

0455P ASSA ABLOY DOOR HARDWARE**1 GENERAL****1.1 RESPONSIBILITIES****General**

Requirement: Provide door hardware, as documented.

1.2 COMPANY CONTACTS**ASSA ABLOY technical contact**

Website: www.assaabloy.com.au/en/local/au/contact/

Lorient door seals: www.lorient.com.au/contact

1.3 CROSS REFERENCES**General**

Requirement: Conform to the following:

- 0171 General requirements.
- ASSA ABLOY door hardware schedule.

1.4 MANUFACTURERS DOCUMENTS**Technical manuals**

ASSA ABLOY materials and installation manuals:

www.assaabloyopeningsolutions.com.au/en/local/au/.

Lorient door seal data sheets, installation manuals & CAD downloads: www.lorient.com.au.

1.5 INTERPRETATION**Abbreviations**

General: For the purposes of this worksection, the abbreviations given in AS 4145.1 Appendix D apply.

Definitions

General: For the purposes of this worksection, the general definitions given in AS 4145.1 Section 2 apply.

1.6 SUBMISSIONS**Records**

Door hardware schedule: Submit an amended schedule, prepared by ASSA ABLOY Australia or their designated door hardware supplier, showing changes to the contract door hardware schedule resulting from the following:

- Approval of a hardware sample.
- Acceptance of an ASSA ABLOY alternative to the specification.
- A contract variation to a door hardware requirement.

Key coding system: Submit the lock manufacturer's record of the key coding system showing each lock type, number and type of key supplied, key number for re-ordering, and name of supplier.

Warranties

General: Submit warranties, as documented.

2 PRODUCTS**2.1 GENERAL****Product substitution**

Other products: Conform to PRODUCTS, **GENERAL**, **Substitutions** in 0171 General requirements.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.

Supply

Delivery: Deliver door hardware items, ready for installation, in individual complete sets for each door, as follows:

- Clearly labelled to show the intended location.
- In a separate dust and moisture proof package.
- Including the necessary templates, accessories fixings and fixing instructions.

Hardware specified generically: Hardware of the required strength and quality to perform its function, appropriate to the intended conditions of use, suitable for use with associated hardware, and fabricated with fixed parts firmly joined.

Replacement items

Door hardware: Match items being replaced with the existing, or as documented. Upgrade hinges as necessary to conform to **Hinges for timber doors table** and **Hinges for aluminium doors table**.

2.2 HINGES

Butt hinge materials

Timber doors in timber or steel frames:

- Material: Stainless Steel
- Product: Lockwood series.

Aluminium framed doors in aluminium frames:

- Material: Stainless Steel
- Product: Interfold stainless steel or high tensile aluminium with fixed stainless steel pins in nylon bushes, and with nylon washers to each knuckle joint.

Doors fitted with closers: Provide low friction ball bearing hinges.

Fire-resisting doors: To AS 1905.1.

Timber solid core doors

Number of hinges: Determine the number of hinges required based on the nominated door leaf size and weight only. For other door leaf sizes or for doors with applied finishes, use the weight of the door to determine the number of hinges required. For doors fitted with door closers with backcheck, add 20 kg to door weight.

Size of hinges: Determine the size of the hinge based on the door leaf thickness:

- 35 to 43 mm thick door: 100 x 75 mm butt hinges with a minimum thickness of 2.5 mm.
- 44 to 55 mm thick door: 100 x 100 mm butt hinges with a minimum thickness of 2.5 mm.
- > 55 mm thick door: To the door hardware schedule.
- For alternative hinge calculations, use ASSA ABLOY [hinge calculator](#).

Hinge pin: Supply fixed pins to hinges of doors opening out or designated as a security doors. For all other doors, provide loose pins.

Hinges for timber doors table

Nominal door leaf size (L x W x T) (mm)	Door leaf weight (kg)	Number of hinges
2040 x 400 x 35	≤ 19	2
2040 x 600 x 35	≤ 29	2
2040 x 720 x 35	≤ 35	3
2040 x 820 x 35	≤ 39	3
2040 x 920 x 35	≤ 44	3
2040 x 1020 x 35	≤ 49	4
2040 x 720 x 40	≤ 37	3
2040 x 820 x 40	≤ 42	3

Nominal door leaf size (L x W x T) (mm)	Door leaf weight (kg)	Number of hinges
2040 x 920 x 40	≤ 48	3
2040 x 1020 x 40	≤ 52	4
2040 x 720 x 50	≤ 45	3
2040 x 820 x 50	≤ 50	3
2040 x 920 x 50	≤ 57	3
2040 x 1020 x 50	≤ 68	4
2400 x 720 x 40	≤ 50	4
2400 x 820 x 40	≤ 52	4
2400 x 920 x 40	≤ 55	4
2400 x 1020 x 40	≤ 60	4
2400 x 1220 x 50	≤ 72	5
2040 x 920 x 70	≤ 88	Pivot hinges

Length (L) is the dimension along the knuckles, not including hinge tips, if any, and width (W) is the dimension across both hinge leaves when opened flat.

Aluminium doors

Application: Aluminium hinges for aluminium doors, or for doors of other materials in aluminium frames of a weight of 40 kg or less.

Hinges for aluminium doors table

Nominal hinge size (L x W x T) (mm)	Door leaf weight (kg)	Knuckles (minimum)	Screws/hinge leaf (minimum)
100 x 70 x 3	≤ 30	3	3
100 x 80 x 3.5	≤ 50	5	4
130 x 50 x 3.4	≤ 75	Interfold	3

Length (L) is the dimension along the knuckles, not including hinge tips, if any, and width (W) is the dimension across both hinge leaves when opened flat.

2.3 ANCILLARIES

Bolts

General: Barrel bolts, flush bolts and tower bolts with keepers, including lock plates, staples, ferrules or floor sockets.

Rebated doors

General: For mortice locks or latches to rebated doors, provide purpose-made rebated pattern items.

Strike plates

General: For steel door frame installations, provide strike plates designed to allow the full extension of the lock tongue or similar devices and the correct operation of the locking mechanism.

2.4 DOOR CONTROLLERS

Standard

General: To AS 4145.5.

Performance

Requirement: Door controllers, pivots, floor or overhead door closers, and automatic door operators, suitable for the door type, size, weight, sliding action and swings required and the operating conditions, including wind and air conditioning pressure.

Closers

Hinged and pivot doors:

- Fire-resisting doors: Closers tested and certified for use as components of fire-resisting door assemblies:
 - . Standard: To AS 1905.1.

2.5 ELECTRONIC CONTROL DEVICES

General

Requirement: Electric strikes, electric locks, drop bolts and/or similar devices to suit door construction and hardware.

Fail-safe: Connect door control devices in a fail-safe mode to permit egress in the event of power failure.

Glass doors: Tumbler, drop bolts or magnetic holders.

Double leaf doors (solid frame): Electric strike or lock on the inactive leaf, connected to the door frame by concealed flexible wiring.

Activation

Activation device: Keypads, card readers or other activation devices located next to entry points.

External: Weatherproof (IP56) hoods or housings for external units.

Mounting height: 900 to 1100 mm from floor level and not less than 500 mm from internal corners.

2.6 PANIC DEVICES

General

Standard: To EN 1125.

Requirements:

- Field sizable.
- Keyed dogging.

2.7 KEYING

Keying requirements

Standard: To AS 4145.2 for keying security

Requirement: Provide door hardware and keys, as documented.

Delivery of keys

Great grandmaster, grandmaster and master keys: Arrange for delivery direct to the principal.

For locks keyed to differ and locks keyed alike: Check the quantity against key records, and deliver keys to the contract administrator at practical completion.

Identification

Labelling: Supply each key with a purpose-made plastic or stamped metal label legibly marked to identify the key, attached to the key by a metal ring.

Key material

Lever locks: Malleable cast iron or mild steel.

Pin tumbler locks: Nickel alloy, not brass.

Number of keys table

Key code	Key type	Minimum number of keys
GGMK	Great grandmaster keys	2
GMK	Grandmaster keys	2
MK	Master keys	2 per code group
KD	Locks keyed to differ	2 per lock
KA	Locks keyed alike:	
	- 2 locks in code group	4
	- 3 to 10 locks in code group	6
	- 11 to 40 locks in code group	10
	- 41 and over locks in code group	1 per 4 locks or part thereof

2.8 DOOR SEALS

Standards

Quality management for manufacture: To ISO 9001.

Acoustic applications minimum standard: To BCA F5.5.

Acoustic applications: Tested to ISO 10140-2 and rated to AS/NZS ISO 717.1.

Fire door assemblies: To AS 1530.4 and in conformance with AS 1905.1.

Smoke door assemblies: NCC DTS: To NCC Spec C3.4.

Smoke door assemblies: Performance based: Tested to AS 1530.7 and leakage in conformance with AS 6905.

Combined fire and smoke door assemblies: To NCC Spec C3.4, AS 1530.4, AS 1905.1 and AS 1530.7.

Weather and energy sealing applications: To AS/NZS 4420.1 and AS 2047.

Access doors for people with disability: To AS 1428.1.

Finishes

CA: Clear anodised

Si: Silicone Rubber .

PE: Painted Polyester Enamel finish (Powder coat)

Aluminium extrusions

Material: Commercial grade alloy 6060 T5.

Finish to visible extrusions: Satin clear anodising, or as documented.

Thickness:

- Perimeter seal extrusions: Minimum 15 µm.
- Threshold plates and threshold plate seals: Minimum 20 µm.

PVC gaskets

Lorient proprietary grade PVC extrusions:

- Food grade with integral antimicrobial additive.
- Service temperature: -50 C to +70o C.

Silicone rubber gaskets

Lorient proprietary flame-retarded silicone rubber extrusions:

Service temperature: -60° C to + 230° C.

Fasteners:

Unexposed applications: Zinc-plated self-drilling/self-tapping fasteners supplied with each product.

External coastal exposure applications: Substitute the standard fasteners supplied with equivalent stainless steel versions.

Technical Manuals

- Data sheets, installation manuals & CAD downloads: www.lorient.com.au
- Lorient Technical Contact: www.lorient.com.au

3 SELECTIONS

3.1 PRODUCT FINISHES

General

Requirement: All hardware finishes to be "Satin Chrome", or like finish depending on the availability and base material of the specified items.

Satin Chrome finishes: Plated using trivalent process.

- Exceptions for approval: Lockwood Velocity Series.

Hardware locations

Door hardware schedule: The following schedules describe the selected hardware item but do not indicate the locations or quantities. A door hardware schedule is required.

3.2 ASSA ABLOY LOCKS AND LATCHES

Locks and latches schedule

Door type	Brand / Product series	Comments
Solid core	Lockwood Selector 3770 Series Selector Mortice Lock	

Door type	Brand / Product series	Comments
Fire rated	Lockwood Selector 3770 Series Selector Mortice Lock	
Aluminium framed glass	Lockwood Selector 3770 Series Selector Mortice Lock Lockwood Synergy 3570 Series Synergy Mortice Lock	
Timber framed glass	Lockwood Selector 3770 Series Selector Mortice Lock Lockwood Synergy 3570 Series Synergy Mortice Lock	
Other		

3.3 ASSA ABLOY FURNITURE

Furniture schedule

Backplate Type	Brand/Product series	Comments
Plate	Lockwood 2800 Series Plate Brass Door Furniture Lockwood 5800 Series Narrow Stile Plate Plate Brass Door Furniture	
Other		

3.4 ASSA ABLOY ACCESS CONTROL

Access control lock schedule

Type	Brand/Product series	Comments
Electric strike	Lockwood Padde Series ES9000 Preload Electric Strike	

3.5 ASSA ABLOY DOOR CONTROLLERS

Door closers schedule

Type	Brand / Product series	Comments
Generally		
Or		
Type A	Lockwood 2615 Cam Action Door Closer Lockwood 2616 Cam Action Door Closer	
And		
Other		

Door closer type:

- A: High performance.
- B: Medium performance.

- C: Low performance.

Automatic door operators schedule

Brand	Item	Comments
ASSA ABLOY Entrance Systems		

3.6 ASSA ABLOY ANCILLARY HARDWARE

Bolts schedule

Provide products as specified in hardware sets. If none specified, provide products as listed below.

Type	Brand/ Product series	Size
Skeleton	Lockwood 781/791 Series	To suit door height
Door Stop	Lockwood A250	

3.7 DOOR SEALS

Acoustic door seal schedule

Door type	Rating	Lorient product	Comments
Single leaf 35mm solid core door	Rw30	Lorient LAS1212 Batwing + LAS 8001si	Concealed fixing: Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom.
		Lorient LAS7001si + LAS8001si	Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom. Optional LAS4000 aluminium threshold may be used as required.
Single leaf 40mm solid core door	Rw32	Lorient LAS1212 Batwing + LAS 8001si	Concealed fixing: Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom.
		Lorient LAS7001si + LAS8001si	Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom. Optional LAS4000 aluminium threshold may be used as required.
Single leaf Fire rated door	Rw32	Lorient LAS1212 Batwing + LAS 8001si	Concealed fixing: Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom
		Lorient LAS1812LSS + LAS8001si	OR Fit LAS1812LSS combined fire/smoke/acoustic seal to head and jambs and fully mortise LAS8001si into door bottom.
		Lorient LAS7001si + LAS8001si	Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom.

			Optional LAS4000 aluminium threshold may be used as required.
Single leaf proprietary acoustic door	>Rw50	Check manufacturers reports	
Double leaf 35mm solid core door	Rw30	Lorient LAS1212 Batwing + LAS 8001si Lorient LAS7001si + LAS8001si AAS7506 astragal	Concealed fixing: Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom. Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom. Fit AAS7506 to meeting stile. Optional LAS4000 aluminium threshold may be used as required.
Double leaf 40mm solid core door	Rw32	Lorient LAS1212 Batwing + LAS 8001si Lorient LAS7001si + LAS8001si AAS7506 astragal	Concealed fixing: Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom. Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom. Fit AAS7506 to meeting stile. Optional LAS4000 aluminium threshold may be used as required.
Double leaf fire door	Rw32	LAS1212 Batwing + LAS8001si + FDMS T-Bar LAS7001si + LAS8001si + FDMS T-Bar	Concealed fixing: Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom. Fit FDMS T-BAR set to meeting stiles. Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom. Fit FDMS T-BAR set to meeting stiles. Optional LAS4000 aluminium threshold may be used as required.
Double leaf proprietary acoustic door	>Rw50	Check manufacturers reports	

Smoke door seal schedule

Door type	Leakage Rating	Lorient product	Comments
Single leaf fire rated door	>10m ³ /hr	Lorient LAS1212 Batwing + LAS 8001si Lorient LAS1812LSS + LAS8001si	Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom. Fit LAS1812LSS combined fire/ smoke/ acoustic seal to head and sides of door frame and fully mortise

		Lorient LAS1212 Batwing + LAS 8002si	LAS8001si into door bottom. Fit LAS1212 Batwing to head and sides of door frame and surface mount LAS8002si on door bottom
		Lorient LAS1812LSS + LAS8002si	Fit LAS1812LSS combined fire/ smoke/ acoustic seal to head and sides of door frame and surface mount LAS8002si on door bottom.
		Lorient LAS1212 Batwing + LAS 8003si	Fit LAS1212 Batwing to head and sides of door frame and surface mount LAS8003si on door bottom.
		Lorient LAS1812LSS + LAS8003si	Fit LAS1812LSS combined fire/ smoke/ acoustic seal to head and sides of door frame and surface mount LAS8003si on door bottom.
		Lorient LAS1212 Batwing + LAS 8006si	Fit LAS1212 Batwing to head and sides of door frame and surface mount LAS 8006si on door bottom.
		Lorient LAS1812LSS + LAS8006si Can be fitted with LAS4002 threshold strip	Fit LAS1812LSS combined fire/ smoke/ acoustic seal to head and sides of door frame and surface mount LAS8006si on door bottom. Optional LAS4000 aluminium threshold may be used as required.

Fire door seal schedule

Door type	Rating	Lorient product	Comments
Perimeter seals	Up to -/240/30	LAS1812LSS combined fire/ smoke/ acoustic seal LAS1212 smoke/ acoustic seal LAS1515 smoke/ acoustic seal LAS7001si stop mounted acoustic compression seal LAS7005si stop mounted acoustic compression seal AAS7501si stop mounted acoustic compression seal AAS7503 stop mounted acoustic compression seal	
Door bottom seals	Up to -/240/30	LAS8001si fully rebated (concealed) drop seal LAS8002si semi rebated or surface mounted drop seal LAS8003si semi rebated or surface mounted drop seal LAS8005si fully rebated (concealed) drop seal LAS8006si semi rebated or surface mounted drop seal LAS8007si fully rebated (concealed) drop seal LAS8008si surface mounted drop seal LAS8009si surface mounted drop seal	
Thresholds & ramps	Up to -/240/30	LAS4002 40 mm wide threshold plate LAS4010 75 mm wide x 6 mm high threshold plate LAS4011 100 mm wide x 6 mm high threshold plate LAS4012 125 mm wide x 6 mm high threshold plate LAS4013 150 mm wide x 6 mm high threshold plate AAS4551 100 mm wide threshold ramp 12.5 mm rise AAS4552 150 mm wide threshold ramp 12.5 mm rise	

		AAS4553 150 mm wide threshold ramp 19 mm rise	
Meeting Stiles for double leaf fire doors – Single swing	Up to - /120/30	LDMS T-Bar fire door meeting stile set	
Meeting Stiles for double leaf fire doors – Double swing	Up to - /120/30	LDMS-BB bullnose meeting stiles	

Weather, draft, dust and insect door seal schedule

Door type	Lorient product	Comments
Single leaf door	LAS7001si + LAS8001si	Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom.
	LAS1212 + LAS8001si	Concealed fixing: Fit LAS1212 to head and sides of door frame and fully mortise LAS8001si into door bottom.
	LAS7005si + LAS8006si	Surface mounted: LAS7005si to head and sides of door frame and surface mount LAS8006si on door bottom
Double Leaf door	LAS7001si + LAS8001si + AAS7506 astragal	Surface mounted: Fit LAS7001si to head and sides of door frame and fully mortise LAS8001si into door bottom. Fit AAS7506 to meeting stiles.
	LAS1212 + LAS8001si + AAS7506 astragal	Concealed fixing: Fit LAS1212 to head and sides of door frame and fully mortise LAS8001si into door bottom. Fit AAS7506 to meeting stiles.

Door threshold plates and ramps schedule

Door type	Lorient product	Comments
Single leaf door	LAS4002 40 mm wide threshold plate LAS4010 75 mm wide x 6 mm high threshold plate LAS4011 100 mm wide x 6 mm high threshold plate LAS4012 125 mm wide x 6 mm high threshold plate LAS4013 150 mm wide x 6 mm high threshold plate AAS4551 100 mm wide threshold ramp with 12.5 mm rise AAS4552 150 mm wide threshold ramp with 12.5 mm rise AAS4553 150 mm wide threshold ramp with 19 mm rise	
Double Leaf door	LAS4002 40 mm wide threshold plate LAS4010 75 mm wide x 6 mm high threshold plate LAS4011 100 mm wide x 6 mm high threshold plate LAS4012 125 mm wide x 6 mm high threshold plate LAS4013 150 mm wide x 6 mm high threshold plate AAS4551 100 mm wide threshold ramp with 12.5 mm rise AAS4552 150 mm wide threshold ramp with 12.5 mm rise AAS4553 150 mm wide threshold ramp with 19 mm rise	

3.8 DOOR HARDWARE SETS

The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

The supplier is responsible for handing and sizing all products and providing the correct option for the appropriate door type and material where more than one is presented in the hardware sets. Quantities listed are for each pair of doors, or for each single door.