation rating: Refer to Door Schedule IRAL-2400
  - Door leaf: Grade 316S11stainless steel double glazed panels with 3mm joggled door skins to both sided of the door, complete with 1.6mm internal reinforcing channel welded in position, and inner channel bead. External glazing bead from 3mm lazer cut frame 40 x 3mm section - finished as doorset. Frame filled in with mineral wool RWA 45 to achieve thermal performance.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Frame: Grade 316S11stainless steel Press formed and bent to form continuous frame with semi-circular head from 1.6mm stainless steel Grade 316S11(316). To maintain the overall performance the frame sections need to be back filled with a proprietary material of 105kg/m3 density.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Fixing Bolted to existing stone/masonry with s/s frame anchors at approximately 400mm centres. Fixing concealed with 20mm diameter stainless steel discs glued in pre-cut holes, flush with surface. Finish as frame.
  - Mullion Press formed from 1.6mm stainless steel Grade 316S11(316). To maintain the overall performance the frame sections need to be back filled with a proprietary material of 105kg/m3 density.
  - Fixed glazed panel Glazing to be fixed against a glazing bead from 3mm lazer cut frame 40 x 3mm section. The glazing is secured in place with another glazing bead lazer cut frame 40 x 3mm section. Both finished as doorset.
  - Glazing details: Refer to Door Schedule and L20/635
  - Ironmongery: Refer to Ironmongery Schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule IRAL-2400
  - Perimeter seals: Refer to Ironmongery Schedule IRA-NH(P21)1001-D
  - Other requirements: Coordination with existing heritage fabric (Gate and stone arch)  
Integral signage-frit on Face2/Face3. Design to be confirmed.  
Co-ordination with access control and security contacts
  - Interfaces: Thresholds P20/151  
Stone slab paving: Q25/110  
Stone floor: M40/124  
Entrance mat: N10/300  
Existing stone masonry
- 215 STAINLESS STEEL GLAZED EXTERNAL DOUBLE DOORSET – TYPE E03
- Description: Glazed and pivot hinged double door assembly with high level semi-circular fixed panel (W-G23)
  - Location: ED-B11-1
  - Drawing reference(s): GA Plans for locations  
Door Schedule IRAL-2400  
IRAL-2411 for Door types

- Manufacturer: IRAL-2440 for details  
Ingersoll Rand Security Technologies - Martin Roberts  
Performance Steel Doorsets
  - Product reference: Purpose made door set
  - Fire resistance rating: Refer to Door Schedule (60 min)
  - Sound insulation rating: Refer to Door Schedule
  - Door leaf: Grade 316S11 stainless steel double glazed panels with 3mm joggled door skins to both sides of the door, complete with 1.6mm internal reinforcing channel welded in position, and inner channel bead. External glazing bead from 3mm laser cut frame 40 x 3mm section - finished as doorset. Frame filled in with mineral wool RWA 45 to achieve thermal performance.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Frame: Press formed from 1.6mm stainless steel Grade 316S11. Head and jamb sections to be butt mitre welded and finished smooth. To maintain the overall performance the frame sections need to be back filled with a proprietary material of 105kg/m3 density.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Window frame (W-G23): Press formed and bent to form continuous frame with semi-circular head. To maintain the overall performance the frame sections need to be back filled with a proprietary material of 105kg/m3 density.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Glazing details: Refer to Door Schedule and L20/635
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule
  - Perimeter seals: Refer to Ironmongery Schedule IRA-NH(P21)1001-D
  - Other requirements: Hold open and connected to fire alarm system.
  - Fixing: Bolted to existing brickwork with s/s frame anchors at approximately 400mm centres. Fixing concealed with 20mm diameter stainless steel discs glued in pre-cut holes, flush with surface. Finish as frame.
  - Interfaces: Thresholds P20/155  
Floor finish: M40/124
- 230 WOOD EXTERNAL DOORSETS – TYPE E05
- Description: Glazed external timber door assembly with fan light generally to match window Type W01 L10/210.
  - Location: Basement Level Room B15.
  - Drawing reference(s): GA Plans for locations  
IRAL-2412 door for types  
Door Schedule IRAL-2400  
IRAL-2441 & IRAL-2471 for details  
Ironmongery schedule – door IRA-NH(P21)1001-D
  - Manufacturer: Neil Burke Joinery Limited or similar approved  
Unit 2  
Elizabethan Way  
Lutterworth  
Leicestershire LE17 4ND  
Tel: 01455 557981  
[www.neilburkejoinery.co.uk](http://www.neilburkejoinery.co.uk)
  - Fire resistance rating: -
  - Sound insulation rating: Refer to Door Schedule
  - Door leaf: Solid hardwood
  - Core: Solid hardwood

- Frame: Double glazed panel with internal spacer bars.  
Hardwood beads and bead feature to cover spacer bar.
- Threshold: Solid hardwood.
- Timber: Generally to BS EN 942.
  - Species: Hardwood
  - Appearance class: J10 for glazing beads, drip mouldings and the like. J30 or better for all other members.
  - Moisture content on delivery: 12–19%.
- Preservative treatment: Organic solvent as Z21 and BWPDA Commodity Specification C5. Desired service life 60 years.
- Finish: Externally as M60/152. Internally as M60/153.
- Glazing details: to match window W-B18. Refer to Window Schedule IRAL-NH(L10)-1001
- Ironmongery/ Accessories: Refer to Ironmongery Schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule
- Perimeter seals: Refer to Ironmongery Schedule IRA-NH(P21)1001-D
- Fixing: Frame anchors to existing brickwork wall. Sealant as Z22/108, colour white.
- Interfaces: Existing Masonry: SW04/202  
Wall lining: K10/155  
Rubber flooring M50/110

**235 WOOD EXTERNAL DOORSETS – TYPE E06**

- Description: External louvre door assembly in timber frame with glazed fan light generally to match window Type W01 L10/210.
- Location: Basement Level Room B13.
- Drawing Reference(s): GA Plans for locations  
IRAL-2412 door for types.  
Door Schedule IRAL-2400  
IRAL-2441 for details.  
Ironmongery Schedule – door IRAL-NH(P21)1001-D
- Manufacturer: Neil Burke Joinery Limited or similar approved  
Unit 2  
Elizabethan Way  
Lutterworth  
Leicestershire LE17 4ND  
Tel: 01455 557981  
[www.neilburkejoinery.co.uk](http://www.neilburkejoinery.co.uk)
- Fire resistance rating: -
- Sound insulation rating: -
- Fan Light:
  - Frame: Solid Hardwood
  - Core: Double glazed panel with internal spacer bars.  
Hardwood beads and bead feature to cover spacer bar.  
Glazing to match fanlight of window W-B18. Refer to Window Schedule IRAL-NH(L10)1001
- Door leaf:
  - Frame: Solid hardwood
  - Core: Fixed blade external louvers with 50 mm blade spacing in 15x50 aluminium frame with insect screen.
- Manufacturer: Naco  
Ruskin Air Management Limited  
Stourbridge Road  
Bridgnorth  
Shropshire WV15 5BB
- Product Reference: 50 standard series – fixed blade external louvers with 50mm blade spacing

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- Finish: Polyester Powder Coated to BS3987 and to match
  - Insect Screen: 23g expanded aluminium
  - Frame: Solid hardwood
  - Threshold: Solid hardwood.
  - Timber: Generally to BS EN 942.
  - Species: Hardwood
  - Appearance class: J10 for glazing beads, drip mouldings and the like. J30 or better for all other members.
  - Moisture content on delivery: 12–19%.
  - Preservative treatment: Organic solvent as Z21 and BWPDA Commodity Specification C5. Desired service life 60 years.
  - Finish: Externally as M60/152. Internally as M60/153.
  - Glazing details: to match window W-B18. Refer to Window Schedule IRAL-NH(L10)-1001
  - Ironmongery/ Accessories: Refer to Ironmongery Schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule
  - Perimeter seals: Refer to Ironmongery Schedule IRA-NH(P21)1001-D
  - Fixing: Frame anchors to existing brickwork wall. Sealant as Z22/108, colour white.
  - Interfaces: Existing Masonry: SW04/202  
Waterproofing render per structural.  
Sealed Concrete Screed, refer to IRAL-09/2210 and M60/190.
- 240 EXTERNAL WOOD HERITAGE DOORSET– TYPE E02
- Description: Refurbishment work to existing heritage timber door assembly
  - Location: ED-G07-1
  - Drawing reference(s): GA Plans for locations  
Door Schedule IRAL-2400  
IRAL-2424 for door types
  - Fire resistance rating: no requirements
  - Sound insulation rating: no requirements
  - Finish: Externally as M60/021. Internally as M60/025.
  - Ironmongery: Replace existing ironmongery.  
Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule.
  - Other requirements: Refer to IRAL-SW03/200
  - Interfaces: Existing stonework/masonry
- 250 INTERNAL PAINTED WOOD DOORSETS - TYPE 01
- Description: Internal painted door assembly.
  - Location: Basement.
  - Drawing reference(s): Refer to Door Schedule IRAL-2400  
IRAL-2420 for Door Types  
IRAL-2450 for Door Details
  - Fire resistance rating: No requirements
  - Sound insulation rating: Refer to Door Schedule IRAL-2400 & IRAL-2401 (0-Rw=35dB)
  - Door leaf:
    - Core: Solid core.
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Frame:
    - Wood species: Hardwood
    - Appearance class to BS EN 942: J30

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- Finish as delivered: Fully spay painted in factory as M60/140.
  - Preservative treatment: No requirement.
  - Glazing details: No glazing.
  - Moisture content on delivery: 9-13%
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule IRAL-2400 & IRAL-2401
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Fixing: Door frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews at approximately 400mm centres. Fixing holes to be filled with timber pellets to match framing.
  - Interfaces: Partitions K10/110, K10/115, K10/125  
Rubber Skirting: M50/770,  
Rubber Flooring: M50/110
- 255 INTERNAL DOORSETS WITH STAINLESS STEEL FRAMES - TYPE 02
- Description: Internal painted door assembly with stainless steel frames.
  - Location: BSMT, GF, 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> floor
  - Drawing reference(s): GA plans for locations  
Door Schedule: IRAL-2400, IRAL-2401  
IRAL-2420 for Door Types  
IRAL-2450 for Door Details,  
IRAL-2470-2473 for Profile Details
  - Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts  
Performance Steel Doorsets
  - Product reference: Purpose made door set
  - Fire resistance rating: Refer to Door Schedule IRAL-2400 & IRAL-2401 (0-120min)
  - Sound insulation rating: Refer to Door Schedule (0-Rw=35dB)
  - Door leaf:
    - Core: Solid core.
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Frame: Press formed from 1.6mm stainless steel Grade 316S11(316). Head and jamb sections to be butt mitre welded and finished smooth . To maintain the overall performance the frame sections need to be back filled with a proprietary material of 105kg/m3 density.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Preservative treatment: No requirement.
  - Glazing details: No glazing.
  - Moisture content on delivery: 9-13% for leaf
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule IRAL-2400 & IRAL-2401.
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Fixing: Door frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews at approximately 400mm centres Fixing concealed with 20mm diameter stainless steel discs glued in pre-cut holes, flush with surface. Finish as frame.
  - Interfaces: Existing masonry,  
Partitions K10/110, K10/115, K10/125  
Thresholds P20/150, P20/155  
Floor finishes: M50/110, K21/110, M40/120, M50/171  
Skirting: P20/115, P20/120, P20/130, M50/770

- 260 STAINLESS STEEL GLAZED DOORSET – TYPE 03
- Description: Glazed stainless steel door assembly.
  - Location: BSMT, GFL, 1FL, 2FL & 3FL
  - Drawing reference(s): GA Plans for locations  
Door Schedule: IRAL-2400, IRAL-2401  
IRAL-2420 for door Types  
IRAL-2450 for Door Details  
IRAL-2470-2473 for Profile Details
  - Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts  
Performance Steel Doorsets
  - Product reference: Purpose made door set
  - Fire resistance rating: Refer to Door Schedule (0-60min)
  - Sound insulation rating: Refer to Door Schedule (0-Rw=35dB)
  - Door leaf: Grade 316S11 stainless steel double glazed panels with 3mm jogged door skins to both sides of the door, complete with 1.6mm internal reinforcing channel welded in position, and inner channel bead. External glazing bead from 3mm laser cut frame 40 x 3mm section - finished as doorset.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Frame: Press formed from 1.6mm stainless steel Grade 316S11. Head and jamb sections to be butt mitre welded and finished smooth. To maintain the overall performance the frame sections need to be back filled with a proprietary material of 105kg/m3 density.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Glazing details: Refer to Door Schedule and L20/635
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule IRAL-2400 & IRAL-2401.
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Other requirements: Additional folded metal frame at D-108-1: Press formed from 1.6mm stainless steel Grade 316S11, corners to be butt mitre welded and finished smooth, concealed fixings.
  - Fixing: Door frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews at approximately 400mm centres Fixing concealed with 20mm diameter stainless steel discs glued in pre-cut holes, flush with surface. Finish as frame.
  - Interfaces: Existing Masonry  
Partitions K10/110, K10/115, K10/125  
Thresholds P20/150, P20/155  
Floor finishes: M50/110, K21/110, M40/120, M50/171  
Skirting: P20/120, P20/130, M50/770
- 265 INTERNAL PAINTED WOOD HOLD-OPEN DOORSET, DOUBLE - TYPE 04
- Description: Internal painted pivot hinged double door assembly.
  - Location: Refer to Door Schedule: IRAL-2400, IRAL-2401
  - Drawing reference(s): GA Plans for locations  
IRAL- 2427 for Door Types  
IRAL-2452 for Details
  - Manufacturer: Shadbolt International
  - Product reference: Purpose made door set
  - Fire resistance rating: Refer to Door Schedule (30min)
  - Sound insulation rating: No requirements
  - Door leaf:



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- Core: Solid core.
  - Thickness: 54mm
  - Facings: Paint quality facing veneer.
  - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Glazing details: No glazing
  - Moisture content on delivery: 9-13%
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule.
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Other requirements: On floor springs and hold open with electromagnet device connected to the fire alarm system.  
Door stop incorporated in timber frame at ceiling detail required. Details to manufacturer design and CA approval.  
Removable frame infill for access to floor spring.  
Deflection head detail as IRAL-03/2452  
In wall pockets secondary frame element as per IRAL-02/2452. Setting-out hold-open door sets in conjunction with the adjoining partition finishes and adjacent door sets is critical.
  - Interfaces: Partitions K10/165, K10/145  
Ceilings K10/226  
Floor finishes: M40/120  
Skirting: P20/120
- 270 INTERNAL PAINTED WOOD HOLD-OPEN DOORSET - TYPE 05
- Description: Internal painted pivot hinged door assembly.
  - Location: Refer to Door Schedule: IRAL-2400, IRAL-2401
  - Drawing reference(s): GA Plans for locations  
IRAL-2421 for Door Types  
IRAL-2453, IRAL-2458, IRAL-2459, IRAL-2460, IRAL-2461 for details
  - Manufacturer: Shadbolt International
  - Product reference: Purpose made door set
  - Fire resistance rating: Refer to Door Schedule (30min – 60min)
  - Sound insulation rating: No requirements
  - Door leaf:
    - Core: Solid core.
    - Thickness: 54mm
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Glazing details: No glazing
  - Moisture content on delivery: 9-13%
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule IRAI-2400 & IRAL\_2401.
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Other requirements: On floor springs with 5mm pivot offset accessories to conceal floor box.  
Hold open with electromagnetic catch device connected to the fire alarm system.
  - Interfaces: Setting-out hold-open door sets in conjunction with the adjoining partition finishes and adjacent door sets is critical.  
Existing Masonry  
Partitions K10/110, K10/115, K10/125, K10/145, F10/240

Ceilings K10/216, K10/225  
Thresholds P20/150

Floor finishes: M40/120, M50/171  
Skirting: P20/120  
Mechanical access grill: K10/415

**275 INTERNAL PAINTED WOOD DOORSETS - TYPE 06**

- Description: Internal painted door assembly with concealed frame detail.
- Location: 1FL. D-108-2
- Drawing reference(s): GA Plans for locations  
Door Schedule IRAL-2400, IRAL-2401  
IRAL-2422 for Door Types  
IRAL-2456 for Details
- Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts  
Performance Steel Doorsets
- Product reference: Purpose made door set
- Fire resistance rating: No requirements
- Sound insulation rating: Refer to Door Schedule (35dB)
- Door leaf:
  - Core: Solid core.
  - Thickness: 60mm
  - Facings: Paint quality facing veneer.
  - Lippings: Hardwood 4 edges
- Finish as delivered: Fully spay painted in factory as M60/140.
- Frame:
  - Wood species: Hardwood
  - Appearance class to BS EN 942: J30
- Finish as delivered: Fully spay painted in factory as M60/140.
- Preservative treatment: No requirement.
- Glazing details: No glazing.
- Moisture content on delivery: 9-13%
- Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule.
- Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
- Fixing: Door frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews at approximately 400mm centres.
- Other requirements: On asymmetrical butt hinges for concealed frame detail.
- Interfaces: Partitions: K10/115  
Thresholds P20/150  
Floor finishes: M50/110, M50/171  
Skirting: P20/110, M50/770

**280 INTERNAL DOORSETS WITH STAINLESS STEEL FRAMES - TYPE 07**

- Description: Internal painted door assembly with timber frame and with 'add-on' stainless steel frame.
- Location: GFL. D-G09-1
- Drawing reference(s): GA Plans for locations  
Door Schedule: IRAL-2400  
IRAL-2422 for Door Types  
IRAL-2454 for Details
- Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts  
Performance Steel Doorsets
- Product reference: Purpose made door set
- Fire resistance rating: no requirements
- Sound insulation rating: Refer to Door Schedule (Rw=35db)

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- Door leaf: Opening in side of door with panelled details to match existing door or panelling and flush from the outer side as per drawing: IRAL-2422
    - Core: Solid core.
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spray painted in factory as M60/140.
  - Timber Frame:
    - Wood species: Hardwood
    - Appearance class to BS EN 942: J30
  - Add-on stainless frame: Press formed from 1.6mm stainless steel Grade 316S11. Head and jamb sections to be butt mitre welded and finished smooth.
    - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Preservative treatment: No requirement.
  - Glazing details: No glazing.
  - Moisture content on delivery: 9-13% for leaf
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D For Ironmongery sets refer to Door Schedule.
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Fixing: To existing partition with M8 screw with expansion shield. Fixing concealed with 20mm diameter stainless steel discs glued in pre-cut holes, flush with surface. Finish as frame.
  - Interfaces: Partitions K10/140  
Thresholds P20/160  
Floor finishes: K21/110, M40/140  
Skirting: P20/120
- 285 INTERNAL GLAZED SLIDING STAINLESS STEEL DOORSET – TYPE 08
- Description: Stainless steel sliding door assembly in wall pockets.
  - Location: Refer to Door Schedule: IRAL-2400, IRAL-2401
  - Drawing reference(s): GA Plans for locations  
IRAL-2421 for types  
IRAL-2450 for details  
IRAL-2454 for details
  - Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts Performance Steel Doorsets
  - Product reference: Purpose made door set
  - Fire resistance rating: No requirement
  - Sound insulation rating: Rw 35 dB
  - Arrangement: Top-hung double leaf with bottom guide. Type of bottom guide tbd.
  - Track system: MF5 Manual Sliding Gear by DorteK Ltd or similar acoustic 'drop-down' sliding gear coordinated with door assembly to CA approval.
  - Manufacturer: DorteK Ltd  
St Mark Street, Hull,  
East Yorkshire  
HU8 7ED
  - Operation: Manual
  - Door leaf: Grade 316S11 stainless steel double glazed panels with 3mm joggled door skins to both sides of the door, complete with 1.6mm internal reinforcing channel welded in position, and inner channel bead. External glazing bead from 3mm laser cut frame 40 x 3mm section - finished as doorset.  
Door leaf to be manufactured and detailed to incorporate accessories of special acoustic sliding door gear.
  - Finish as delivered: Controlled shot peened refer to Z35/153.

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- Frame: Press formed from 1.6mm stainless steel Grade 316S11. Head and jamb sections to be butt mitre welded and finished smooth. To maintain the overall performance the frame sections need to be back filled with a proprietary material of 105kg/m3 density.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Glazing details: Refer to Door Schedule and L20/635
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D For Ironmongery sets refer to Door Schedule.
  - Perimeter seals: All round rubber gasket seal for hermetic sealing required
  - Other requirements: Access panel alongside full length of track per drawing: IRAL-2423 and IRAL-2454.
  - Fixing: Track to be fixed to lintel provided in partition alongside full length of track. Stainless steel frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews.
  - Interfaces: Partitions K10/165  
Thresholds P20/150  
Floor finishes: M40/120,  
Existing stone flooring: C40b/110  
Skirting: P20/120
- 295 INTERNAL WOOD HERITAGE DOORSET - TYPE 10
- Description: Refurbishment work to existing heritage timber door assembly
  - Location: 1FL. D-105-2
  - Drawing reference(s): GA Plans for locations  
Door Schedule IRAL-2401  
IRAL-2424 for door types, IRAL-2455 for details
  - Fire resistance rating: 30 min. Survey door and upgrade to approval of statutory authorities and CA.
  - Sound insulation rating: no requirements
  - Finish: Painted as M60/025 colour 001 as M60/100.
  - Ironmongery: Replace existing ironmongery.  
Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule.
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Other requirements: Refer to IRAL-SW03/200  
Existing transom to be filled in with 2x2layers of plasterboard and with mineral wool as shown IRAL-04/2455, to maintain 30 min fire rating.
  - Interfaces: Partitions K10/145, F10/240  
Thresholds P20/150  
Floor finishes: M50/171, K21/110  
Skirting: P20/120
- 300 INTERNAL WOOD HERITAGE DOORSET - TYPE 11
- Description: Refurbishment work to existing heritage timber door assembly
  - Location: 1FL. D-105-3
  - Drawing reference(s): GA Plans for locations  
Door Schedule IRAL-2401  
IRAL-2424 for door types
  - Fire resistance rating: no requirements
  - Sound insulation rating: no requirements
  - Finish: Painted as M60/025 colour 001 as M60/100.
  - Ironmongery: Remove existing ironmongery except hinges.

North House		L20
-	Other requirements:	Fixed shut. Existing transom to be filled in with 2x2 layers of plasterboard and with mineral wool as shown IRAL-04/2455, to maintain 30 min fire rating.
-	Interfaces:	Partitions: K10/145 Thresholds: P20/150 Floor finishes: M50/171 Skirting: P20/120
310	INTERNAL GLASS DOORSETS - TYPE 13	
-	Description:	Internal glass frameless assembly with 2 fixed side panels and with patch fittings.
-	Location:	2FL. D-211-1
-	Drawing reference(s):	GA Plans for locations Door Schedule IRAL-2401 IRAL-2425 for Door Types IRAL-2457 for Details <b>IRAL-2490 for manifestation detail</b>
-	Glass Manufacturer:	T4 Design Limited Unit 1, 2 & 3 Hermitage Lane Industrial Estate Hermitage Way Mansfield Notts NG18 5ES
-	Fire resistance rating:	no requirement
-	Sound insulation rating:	no requirement
-	Product reference:	Purpose made door set.
-	Door leaf:	12mm low iron toughened safety glass to BS 6206, class A.
-	Decoration:	Sand blasted manifestation with Ritec coating. <del>Pattern to be confirmed.</del>
-	Peripheral fittings:	Concealed stainless steel channel alongside full perimeter of side panels, flush with finished wall face.
-	Lock:	no lock required.
-	Door Closers:	Refer to Ironmongery schedule IRA-NH(P21)1001-D
-	Pull handles:	Pair of pull handles. Refer to Ironmongery schedule IRA-NH(P21)1001-D
-	Additional ironmongery:	Refer to Ironmongery schedule IRA-NH(P21)1001-D For Ironmongery sets refer to Door Schedule.
-	Other requirements:	Door stop to be incorporated in ceiling.
-	Interfaces:	Partitions: K10/115 Ceilings K10/210 & K10/216 Floor finishes: M50/171 Skirting: P20/130
315	INTERNAL PAINTED WOOD DOORSETS - TYPE 14	
-	Description:	Internal painted double door assembly with concealed frame detail.
-	Location:	BSMT. D-B09-1
-	Drawing reference(s):	GA Plans for locations Door Schedule IRAL-2400 IRAL-2426 for Door Types IRAL-2451 for Details
-	Manufacturer:	Ingersoll Rand Security Technologies - Martin Roberts Performance Steel Doorsets
-	Product reference:	Purpose made door set
-	Fire resistance rating:	30 min
-	Sound insulation rating:	Refer to Door Schedule (35dB)

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- Door leaf:
    - Core: Solid core.
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges, meeting style: rebated
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Frame:
    - Wood species: Hardwood
    - Appearance class to BS EN 942: J30
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Preservative treatment: No requirement.
  - Glazing details: No glazing.
  - Moisture content on delivery: 9-13%
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets, hinges, closers and electronic access requirements refer to Door Schedule.
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Fixing: Door frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews.
  - Other requirements: On asymmetrical butt hinges for concealed frame detail.
  - Interfaces: Partitions: K10/115  
Thresholds P20/150  
Floor finishes: M50/110, M40/120  
Skirting: P20/110, P20/115
- 320 INTERNAL PAINTED WOOD DOORSETS - TYPE 15
- Description: Solid painted sliding door assembly in wall pockets.
  - Location: 1FL. D-109-1
  - Drawing reference(s): GA Plans for locations  
Door Schedule: IRAL-2401  
IRAL-2426  
IRAL-2250, IRAL-2251 for Details
  - Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts
  - Product reference: Purpose made door set
  - Fire resistance rating: No requirement
  - Sound insulation rating: Rw 35 dB
  - Arrangement: Top hung, single leaf with bottom guide. Type of bottom guide tbd.
  - Track system: MF5 Manual Sliding Gear by DorteK Ltd or similar acoustic 'drop-down' sliding gear coordinated with door assembly to CA approval.
  - Manufacturer: DorteK Ltd  
St Mark Street, Hull,  
East Yorkshire  
HU8 7ED
  - Door leaf:
    - Core: Solid core.
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spay painted in factory as M60/140. - Timber
  - Frame:
    - Wood species: Hardwood
    - Appearance class to BS EN 942: J30
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Preservative treatment: No requirement
  - Glazing details: no glazing
  - Operation: Manual
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule.

**North House**

**L20**

- Perimeter seals: All round rubber gasket seal for hermetic sealing required
  - Other requirements: Access panel per drawing alongside full length of track per drawing IRAL-02/2426 and 03/2250
  - Fixing: Track to be fixed to lintel provided in partition alongside full length of track.
  - Interfaces: Partitions F10/240, M20/210, K10/145  
Thresholds P20/150  
Floor finishes: M50/110, M40/150  
Skirting: M50/770
- 325 INTERNAL PAINTED WOOD DOORSETS - TYPE12
- Description: Internal painted door assembly.
  - Location: Basement.
  - Drawing reference(s): Refer to Door Schedule IRAL-2400  
IRAL-2420 for Door Types  
IRAL-2450 for Door Details
  - Fire resistance rating: 120 min
  - Sound insulation rating: Refer to Door Schedule IRAL-2400 & IRAL-2401 (0-Rw=35dB)
  - Door leaf:
    - Core: Mineral core`
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Frame:
    - Wood species: Hardwood
    - Appearance class to BS EN 942: J30
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Preservative treatment: No requirement.
  - Glazing details: No glazing.
  - Moisture content on delivery: 9-13%
  - Ironmongery: Refer to Ironmongery schedule IRA-NH(P21)1001-D  
For Ironmongery sets refer to Door Schedule IRAL-2400 & IRAL-2401
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Fixing: Door frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews.
  - Interfaces: Partitions K10/105  
Rubber Skirting: M50/770,  
Rubber Flooring: M50/110
- 330 INTERNAL PAINTED WOOD DOORSETS - TYPE16
- Description: Internal painted door assembly .
  - Location: Third Floor D-304-1
  - Drawing reference(s): Refer to Door Schedule IRAL-2400  
IRAL-2420 for Door Types  
IRAL-2460, IRAL-2461 for details
  - Fire resistance rating: 30 min
  - Sound insulation rating: Refer to Door Schedule IRAL-2400 & IRAL-2401 (0-Rw=35dB)
  - Door leaf:
    - Core: Solid core.
    - Facings: Paint quality facing veneer.
    - Lippings: Hardwood 4 edges
  - Finish as delivered: Fully spay painted in factory as M60/140.
  - Frame:
    - Wood species: Hardwood
    - Appearance class to BS EN 942: J30

**North House**

**L20**

- Overhead panel in between door sets D-303-1 & D-306-1 at high level.
  - Frame Hardwood
  - Infill panel -Appearance class to BS EN 942: J30
  - Finish as delivered: 20mm MDF
  - Preservative treatment: Fully spay painted in factory as M60/140.
  - Glazing details: No requirement.
  - Moisture content on delivery: No glazing.
  - Ironmongery: 9-13%
  - Perimeter seals: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Fixing: For Ironmongery sets refer to Door Schedule IRAL-2400 & IRAL-2401
  - Other requirements: Refer to Ironmongery schedule IRA-NH(P21)1001-D
  - Interfaces: Door frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews.
  - Other requirements: Interface and setting out with adjacent doorsets/frames is critical – Dimension of door D-304-1 to suit setting out of adjacent doors.
  - Interfaces: Door Type 05: L20/270
  - Interfaces: Partitions K10/115,
  - Interfaces: Rubber Skirting: M50/770,
  - Interfaces: Rubber Flooring: M50/110
- 340 ACCESS HATCH, EXTERNAL
- Description: Flush metal access door in wall with simulated beaded frame for skim finish with integrated budget lock. Polyester powder coated.
  - Location: Refer to General Arrangement plans and Access Panel Schedule IRAL-[K10]1001
  - Drawings ref(s): IRAL-0410 to IRAL-0425
  - Manufacturer: Palco Ltd.
  - Manufacturer: 1a Bridle Close
  - Manufacturer: Finedon Road Industrial Estate
  - Manufacturer: Wellingborough NN8 4RN
  - Manufacturer: Tel: +44 (0) 1933 228500
  - Manufacturer: Fax +44 (0) 1933 228580
  - Manufacturer: Web: www.palcouk.com
  - Product reference: WP2B
  - Size: Refer to Access Panel Schedule IRAL-[K10]1001
  - Material: Stainless steel.
  - Finish: Polyester Powder Coated as Z31; Colour: RAL 9016.
  - Accessories: Stainless steel insert lock ILS/S – for use with gas meter key.
  - Interfaces : Masonry Wall F10/230.
  - Interfaces: Render M20/120.
  - Interfaces: Mechanical & Electrical services: Refer to MEP specification & drawings
- 345 ROOF ACCESS HATCH, EXTERNAL
- Description: Roof access hatch with integrated fixed ships ladder as Clause L30/221, opening size 1800 x 760 with gas spring assisted opening for double skinned aluminium lid on Terrace B. The lid is filled with CFC and HCFC free insulation with a U value of 0.43W/m2K to BS3958: Part 5: 1986.
  - Drawing reference(s): IRAL-1701, 1715, 1716. IRAL-2081,IRAL- 2082.
  - Manufacturer: Surespan
  - Manufacturer: Leamore Close
  - Manufacturer: Leamore Enterprise Park



- Location: Walsall
  - Product reference: WS2 7NL
  - Size: Tel: 01922 711185
  - Material: Refer to General Arrangement plans
  - Finish: SRH50
  - Colour: 1800 x 760 clear opening
  - Interfaces : Aluminium
  - Polyester powder coated – refer to Z31
  - RAL 7015
  - Built up warm roof with mastic asphalt finish.
- 350 ARCHITRAVE AT LIFT LANDING – GROUND FLOOR
- Description: Frame to ground floor lift landing doors and Schindler supplied proprietary box door frame set. Refer to X10/010.
  - Location: GFL. G06
  - Drawing reference(s): GA Plans for locations and IRAL-2110
  - Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts Performance Steel Doorsets
  - Product reference: Purpose made frame set
  - Fire resistance rating: no requirements
  - Sound insulation rating: no requirements
  - Frame: Press formed from 1.6mm stainless steel Grade 316S11. Head and jamb sections to be butt mitre welded and finished smooth.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Fixing: Frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews. Fixing concealed with 20mm diameter stainless steel discs glued in pre-cut holes, flush with surface. Finish as frame.
  - Interfaces: Partitions K10/165  
Thresholds P20/150  
Floor finishes: M40/120, M40/150  
Skirting: P20/120
- 355 ARCHITRAVE AT LIFT LANDING – TYPICAL
- Description: Frame to lift landing doors and Schindler supplied proprietary box door frame set. Refer to X10/010.
  - Location: B. B01, R. G05, 1. 105, 2. 206, 3. 306.
  - Drawing reference(s): GA Plans for locations and IRAL-2111-2114
  - Manufacturer: Ingersoll Rand Security Technologies - Martin Roberts Performance Steel Doorsets
  - Product reference: Purpose made frame set
  - Fire resistance rating: no requirements
  - Sound insulation rating: no requirements
  - Frame: Press formed from 1.6mm stainless steel Grade 316S11. Head and jamb sections to be butt mitre welded and finished smooth.
  - Finish as delivered: Controlled shot peened refer to Z35/153.
  - Fixing: Frame to be fixed to timber blocking and partition studs with No. 12x2.5" LG RND Head Woodscrews. Fixing concealed with 20mm diameter stainless steel discs glued in pre-cut holes, flush with surface. Finish as frame.
  - Interfaces: Partitions K10/165  
Thresholds P20/150  
Floor finishes: M40/120, M40/150  
Skirting: P20/120
- 360 THRESHOLD SILLS AT LIFT LANDING – GROUND FLOOR

- |                    |                      |   |
|--------------------|----------------------|---|
| - Threshold sills: | Location:            | Same depth as architrave, spanning between landing door sill track and lobby floor finishes. Refer to IRAL 2110.  |
|                    | Material:<br>System: | 1.6mm Shot peened Stainless steel as per Z35/153<br>Return edges folded to maximum 3mm radius and the whole fully bonded to structural ply decking. Refer to L20/355. |
|                    | Fixings:             | As clause X10/740 with the following exception: Silicone to fixings to achieve water resistance.  |
|                    | Finish:              | Provide 0.3mmd x 5mmw etched grooves centred at 15mm to achieve anti-slip finish to: SRV=40 in the wet  |
- 635 GLAZING TO DOORS
- Location: Refer to Door Schedule: IRAL-2400, IRAL-2401
  - Drawing reference(s): Door type drawings: IRAL-241X series, IRAL-242X series,  
Door detail drawings: IRAL- 2450  
Door leaf detail: IRAL-2460
  - Type 01: 6/21/11 low iron toughened glass panels with s/s inner channel. Fritted signage on the inner side of glazing. No acoustic requirements. No fire rating.
  - Type 02: 10/22/6 low iron toughened glass panels with s/s inner channel. 10mm Pyrodur (Manufactured by Pilkington UK) No acoustic requirements. 60 min fire rating.
  - Type 03: 8/22/8 low iron toughened glass panels with s/s inner channel. No acoustic requirements. No fire rating.
  - Type 04: Not used.
  - Type 05: 6/26/6 low iron toughened glass panels with s/s inner channel. No acoustic requirements. No fire rating.
  - Type 06: 13/22/6 low iron toughened glass panels with acoustic laminate 13 mm Audioscreen (manufactured by Pilkington UK) and s/s inner channel. Acoustic requirements: Rw 35db  
No fire rating.
  - Type 07: 13/22/6 low iron toughened glass panels with acoustic laminate 13 mm Audioscreen (manufactured by Pilkington UK) and 6.8 mm Vanceva laminate (colour: 000A, Cool White) and s/s inner channel. Acoustic requirements: Rw 35db. No fire rating.
  - Type 08: 13/22/6 low iron toughened glass panels with acoustic laminate 13 mm Audioscreen with Vanceva laminate (colour: 000A, Cool White) (manufactured by Pilkington UK) and with 6 mm Piran 'S' (manufactured by Schott Glass Ltd) and s/s inner channel. Acoustic requirements: Rw 35db. 30min fire rating.
  - Type 09: 12 mm low iron toughened glass panel with sand blasted manifestation with Ritec coating. Pattern to be specified. No acoustic requirements. No fire rating.

**EXECUTION**

**710 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: Stacked on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

**730 PRIMING/ SEALING**

- Wood surfaces inaccessible after installation: Primed or sealed as specified before fixing components.

**740 CORROSION PROTECTION**

- Surfaces to be protected: **tbc**
- Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape.
- Timing of application: Before fixing components.

**750 FIXING DOORSETS**

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

**760 BUILDING IN**

- General: Not permitted unless indicated on drawings.

**770 DAMP PROOF COURSES ASSOCIATED WITH BUILT IN WOOD FRAMES**

- Method of fixing: To backs of frames using galvanized clout nails.

**780 DAMP PROOF COURSES IN PREPARED OPENINGS**

- Location: Correctly positioned in relation to door frames. Do not displace during fixing operations.

**790 FIXING OF WOOD FRAMES**

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

**800 FIXING OF LOOSE THRESHOLDS**

- Spacing of fixings: Maximum 150 mm from each end and at 600 mm maximum centres.

**809 FIRE RESISTING/ SMOKE CONTROL DOORS/ DOORSETS**

- Installation: By a firm currently registered under a third party accredited fire door installer scheme in accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.

**810 FIRE RESISTING/ SMOKE CONTROL DOORS/ DOORSETS**

- Gaps between frames and supporting construction: Filled as necessary in accordance with requirements for certification and/ or door/ doorset manufacturer's instructions.

**820 SEALANT JOINTS**

- Sealant: refer to Z22/112.
- Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

**830 FIXING IRONMONGERY GENERALLY**

- Fasteners: Supplied by ironmongery manufacturer.
- Finish/ Corrosion resistance: To match ironmongery.
- Holes for components: No larger than required for satisfactory fit/ operation.
- Adjacent surfaces: Undamaged.
- Moving parts: Adjusted, lubricated and functioning correctly at completion.

**840    FIXING IRONMONGERY TO FIRE RESISTING DOOR ASSEMBLIES**

- General: All items fixed in accordance with door leaf manufacturer's recommendations ensuring that integrity of the assembly, as established by testing, is not compromised.
- Holes for through fixings and components: Accurately cut.
  - Clearances: Not more than 8 mm unless protected by intumescent paste or similar.
- Lock/ Latch cases for fire doors requiring  $\geq 60$  minutes integrity performance: Coated with intumescent paint or paste before installation.

**850    LOCATION OF HINGES**

- Primary hinges: Where not specified otherwise, positioned with centre lines 250 mm from top and bottom of door leaf.
- Third hinge: Where specified, positioned centered.
- Hinges for fire resisting doors: Positioned in accordance with door leaf manufacturer's recommendations.

**860    INSTALLATION OF EMERGENCY EXIT DEVICES**

- Standard: Unless specified otherwise, install panic bolts/ latches in accordance with BS EN 1125.

**End of L20**