0455P ASSA ABLOY DOOR HARDWARE

Branded worksection

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The *Template* has been incorporated into the ASSA ABLOY Openings Studio Program. Projects with door hardware schedules documented by ASSA ABLOY specifiers will include a modified version of this *Template* and provide a project specific specification and detailed door-by-door hardware schedules, based on the project's specific drawings and requirements. For projects not documented by ASSA ABLOY, the designer may edit the *Template* by filling out the required schedules directly.

Worksection abstract

This worksection *Template* is applicable to hardware associated with doors, including products branded ABLOY, ASSA ABLOY, Lockwood, Henderson, Yale and Lorient.

How to use this worksection

Customise this worksection *Template* for each project. See A guide to NATSPEC worksections (www.natspec.com.au) for information on *Template* structure, word styles and completing a worksection.

Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections, including:

- *0451 Windows and glazed doors.*
- *0453 Doors and access panels.*
- *0454 Overhead doors.*
- *0527 Room dividers* for operable walls and folding doors.
- *0581 Signage* for statutory and non-statutory door signage.
- *0981 Electronic security.*

Related branded worksections include:

- *0458p ASSA ABLOY automatic doors.*

Documenting this and related work

You may document this and related work as follows:

- Overhead doors often come supplied with their own standard proprietary hardware and this is specified in *0454 Overhead doors.* Any non-standard hardware should be specified here and listed in SELECTIONS in *0454 Overhead doors.*
- Consider detailing recesses for floor springs.
- Coordinate with electrical worksections for card key systems, electronic door or lock activating systems including door contacts, electric door strikes, and security hardware generally.
- In refurbishing or alteration work, existing hardware recovered from the premises may be suitable for re-use subject to certain conditions. Specify the conditions including testing, repairing, replacing damaged parts with matching or compatible components, cleaning and so on.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Search acumen.architecture.com.au, the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Guarantees and warranties.

Specifying ESD

The following may be specified by retaining default text:

- Re-use of recovered hardware.

The following may be specified by including additional text:

- Recycled material content, e.g. steel, brass, aluminium.
- Selecting products, if chromium-plated, using the trivalent instead of hexavalent process.
- Door closers for self-closing doors to minimise air leakage.
- Selecting durable products for low maintenance and to extend material/product life cycle.

- Selecting electronic access control products using reduced energy in operation.

The following ASSA ABLOY products have Environmental Product Declarations (EPD):

- 1801/70SC Brass Furniture Plate with Lever.
- 1904/70SC Brass Furniture Plate with Lever.
- 1905/70SC Brass Furniture Plate with Lever.
- 3772SS Mortice Lockset.
- 2615DASIL Delayed Action Closer.

Refer to NATSPEC TECHreport TR 01 on specifying ESD.

1 GENERAL

ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience. Under the iconic brands such as Interlock, Lockwood, Whitco and Yale, ASSA ABLOY Australia has long been developing innovative products. In the growing electromechanical security sector, the Group has a leading position in access control, identification technology, automatic doors and security.

1.1 RESPONSIBILITIES

General

Requirement: Provide door hardware, as documented.

Documented is defined in *0171 General requirements* as meaning contained in the contract documents.

1.2 COMPANY CONTACTS

ASSA ABLOY technical contacts

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*.

0171 General requirements contains umbrella requirements for all building and services worksections.

List the worksections cross referenced by this worksection. *0171 General requirements* references the *018 Common requirements* subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work.

NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

- ASSA ABLOY door hardware schedule.

Delete if a schedule is not provided by ASSA ABLOY.

1.4 MANUFACTURER'S DOCUMENTS

Technical manuals

ASSA ABLOY materials and installation manuals: www.assaabloy.com/au/en

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

1.5 INTERPRETATION

Abbreviations

General: For the purposes of this worksection, the abbreviations given in AS 4145.1 (2008) Appendix D apply.

Edit the **Abbreviations** subclause to suit the project or delete if not required. List alphabetically.

Definitions

General: For the purposes of this worksection, the general definitions given in AS 4145.1 (2008) Section 2 and Appendix E apply.

Edit the **Definitions** subclause to suit the project or delete if not required. List alphabetically.

1.6   SUBMISSIONS

Execution details

Door hardware schedule: Submit a door hardware schedule, prepared by ASSA ABLOY Australia.

- Information sources: This worksection and the contract drawings.

Re-use of recovered hardware: Submit a proposal describing the standard of cleaning, repair and testing of recovered items and the location where each is to be re-used.

> Document recovered items for re-use in the works in *0201 Demolition*, if applicable. Delete if not applicable.

Key control system:

- New works: Submit details of the proprietary key control security system proposed by the lock manufacturer for locks required to accept a group key (master, grandmaster).
- Alterations and additions: Submit details to extend the existing key control security system for locks required to accept a group key.

Operation and maintenance manuals

Requirement: Submit manual to **COMPLETION**, **Operation and maintenance manuals**.

Records

Door hardware schedule: Submit a 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.

Samples

Requirement: Submit samples to PRODUCTS, **GENERAL**, **Samples**.

Subcontractors

Automatic door operators: Submit names and contact details of proposed manufacturer and installer.

> Delete if manufacturer/installer details are not required.

Warranties

Requirement: Submit warranties to **COMPLETION**, **Warranties**.

2   PRODUCTS

2.1   GENERAL

Product substitution

Other products: Conform to **SUBSTITUTIONS** in *0171 General requirements*.

> **SUBSTITUTIONS** in *0171 General requirements* sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

> Edit the list to suit the project or delete if not required.

Samples

Generic items: Provide samples of nominated hardware items.

Reconditioned items: Provide samples of hardware items offered as meeting the standard of cleaning, repair and testing of recovered items.

Particular samples required: [complete/delete]

Identify items that are the subject of the client sign-off.

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.

Storage and handling

General: Store and handle to protect materials from damage, to the manufacturer's recommendations.

Replacement items

Door hardware: Replacement items to match existing.

Hinges: If required, upgrade hinges to conform to **Hinges for timber doors table** and **Hinges for aluminium doors table**.

If replacement items are applicable, consider including this *Optional* style text by changing to *Normal* style text.

2.2 LOCKS AND LATCHES

Standard

General: To AS 4145.2 (2008).

Padlocks

Standard: To AS 4145.4 (2002).

Lock and latch classification

Rating systems: To AS 4145.1 (2008) Section 3.

Performance requirements: To AS 4145.2 (2008) Section 3.

Commercial Project requirements:

- Key Latch Retraction.
- Universal Functionality.
- Australian Made.

Multi-Residential Project requirements:

- Rating systems: To AS 4145.1 (2008) Section 3.

Guidance is given in AS 4145.1 (2008) Appendix A on selecting the appropriate classification.

2.3 HINGES

Butt hinge materials

Timber doors in timber or steel frames:

- Material: [complete/delete]

Steel, stainless steel or brass. If bronze is required nominate a proprietary item.

- Product: Lockwood series.

Aluminium framed doors or timber doors in aluminium frames:

- Material: [complete/delete]

Stainless steel or high tensile aluminium with fixed stainless steel pins in nylon bushes and with nylon washers to each knuckle joint.

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

Heavy Duty doors: Provide severe duty hinges with phosphorus bronze bushings.

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

Fire-resisting doors: To AS 1905.1 (2015).

Power transfer hinges: Provide hinges that allow wires to be transferred unbroken between the door and frame.

Lift-off doors: If sanitary compartments require lift-off doors, provide lift-off hinges and allow for door panel with sufficient clearance at the head to allow door removal.

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.

Applied finishes could include stainless steel cladding, lead lining or stone facing.

For a door leaf over 80 kg, consider pivot hinges.

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

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

Click on the above link to go to the Hinge Adjusted Weight Calculator.

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

Wide throw: If necessary, provide wide throw hinges to achieve the required door swings in the presence of obstacles such as nibs, deep reveals and architraves.

It is not recommended that wide throw hinges be used. Consider detailing doors to avoid wide throw hinges by making sure the skirting is behind the plane of the hinge knuckles.

Different types of doors may require different hinge types and numbers. Evaluate each door type for its performance requirements and specify appropriate hinge configuration.

Hinges for timber doors table

Nominal door leaf size (H x W x T) (mm)	Maximum 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
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

Aluminium doors

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

Hinges for aluminium doors table

Nominal hinge size (L x W x T) (mm)	Maximum 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.			

2.4   DOOR HANGING SYSTEMS

General

Requirement: Provide sliding door tracks and guides, as documented.

2.5   ANCILLARIES

Bolts

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

Extruded gaskets and seals

General: Provide seals, as documented.

Document in the schedules in SELECTIONS, **DOOR SEALS**.

Mortar guards

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

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.

The use of universal strike plates can cause malfunction of door hardware items such as door closers.

2.6   DOOR CONTROLLERS

See also *0458p ASSA ABLOY automatic doors*.

AS 1428.1 (2009) clause 13.5.2(e) specifies the maximum force required to operate doors other than fire and smoke doors with closers. The NCC cites AS 1428.1 (2001) and AS 1428.1 (2009). The current edition is AS 1428.1 (2021).

For class 9a buildings, BCA (2022) D3D24 provides for maximum manual operating forces for doorways as required exits and in patient care areas, these correspond to the requirements of AS 1668.1 (2015) clause 4.7 but not (in part) to AS 1428.1 (2009).

Preferably specify all door closers with backcheck. This feature (standard on most models) cushions or slows the opening movement of the door before reaching final opening position. This helps to protect the door and hardware from coming into sudden contact with a wall or other surface. (Mandatory on all fire doors).

Standard

General: To AS 4145.5 (2011).

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.

Automatic doors

Glazed sliding:

- Proprietary item: ASSA ABLOY Entrance Systems.
- Proprietary item: Record Automatic Doors.

Glazed revolving:
- Proprietary item: ASSA ABLOY Entrance Systems.
- Proprietary item: Record Automatic Doors.

Glazed swinging:
- Proprietary item: ASSA ABLOY Entrance Systems.
- Proprietary item: Record Automatic Doors.

Automatic door operators

Coordinate the specification for automatic door operators with the requirements for automatic sliding or revolving doorsets in *0453 Doors and access panels*.

General: Complete automatic door operators for opening and closing doors, including door hanging (hinges, pivots or sliding gear) and electrical connection to distribution board.

Requirement: Conform to the following:

- Access key switch: [complete/delete]

Required or delete. Nominate arrangements for high security restricted keying.

- Automatic activation options: [complete/delete]

For example:
- Button: Push-button.
- Mat: Pressure floor mat or underfloor induction mat.
- Microwave detector.
- Passive infra-red beam.
- Radar: Radar or radio inflector.
- Safety light beam: Photo-electric cells, one at 200 mm maximum height above finished floor, and one between 600 and 1000 mm above finished floor.
- Switch: Proximity or touch switch on door.
- Ultrasonic detector.

- Manually adjustable function: [complete/delete]

For example:
- Angle: Opening angle of pivoted and hinged doors.
- Dampening: Dampening of opening and closing action.
- Speed: Opening and closing speeds.
- Time: Holding (stay open) time. With mats, holding time is normally limited to the duration of contact.
- Width: Opening width of sliding doors.

- Operation mode: [complete/delete]

For example:
- Automatic: Normal automatic operation.
- Exit only: Automatic opening from inside only. Doors held closed against entry from outside.
- Hold closed: Hold doors closed with power or braking device.
- Hold open: Open doors and hold open without damage to motor.
- Switch off: Doors return to closed position for locking.
- Delayed action

- Power failure: [complete/delete]

For example:
- Auto back-up: A system to provide a minimum of 100 normal operations during mains power failure and automatic reset upon resumption of supply.
- Manual: Doors may be opened and closed manually with an operating force of not more than 110 N.
- Spring closed: Doors may be opened manually but spring closed.
- Stay open: Doors open automatically and stay open.

Installation: Provide necessary recesses and core-holes, grout in components if required, and repair any damage. Provide cover plates for access to units in door heads, frames or transoms.

Automatic adjustable function: If the door opening angle or width is manually set below the maximum possible, under conditions of continuous traffic the doors must automatically creep to full opening, returning to reduced opening on the next cycle.

Radio remote door controllers: Provide a device, comprising a radio receiver and separate transmitter, for activating a motorised door operator so as to open and close the door by remote radio signal.

Key switch: If there is no separate access to the enclosure, provide a key switch mounted externally for opening and closing the door from outside the enclosure without the transmitter. Provide two keys.

Light: Provide an internal light that turns on for not less than 2 minutes before switching off automatically.

Receiver: House within a wall unit incorporating a push-button switch permanently illuminated. Mount within the enclosure and connect to power.

Transmitter: Portable battery-powered unit sending a coded signal effective up to not less than 12 m from the receiver.

Pressure floor mats: Automatic door activating system consisting of a mat that, when deflected by foot pressure, operates a switch that activates the door or doors.

Floor mat mounting: [complete/delete]

For example:

- Flush: Set in recess to finish flush with finished floor, with fixing trim and sealant.
- Surface: Set on finished floor with fixing trim and sealant.
- Under carpet: Under carpet in place of underfelt.

Closers

Hinged or pivot doors used as fire-resisting doors: Closers tested and certified for use as components of fire-resisting door assemblies to AS 1905.1 (2015).

AS 1905.1 (2015) is cited in the NCC for installation of hold-open electromagnetic devices for sliding fire doors, and for required fire doors.

Doors other than fire-resisting doors and smoke doors: Closers fitted with an adjustable delayed action or hold-open function.

If adjustable delayed action or hold-open function are required for specific doors, consider changing this *Optional* style text to *Normal* style text.

2.7 ELECTRONIC CONTROL DEVICES

Schedule the individual doors together with the method of releasing or securing them. Take into account fire safety regulations, including fail-safe operation, for means of egress from controlled doors.

General

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

State whether or not strikes are to incorporate microswitches.

Electromagnetic hold-open devices: To AS 1905.1 (2015) and the NCC cited AS 1670.1 (2018).

The NCC cites AS 1670.1 (2018). The current edition is AS 1670.1 (2024).

Generally, there are two main types, either holders that are built into the door head and form part of the door suppliers package, specified here in this worksection, or external wall mounted hold open devices, which are included in the fire detection contract and specified in *1072 Fire detection and alarms*. State which type is to be used, and specify the connection to the fire detection system.

In addition to magnetic door holders, there is sometimes a requirement for a connection to electric door strikes, activated by access control systems. The door strikes are generally connected directly to the fire detection system, so that they release in fire mode. Specify the method of operation and interconnection.

Coordinate with *1072 Fire detection and alarms*.

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

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

If fail-safe mode or fail-secure mode are required, consider changing this *Optional* style text to *Normal* style text.

Care should be taken to comply with the Deemed-to-Satisfy provisions of BCA (2022) D3D26 for the operation of latches in or forming part of a required exit.

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.

2.8   PANIC EXIT DEVICES

General

Standard: To EN 1125 (2008).

Requirements:

- Field sizable.

- Keyed dogging.

2.9   KEYING

Keying requirements

Standard: To AS 4145.1 (2008) for keying security.

Requirement: Provide door hardware and keys, as documented.

Temporary construction keys and cylinders

Requirement: Provide one of the following:

- Loan cylinder, if specified: Install for construction locks and replace at practical completion.
- Construction keyed master key cylinder: Keep up-to-date records of keys issued including recipient's name, company and contact details, date issued and date returned.

Delivery of keys

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

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

Group keying

Keying platform: [complete/delete]

Select from the ABLOY PROTEC[2], Lockwood TWIN X®, Lockwood GEN6TX® or Lockwood MTL800 group keying platforms.

Master keyed ABLOY PROTEC[2] features:

- Patent protected against unauthorised key duplication until 2031.
- Virtually pick-proof design and fully resistant against bumping.
- Durable design and smooth, reliable operation without pins and springs.
- AWS™ (Anti Wear System).
- DBS™ (Disc Blocking System) stops any attempt to manipulate discs individually in the cylinder by locking them together.
- Rear Loaded Cylinder increases security of cylinder against attack
- Key: ABLOY PROTEC[2] all-metal symmetrical design with a high degree of technical key copy protection.
- Able to be upgraded to ABLOY PROTEC[2] CLIQ, an electronic access technology.

Master keyed Lockwood TWIN X® features:

- Patent protected features on barrels and keys until 2036 in Australia.
- Design registration on key blanks until 2032.
- 3 mm thick nickel silver keys for enhanced strength.
- Dual locking mechanism – 6-pin inline plus 3-pin sidebar technology.
- Stronger more reliable coding capabilities.
- Colour coded inserts for key identification.
- Exclusive keyways available.

Master keyed Lockwood GEN6TX® features:

- Patent protected features on barrels and keys until 2036 in Australia.
- Design registration on key blanks until 2032.
- Uses standard 6-pin inline rules for coding and key cutting.
- Simple and cost-effective key control.
- Colour coded inserts for key identification.
- Exclusive profiles available.

Master keyed Lockwood MTL800 features:

- Patent protected against unauthorised key duplication until 2039.
- Triple locking mechanisms in each cylinder for resistance to pick and bump attack.
- Telescopic pinning, locking bar and double alpha spring.
- Double alpha spring - A unique moving element on the key blade's tip that engages with a unique pin, creating an additional shearline. This provides a high degree of technical key copy protection.
- Keys: MTLTM800 symmetrical design. Nickel silver key blades for strength. MTLTM800 keys are backwards compatible with MT5® cylinders.

Key control level: [complete/delete]

Select from the two levels of restricted key control available:

- Factory Level: The key system may only be created and manufactured by ASSA ABLOY. Factory Level key control is available for ABLOY PROTEC[2].
- Serviced Level: The key system can be created and manufactured by ASSA ABLOY or an ABLOY Authorised Service Centre. Serviced Level key control is available for Lockwood ABLOY PROTEC[2], TWIN X®, GEN6TX® and Lockwood MT5+. With the correct authorisation additional cylinders and keys can be manufactured by the key system records holder, either ASSA ABLOY or a chosen ABLOY Authorised Service Centre.

Existing system extension: Obtain the details of existing group or master key systems of the system to be extended.

Extensions to existing system: [complete/delete]

Delete if not required.

Future extensions: Provide master and grandmaster group keying systems capable of accommodating future extensions.

Proprietary keying control security system: Provide for cylinder or pin-tumbler locks that accept a group key (e.g. master key, maison key).

> The security of a locking system depends on two aspects:
>
> - The degree of restriction on the duplication of keys (keying control security).
>
> - How difficult it is to pick the cylinder (cylinder security).
>
> To have any restriction on key duplication, a proprietary keying control security system must be specified (preferably patented and/or with design registration). Each manufacturer has varying levels of keying control security. Tenderers must be given this information as it can greatly affect the cost of door hardware.
>
> The number of pins left available in a cylinder is the major factor restricting picking. The more keys that a cylinder has to accept, the less pins left in action. For this reason six pins should be specified as a minimum, this will increase security and the number of combinations available for coding.
>
> Having a master or grandmaster keying arrangement without a proprietary keying control security system has two effects:
>
> - There will be no restriction on the duplication of keys.
>
> - The cylinder security is reduced in direct proportion to the level of multiple key use, due to the multiple shear lines created for picking.

Stamping: Stamp keys and lock cylinders to show the key codes and/or door number as scheduled.

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

> Edit the table if a different number of keys is required for the project.
>
> Typical keying requirements:
>
> - GGMK: For a campus with a number of buildings each with a number of departments.
>
> - GMK: For a building with a number of departments. There can be more than one GMK group, whether or not there is also a GGMK group.
>
> - MK: For a simple building or department.
>
> - KA: For a suite of doors.

2.10   DOOR SEALS

Standards
Quality management for manufacture: To ISO 9001 (2015).

Acoustic applications minimum standard: To BCA (2022) F7D6.

Acoustic applications: Tested to EN ISO 10140-2 (2021) and rated to the NCC cited AS/NZS ISO 717.1 (2004).

> The NCC cites AS/NZS ISO 717.1 (2004). The current edition is AS ISO 717.1 (2024).
>
> Products have been tested to EN ISO 10140-2 (2010), now superseded by EN ISO 10140-2 (2021). The changes are in relation to normative references and updates to terms and definitions and testing and reports issued for tests carried out before the latest published versions can still be used.

Fire door assemblies: To AS 1530.4 (2014) and in conformance with AS 1905.1 (2015).

Smoke door assemblies: To BCA (2022) Spec 12.

Smoke door assemblies: Performance based: Tested to AS 1530.7 (2007) and leakage in conformance with AS 6905 (2007).

Combined fire and smoke door assemblies: To BCA (2022) Spec 12, AS 1530.4 (2014), AS 1905.1 (2015) and AS 1530.7 (2007).

Doors for buildings in bushfire-prone areas: To AS 3959 (2018), AS 1530.4 (2014), AS 1530.8.1 (2018) and AS 1530.8.2 (2018).

Weather and energy sealing applications: To AS 4420.1 (2016) and AS 2047 (2014).

Access doors for people with disability: To the NCC cited AS 1428.1 (2009).

The NCC cites AS 1428.1 (2001) and AS 1428.1 (2009). The current edition is AS 1428.1 (2021).

Aluminium extrusions

Material: Commercial grade alloy 6060 T5.

Finish to visible extrusions: Satin clear anodising.

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: -5°C to +70°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.

3 EXECUTION

3.1 INSTALLATION

General

Handing: Before supply, verify on site, the correct handing of hardware items.

Operation: Make sure working parts are accurately fitted to smooth close bearings, without binding or sticking, free from rattle or excessive play, lubricated if appropriate.

Mounting height

Locks and latches: Centreline of the door knob or lever spindle above finished floor: [complete/delete]

BCA (2022) D3D26: 900 mm to 1100 mm, (with exceptions). Check requirements for early childhood centres.

Locks

Cylinders: Fix vertically and with consistent key alignment.

Door stops

Fixing: Fix on the floor, skirting or wall, as appropriate, to prevent the door or door furniture striking the wall or other surface.

Fasteners

Materials: Provide materials compatible with the item being fixed, and of sufficient strength, size and quality to perform their function, and as follows:

- Concealed fasteners: Provide a corrosion-resistant finish to concealed fasteners.
- Exposed fasteners: Match exposed fasteners to the material being fixed.

For corrosion resistance guidance, refer to *0171 General requirements* and *0185 Timber products, finishes and treatment*.

Security: Locate exposed fasteners to lock furniture on the inside faces of external doors and on the inside faces of internal doors to lockable rooms.

Check the specific requirements for individual building classification usage.

Support:

- Hardware fasteners: Provide appropriate back support, such as lock stiles, blocking, wall noggings and backing plates.
- Hollow metal sections: Provide backing plates drilled and tapped for screw fixing, or provide rivet nuts with machine thread screws. Do not use self-tapping screws or pop rivets.

Floor springs

General: Form a recess in the floor slab for the floor spring box, securely fix and grout the box in place so that the cover plate is flush with the finished floor.

Hinges

Metal frames: Fix hinges using metal thread screws. Do not weld hinges to frames.

Timber doorsets: Install butt hinges in housings equal in depth to the thickness of the hinge leaf (except for hinges designed for mounting without housing), and fix with countersunk screws.

Door seals

Backset: Consider appropriate back set clearance requirements for hinging, latching furniture and automatic closers.

Installation: To the manufacturer's recommendations for each product.

Door assembly preparations: Mortise, semi-rebate or groove door assemblies to match the dimensions recommended in installation instructions.

Door seals for external doors in bushfire-prone areas table

BAL Level	Requirements
Low	None
12.5, 19, 29	Side hung doors: Install weather strips, draught excluders or draught seals at the base of doors.
40	Side hung doors: Install weather strips, draught excluders or draught seals at the base of doors. Seals to stiles, head and bottom to be silicone rubber. Sliding doors: Seals to stiles, head and sills or thresholds to be silicone rubber.
FZ	Side hung doors: Install weather strips, draught excluders or draught seals at the base of doors. Seals not to compromise the door fire resistance level. Side-hung external doors, including french doors, panel fold and bi-fold doors to have a fire resistance level of at least 30 minutes when tested in conformance with AS 1530.4 (2014).

Door seals for garage doors in bushfire-prone areas table

BAL Level	Requirements
Low	None
12.5, 19, 29, 40, FZ	Panel lift, tilt doors or side-hung doors: Fit with suitable weather strips, draught excluders, draught seals or guide tracks, as appropriate to the door type, with a gap no greater than 3 mm. Roller doors: Guide tracks to have a gap no greater than 3 mm. Fit with a nylon brush that is in contact with the door.

3.2 COMPLETION

Adjustment

General: Leave the hardware properly adjusted with working parts in working order, and clean, undamaged, properly adjusted, and lubricated if appropriate.

Opening force performance: To the NCC cited AS 1428.1 (2009).

> The NCC cites AS 1428.1 (2001) and AS 1428.1 (2009). The current edition is AS 1428.1 (2021).
>
> Opening force performance is not required in some applications. Delete if not required.

Automatic door operators: Maintain and adjust the system throughout the defects liability period.

Keys

Contractor's keys: Immediately before practical completion, replace or reset cylinders to which the contractor has had key access during construction to exclude the contractor's keys.

> Replacement may be waived only if written approval is given to an alternative method of rendering the contractor's keys inoperative.

Operation and maintenance manuals

Requirement: Prepare a manual that includes the manufacturer's published recommendations for use, care and maintenance of the hardware provided.

Automatic door operators: Include the installer's proposal for continuing maintenance after completion on an annual renewal basis.

> Compliance with this subclause targets the Operations and Maintenance requirement within the Minimum Expectation level of the Verification and Handover credit in Green Star Buildings (2021).

Warranties

Automatic door operators: Provide interlocking warranties from the manufacturer and installer covering materials and workmanship.

Mechanical Products: 25 years.

- Exception, Yale Mechanical Products: 10 years.

Form of warranty: [complete/delete]

> List the requirements of the action to be warranted. The submission of warranties is covered in **SUBMISSIONS**.

4 SELECTIONS

> **Schedules** are a tool to specify properties required for products or systems. If the principal permits documentation of the product or system by proprietary name, some of the properties may be unnecessary and can be deleted. Document the product or system's location or application here and/or on the drawings with a matching project code. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 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.

> If a non-Standard finish is required for individual projects, modify Satin Chrome to read as required finish. e.g. Polished brass, Chrome plate, Florentine bronze.

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.

4.2 LOCK AND LATCH CLASSIFICATION

Durability rating

Door type	Durability designation to AS 4145.1 (2008) Table 3.1

Door type	Durability designation to AS 4145.1 (2008) Table 3.1

Door type: e.g. Entry, Office, Service cupboard.

Durability designation: Select from D1 to D10.

Keying security

Door type	Keying security designation to AS 4145.1 (2008) Table 3.2

Door type: e.g. Entry, Office, Service cupboard.

Keying security designation: Select from K1 to K10.

Cylinder security

Door type	Cylinder security designation to AS 4145.1 (2008) Table 3.3

Door type: e.g. Entry, Office, Service cupboard.

Cylinder security designation: Select from Sc1 to Sc10.

Physical security of locks

Door type	Physical security designation of locks to AS 4145.1 (2008) Table 3.4

Door type: e.g. Entry, Office, Service cupboard.

Physical security designation of locks: Select from S1 to S10.

Physical security of locksets

Door type	Physical security designation of locksets to AS 4145.1 (2008) Table 3.5

Door type: e.g. Entry, Office, Service cupboard.

Physical security designation of locksets: Select from S_L1 to S_L10.

Corrosion classification

Door type	Corrosion category to AS 4145.1 (2008) Table 3.6

Door type	Corrosion category to AS 4145.1 (2008) Table 3.6

Door type: e.g. Entry, Office, Service cupboard.

Corrosion category: Select from C1 to C10.

4.3   ASSA ABLOY LOCKS AND LATCHES

Selection options:

- The Brand/Product series only as required generally for the project. The Door Types noted in column 1 are referenced to this general selection.

- A separate Brand/Product series for the door Types in column 1, as appropriate for the project.

Delete products not required for the project.

Locks and latches schedule

Door type	Brand / Product series	Comments
Generally		
Or		
Solid core	Lockwood Selector 3770 Series Selector Mortice Lock Lockwood Synergy 3570 Series Synergy Mortice Lock Lockwood Synergy 3579 Series Synergy Mortice Lock	
Fire rated	Lockwood Selector 3772 Selector Mortice Lock Lockwood Synergy 3572 Synergy Mortice Lock	
Aluminium framed glass	Lockwood Selector 3780 Series Selector Short Backset Mortice Lock Lockwood Selector 3770 Series Selector Mortice Lock Lockwood Synergy 3540 Series Synergy Mortice Lock Lockwood Synergy 3570 Series Synergy Mortice Lock	
Timber framed glass	Lockwood Selector 3780 Series Selector Short Backset Mortice Lock Lockwood Selector 3770 Series Selector Mortice Lock Lockwood Synergy 3570 Series Synergy Mortice Lock	
Other		

4.4 ASSA ABLOY FURNITURE

Furniture schedule

Delete products not required for the project.

Backplate Type	Brand/Product series	Comments
Rose	Lockwood Robert Watson Series Rose Door Furniture Lockwood Symphony 1220 Round Rose Door Furniture Lockwood Symphony 1420 Square Rose Door Furniture Lockwood 1360 Round Rose Brass Door Furniture Lockwood 1370 Round Rose Brass Door Furniture Lockwood 260 Round Rose Door Furniture Lockwood 260SQ Square Rose Door Furniture Lockwood Velocity Small Round Rose Door Furniture Lockwood Velocity Small Square Rose Door Furniture Lockwood Vivid Small Rose Door Furniture and Accessories in PVD Finishes; SB - Satin Brass, GM - Gun Metal, BZ - Satin Bronze Yale Simplicity Round Rose Door Furniture	
Plate	Lockwood 1800 Series Plate Brass Door Furniture Lockwood 2800 Series Plate Brass Door Furniture Lockwood 4800 Series Narrow Stile Plate Brass Door Furniture Lockwood 5800 Series Narrow Stile Plate Brass Door Furniture Lockwood Artefact 200 Series Plate Door Furniture Lockwood Artefact 202 Series Plate Door Furniture Lockwood Artefact 212 Series Plate Door Furniture	

Backplate Type	Brand/Product series	Comments
	Lockwood Artefact 224 Series Plate Door Furniture	
Detention	Lockwood Detention 220D Wide Plate Door Furniture Lockwood Detention 222D Narrow Plate Door Furniture	
Other		

Handles and plates schedule

A D-Handle should be selected in conjunction with the Push / Pull Plate. Advice should be sought from an ASSA ABLOY representative as to the compatibility of Push / Pull Plates and D-Handles. Delete products not required for the project.

Plate/Pull Type	Brand/Product series	Comments
Push/Pull Plate D-Handle	Lockwood Artefact 200 Series Plate Door Furniture Lockwood Artefact 202 Series Plate Door Furniture Lockwood Artefact 206 Series Plate Door Furniture Lockwood Artefact 208 Series Plate Door Furniture Lockwood Artefact 212 Series Plate Door Furniture Lockwood Artefact 214 Series Plate Door Furniture Lockwood Artefact 216 Series Plate Door Furniture Lockwood Artefact 218 Series Plate Door Furniture Lockwood Artefact 224 Series Plate Door Furniture	
Back to Back	Lockwood 231C Series AS 1428.1 (2009) Disabled Compliant Entrance Handles Lockwood 151 Series AS 1428.1 (2009) Disabled Compliant Entrance Handles Lockwood 192 Series Entrance Handles Lockwood 140 Series AS 1428.1 (2009) Disabled Compliant Entrance Handles	
D-Handle	Lockwood 184 Offset pull handle	

Plate/Pull Type	Brand/Product series	Comments
	Lockwood 185 Offset pull handle Lockwood B Series Lockwood P Series	
Joinery		
Other		

4.5   ASSA ABLOY PANIC EXIT DEVICES

ASSA ABLOY panic devices allow for dogging in fire rated conditions. Consideration of mid rail requirements for glazed doors should be accounted for when selecting door types and exit devices.

Panic exit device schedule

Door Type	Brand/Product series	Comments
Solid core	Lockwood Fluid Series Panic Exit Devices	
Fire rated	Lockwood Fluid Series Panic Exit Devices	
Other		

4.6   ASSA ABLOY ACCESS CONTROL

Access control lock schedule

Refer to *0981 Electronic security* for Door control devices or visit ASSA ABLOY at www.assaabloy.com.au.

Delete products not required for the project.

Type	Brand/Product series	Comments
Electric strike	Lockwood Padde Series ES9000 Preload Electric Strike Lockwood Padde Series ES2100 Electric Strike Lockwood Padde Series ES9100 Preload Electric Strike with Door Position Monitoring. Lockwood Padde Series ES2000 Electric Strike	
Drop bolt	Lockwood Padde Series TB25 Drop Bolt ASSA ABLOY ES8100 V-Lock	
Electric mortice lock	Lockwood Synergy 3570EL Series Electric Mortice Lock Lockwood Synergy 3579EL Series Electric Mortice Lock Lockwood Synergy 3579HSEL Series Electric Mortice Lock	

Type	Brand/Product series	Comments
	Lockwood Selector 3780EL Series Short Backset Electric Mortice Lock Lockwood Padde Series ES8200 Technilock	
Magnetic lock	Lockwood Padde Series Z4 Electromagnetic Locks Lockwood Padde Series Z8 Electromagnetic Locks	
Shear lock	Lockwood Padde Series ES6000 Hook Lock	
Panic exit device	Lockwood Fluid Electromechanical Panic Exit Devices	
Electronic escutcheon	ASSA ABLOY Aperio Wireless Access Control Lockwood Cortex Digital Door Lock ASSA ABLOY Integral Wireless Access Control	

4.7   ASSA ABLOY DOOR CONTROLLERS

Note 1: Allow for sufficient sized top rail (depth) to allow for correct mounting of specified closers.

Note 2: Make sure there is sufficient nib room available for door closers when mounted on pull side of door.

Door closer schedule

Type	Brand/Product series	Comments
Generally		
Type A	Lockwood 2616 Cam Action Door Closer Lockwood 2615 Cam Action Door Closer Lockwood 8014 Concealed Door Closer Lockwood 8015 Concealed Door Closer Lockwood 7726 Door Closer Lockwood 7714 Door Closer	
Type B	Lockwood 726 Door Closer Lockwood 714 Door Closer Yale Y2600 Series Door Closer	
Type C	Lockwood 2000 Series Door Closer	

Type	Brand/Product series	Comments
	Yale Y2400 Series Door Closer	
Floor springs	Lockwood ST8011 Floor Spring Lockwood 8800 Series Floor Springs	
Transom closer	Lockwood 9800 Series Transom Closers	
Electro-magnetic	Lockwood 2616EMC Hold Open Door Closer System Lockwood 2616EMCD Hold Open Coordinating Door Closer System Lockwood 2616CO Coordinating Door System Lockwood FD480 Concealed Hold Open Door Closer System Lockwood FD484 Concealed Hold Open Coordinating Door Closer System Lockwood FD481 Coordinating Door System	
Door stays	Lockwood 8001 Door Stay	
Other		

Select Door closers – generally if different levels of usage are not required.

Select door closers by type if different levels of usage is required.

Delete products not required for the project.

Door closer type:

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

Door closer Type A location: [complete/delete]

e.g. external or security areas.

Door closer Type B location: [complete/delete]

e.g. offices, toilets, staff facilities.

Door closer Type C location: [complete/delete]

e.g. plant rooms, services cupboards.

Automatic door operators schedule

Brand	Item	Comments
ASSA ABLOY Entrance Systems		

4.8   MULTI-RESIDENTIAL HARDWARE KITS

Multi-residential hardware kits schedule

Door type	Brand/Product series	Kit contents
Apartment Entry Door	Simplicity Lever Kit	Simplicity Mortice Lock

Door type	Brand/Product series	Kit contents
(Fire Door)		Simplicity Door Closer Size 3 Simplicity Passage lever Simplicity Cylinder Escutcheon
Apartment Entry Door (Fire Door)	Simplicity Lever Kit with Turn	Simplicity Mortice Lock Simplicity Door Closer Size 3 Simplicity Passage lever Simplicity Cylinder Escutcheon Simplicity Turnknob Escutcheon
Stairwell (Fire Door)	Simplicity Stairwell Kit	Simplicity Mortice Lock Simplicity Door Closer Y2600 Simplicity Passage lever Simplicity Cylinder Escutcheon

4.9   ASSA ABLOY ANCILLARY HARDWARE

Bolts schedule

Type	Brand/ Product series	Size
Barrel		To suit door height
Flush timber		To suit door height
Flush aluminium		To suit door height
Skeleton		To suit door height
Auto		
Top latch		To suit door height

4.10   ASSA ABLOY DOOR HANGING SYSTEMS

Sliding track schedule

Door type	Brand	Product series	Description	Accessories
	Henderson	Husky Sliding 50		
	Henderson	Husky Sliding 100		
	Henderson	Solitaire 120		
	Henderson	Solitaire 180		
	Henderson	Solitaire 250		

Delete products not required for the project.

Door type: e.g. Hollow core, Wardrobe.

Product series:

Husky Sliding 50 and 100:

- Suitable for both wooden and metal framed doors.

- Maximum door weight: 50 kg for Husky Sliding 50, 100 kg for Husky Sliding 100.

- Nylon rollers.

- Track material: Select from galvanized steel, mill finish or (on request) anodised aluminium track.

- Track can be soffit or faced fixed.

Solitaire 120, 180 and 250:

- Suitable for interior and exterior wooden framed doors.

- Maximum door weight: 120 kg for Solitaire 120, 180 kg for Solitaire 180, 250 kg for Solitaire 120.

- Nylon rollers.

- 316 stainless steel components are ideal for high atmospheric corrosivity category applications.

- Track material: anodised aluminium.

- Track can be soffit or face fixed.

Door seal schedule

Function	Brand	Product series	Description	Finish

Door stop schedule

Type	Brand	Product series	Description	Finish

Coat hook schedule

Type	Brand	Product series	Description	Finish

Door protection schedule

Type	Brand	Material	Finish	Size (mm x mm)

4.11   PADLOCKS

Padlock schedule

	Room or space group 1	Room or space group 2	Room or space group 3
Room or space type			
Security			
Keying security			
Durability			
Corrosion resistance			

Room or space type: A descriptive name based on the function of the group of rooms or spaces. Align names on the drawings as much as possible, e.g. front gates, roof access ladder, tool store, pump house.

Security: Select from SP1 to SP10. Refer to AS 4145.4 (2002) Table 3.1.

Keying security: Select from K1 to K10. Refer to AS 4145.1 (2008). Match the mechanical lockset selection.

Durability: Select from D1 to D3. Refer to AS 4145.4 (2002) Table 3.1.

Corrosion resistance: Select from C1 to C5. Refer to AS 4145.4 (2002) Table 1.1. Refer to the documented project atmospheric corrosivity categories in *0171 General requirements*.

The preferred format for padlock classification codes described in AS 4145.4 (2002) Appendix A (Normative) is:

- Security – Keying security – Durability – Corrosion resistance.

For example, the code SP7K6D2C3 denotes a padlock with highly physical and keying security, relatively high corrosion resistance but high durability, perhaps used in an exterior application of a storage area if valuable goods must be protected and the frequency of operation is small.

4.12   DOOR SEALS

Acoustic door seal schedule

Delete products not required for the project.

Door type	Rating	Lorient product	Comments
Single leaf 35 mm solid core door	Rw30	LAS1212 Batwing + LAS8001si LAS7001si + LAS8001si	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. Optional LAS4000 aluminium threshold may be used as required.
Single leaf 40 mm solid core door	Rw32	LAS1212 Batwing + LAS8001si LAS7001si + LAS8001si	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. Optional LAS4000 aluminium threshold may be used as required.

Door type	Rating	Lorient product	Comments
Single leaf Fire rated door	Rw32	LAS1212 Batwing + LAS8001si LAS1812LSS + LAS8001si LAS7001si + LAS8001si	Concealed fixing: Fit LAS1212 Batwing to head and sides of door frame and fully mortise LAS8001si into door bottom OR Fit LAS1812LSS combined fire/smoke/acoustic seal to head and jambs 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. Optional LAS4000 aluminium threshold may be used as required.
Single leaf proprietary acoustic door	>Rw50	Check manufacturers reports	
Double leaf 35 mm solid core door	Rw30	LAS1212 Batwing + LAS8001si 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 40 mm solid core door	Rw32	LAS1212 Batwing + LAS8001si	Concealed fixing: Fit LAS1212 Batwing to head

Door type	Rating	Lorient product	Comments
		LAS7001si + LAS8001si + AAS7506 astragal	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 (DTS)

Use this schedule if the requirement is for Deemed-to-Satisfy smoke doors meeting the requirements of BCA (2022) Spec 12. Delete products not required for the project.

Door type	Lorient product	Comments
Single leaf single swing 35 mm solid core door DTS solution	LAS7004si + LAS8001si LAS1011 + LAS8001si LP1504DS + LAS8001si	Fit LAS7004si to top and sides of door leaf and fully mortise LAS8001si into door bottom. Fit LAS1011 to top and sides of

Door type	Lorient product	Comments
		door leaf and fully mortise LAS8001si into door bottom. Rebate LP1504DS combined fire/smoke/acoustic seal into top and sides of door leaf and fully mortise LAS8001si into door bottom. Optional LAS4000 aluminium threshold may be used as required.
Double leaf single swing 35 mm solid core door DTS solution	LAS7004si + LAS8001si + AAS7506 astragal LAS1011 + LAS8001si + AAS7506 astragal LP1504DS + LAS8001si + AAS7506 astragal	Fit LAS7004si to top and sides of door leaf and fully mortise LAS8001si into door bottom. Fit AAS7506 to meeting stile. Kerf-fit LAS1011 to top and sides of door leaf and fully mortise LAS8001si into door bottom. Fit AAS7506 to meeting stile. Rebate LP1504DS combined fire/smoke/acoustic seal into top and sides of door leaf and fully mortise LAS8001si into door bottom. Fit AAS7506 to meeting stile. Optional LAS4000 aluminium threshold may be used as required.
Single leaf double swing 35 mm solid core door DTS solution	LAS7004si + LAS3009si + LAS4010 LAS1011 + LAS3009si +LAS4010	Fit LAS7004si to top and sides of door leaf and LAS3009si to door bottom. Fit LAS4000 aluminium plate to threshold. Kerf-fit LAS1011 to top and sides of door leaf and LAS3009si to door bottom. Fit LAS4000 aluminium plate to threshold.
Double leaf double swing 35 mm solid core door DTS solution	LAS7004si + LAS3009si + LAS4010 LAS1011 + LAS3009si + LAS4010	Fit LAS7004si to top and sides of door leaf and LAS3009si to door bottom. Fit LAS4000 aluminium plate to threshold. Kerf-fit LAS1011 to top and sides of door leaf and LAS3009si to door bottom. Fit LAS4000 aluminium plate to threshold.

Smoke door seal schedule

Use this schedule if the requirement is for performance based smoke doors tested in conformance with AS 1530.7 (2007) and meeting the leakage requirements detailed in AS 6905 (2007). Both LAS1212 and LAS1812LSS can be retrofitted to existing doors.

Delete products not required for the project.

Door type	Leakage rating	Lorient product	Comments

Door type	Leakage rating	Lorient product	Comments
Single leaf fire rated door	>10m³/hr	LAS1212 Batwing + LAS8001si LAS1812LSS + LAS8001si LAS1212 Batwing + LAS8002si LAS1812LSS + LAS8002si LAS1212 Batwing + LAS8003si LAS1812LSS + LAS8003si LAS1212 Batwing + LAS8006si LAS1812LSS + LAS8006si	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 LAS8001si into door bottom. Fit LAS1212 Batwing to head and sides of door frame and surface mount LAS8002si on door bottom. Fit LAS1812LSS combined fire/ smoke/ acoustic seal to head and sides of door frame and surface mount LAS8002si on door bottom. Fit LAS1212 Batwing to head and sides of door frame and surface mount LAS8003si on door bottom. Fit LAS1812LSS combined fire/ smoke/ acoustic seal to head and sides of door frame and surface mount LAS8003si on door bottom. Fit LAS1212 Batwing to head and sides of door frame and surface mount LAS 8006si on door bottom. Fit LAS1812LSS combined fire/ smoke/ acoustic seal to head and

Door type	Leakage rating	Lorient product	Comments
			sides of door frame and surface mount LAS8006si on door bottom. Optional LAS4000 aluminium threshold may be used as required.

Fire door seal schedule

Lorient doors seals are suitable for use with fire doors of typical thicknesses, i.e. between 37 mm – 47 mm.

Stop mounted seals refers to seals mounted on the door stop upstands of door frames.

Delete products not required for the project.

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	

Door type	Rating	Lorient product	Comments
		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	

Bushfire-prone area door seal schedule

Delete products not required for the project.

BAL Level	Lorient product	Comments
Low	N/A, no sealing requirement	
12.5, 19, 29	LAS3004si surface mounted silicone rubber blade	Fit to door bottom
40	LAS7001si silicone perimeter seal + LAS3004si silicone rubber blade	Fit LAS700si to head and sides of door and LAS3004si to door bottom
FZ	LAS7001si or LAS7005si	Fit LAS7001si to head and sides

BAL Level	Lorient product	Comments
	silicone perimeter seal + LAS3004si silicone rubber blade	of door and LAS3004si to door bottom

Bushfire-prone area garage door seal schedule

<div style="border:1px solid">Delete products not required for the project.</div>

BAL Level	Lorient product	Comments
Low	N/A, No sealing requirement	
12.5, 19, 29, 40, FZ	LAS5035 40 mm brush LAS5040 60 mm brush seal LAS5045 80 mm brush seal LAS5050 100 mm brush seal LAS5055 150 mm brush LAS5070H 45 mm 90°angled brush LAS5085 45 mm 45°angled brush AAS3530si silicone bulb LAS4000 series threshold plate may be used as required	Fit LAS5035, LAS5040, LAS5045, LAS5050, LAS5055, LAS5070H or LAS5085 to head and/or sides of garage door and AAS3530si to door bottom.

Weather, draft, dust and insect door seal schedule

<div style="border:1px solid">All of the seals listed in the schedule below can be retrofitted to existing doors. Delete products not required for the project.</div>

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

Door type	Lorient product	Comments
		meeting stiles.

Door threshold plates and ramps schedule

Delete products not required for the project.		

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	

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS ISO 717		Acoustics - Rating of sound insulation in buildings and of building elements
AS/NZS ISO 717.1	2004	Airborne sound insulation
AS 1428		Design for access and mobility
AS 1428.1	2009	General requirements for access - New building work
AS 1530		Methods for fire tests on building materials, components and structures
AS 1530.4	2014	Fire-resistance tests for elements of construction
AS 1530.7	2007	Smoke control assemblies - Ambient and medium temperature leakage test procedure
AS 1530.8.1	2018	Tests on elements of construction for buildings exposed to simulated bushfire attack - Radiant heat and small flaming sources
AS 1530.8.2	2018	Tests on elements of construction for buildings exposed to simulated bushfire attack - Large flaming sources
AS 1670		Fire detection, warning, control and intercom systems - System design, installation and commissioning
AS 1670.1	2018	Fire
AS 1905		Components for the protection of openings in fire-resistant walls
AS 1905.1	2015	Fire-resistant doorsets
AS 2047	2014	Windows and external glazed doors in buildings
AS 3959	2018	Construction of buildings in bushfire-prone areas
AS 4145		Locksets and hardware for doors and windows
AS 4145.1	2008	Glossary of terms and rating system
AS 4145.2	2008	Mechanical locksets for doors and windows in buildings
AS 4145.4	2002	Padlocks
AS 4145.5	2011	Controlled door closing devices (EN 1154:1996, MOD)
AS 4420		Windows, external glazed, timber and composite doors - Methods of test
AS 4420.1	2016	Test sequence, sampling and test methods
AS 6905	2007	Smoke doors
BCA F7D6	2022	Health and amenity - Sound transmission and insulation - Sound insulation rating of walls
BCA Spec 12	2022	Fire resistance - Fire doors, smoke doors, fire windows and shutters
EN 1125	2008	Building hardware - Panic exit devices operated by a horizontal bar, for use on escape routes - Requirements and test methods
EN ISO 10140		Acoustics - Laboratory measurement of sound insulation of building elements
EN ISO 10140-2	2021	Measurement of airborne sound insulation
ISO 9001	2015	Quality management systems - Requirements

The following documents are mentioned only in the *Guidance* text:

AS ISO 717		Acoustics - Rating of sound insulation in buildings and of building elements
AS ISO 717.1	2024	Airborne sound insulation
AS 1428		Design for access and mobility
AS 1428.1	2001	General requirements for access - New building work
AS 1428.1	2021	General requirements for access - New building work
AS 1668		The use of ventilation and air conditioning in buildings
AS 1668.1	2015	Fire and smoke control in buildings
AS 1670		Fire detection, warning, control and intercom systems - System design, installation and commissioning
AS 1670.1	2024	Fire
BCA D3D24	2022	Access and egress - Construction of exits - Doorways and doors
BCA D3D26	2022	Access and egress - Construction of exits - Operation of latch
GBCA Buildings	2021	Green Star Buildings
NATSPEC GEN 006		Product specifying and substitution
NATSPEC GEN 024		Using NATSPEC selections schedules
NATSPEC TR 01		Specifying ESD
EN ISO 10140		Acoustics - Laboratory measurement of sound insulation of building elements
EN ISO 10140-2	2010	Measurement of airborne sound insulation