

FITTING INSTRUCTIONS BM TRADA Q-MARK FD30/FD60, SMOKE & PAS24 DOORSETS

DUTY OF CARE

Fire doors and doorsets will not perform as designed, tested and certified if they are installed incorrectly. Incorrect installation can have serious consequences to building safety and the protection of those that occupy it. If you are the named accountable person of a building or legally responsible for the correct installation of fire doors, you can be prosecuted if they are not fitted according to building regulations and the manufacturer's instructions. Additionally, product certification, warranties and building insurances may be invalidated.

As such JELD-WEN recommends that installation of fire doorsets are conducted by a competent person who is certified by a third party assured installation scheme such as BM Trada or Firas.

INSPECTION AUTHORITIES MAY REQUIRE EVIDENCE THAT THE INSTALLED DOOR COMPLIES WITH THE TESTED SPECIFICATION INCLUDING:

- Correct fitment of intumescent seals, smoke seals and gaskets to perimeter door/frame and hardware.
- Quality of the supporting structure/opening, dimensions and fixing points.
- Fixing methods and quantity of fixing methods into the supporting structure/opening.
- Fire stopping methods between the door frame and supporting structure/opening.

Important note: All of JELD-WEN's Q-Mark doorsets are supplied ready hung in the door frame, with the relevant BM Trada Q-Mark plug and tree fitted within the door leaf hinge edge (refer to page 8). Therefore no site modifications or additions are allowed, e.g. Trimming of lippings, frames or adding glazing apertures etc. Such modifications will invalidate the certification.

DELIVERY AND STORAGE

JELD-WEN internal doorsets should arrive on site shortly before planned installations. This will avoid unnecessary damage through handling and general site conditions.

Products should be thoroughly checked when delivered to ensure no damage has occurred during transportation and that the quantity, sizes and specification match those ordered using the manufacturing and identification labels present on every doorset. This label will also reference the unique doorset code which will correspond to the doorset schedule of any given project. Any damages must be reported within 48 hours of delivery.

Doors should be stored flat on a level surface that allows good air circulation around the doors. Store in a cool dry place, protected from dirt, excessive moisture and direct sunlight. If bearers are being used, ensure a minimum of 3 are used to support the door equally along its length and thickness to avoid distortion. Product must not be stored outside or in buildings where wet trades are taking place.

It is recommended the installation should not take place before first fix wet trades have been completed and the building has a stable relative humidity of 40–60%.

- Below 40% can result in shrinkage, bowing and warping.
- Above 60% and timber will begin to absorb moisture resulting in expansion and swelling.
- Above 75% is not suitable for any joinery product.

If subjected to these conditions the door may suffer cosmetic damages or may no longer operate as intended resulting in remedial work.

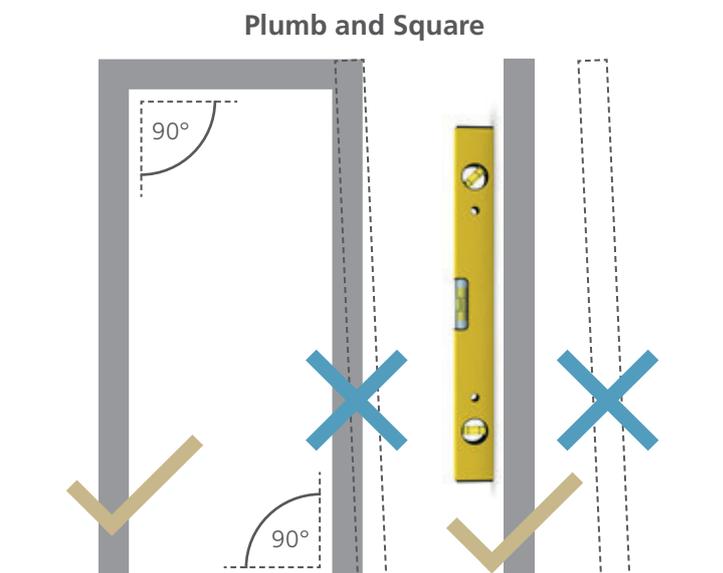
PRE-INSTALLATION

Doors opening sizes (width/height), wall depth and tolerances must be planned and available before doors are ordered and manufactured.

It is the responsibility of the specifier to ensure the supporting structure has the correct fire rating and is capable of supporting the intended door weight.

The installer should ensure the structural opening is square and plumb with tolerances +5/-0mm at each jamb and +7/-0mm at the head.

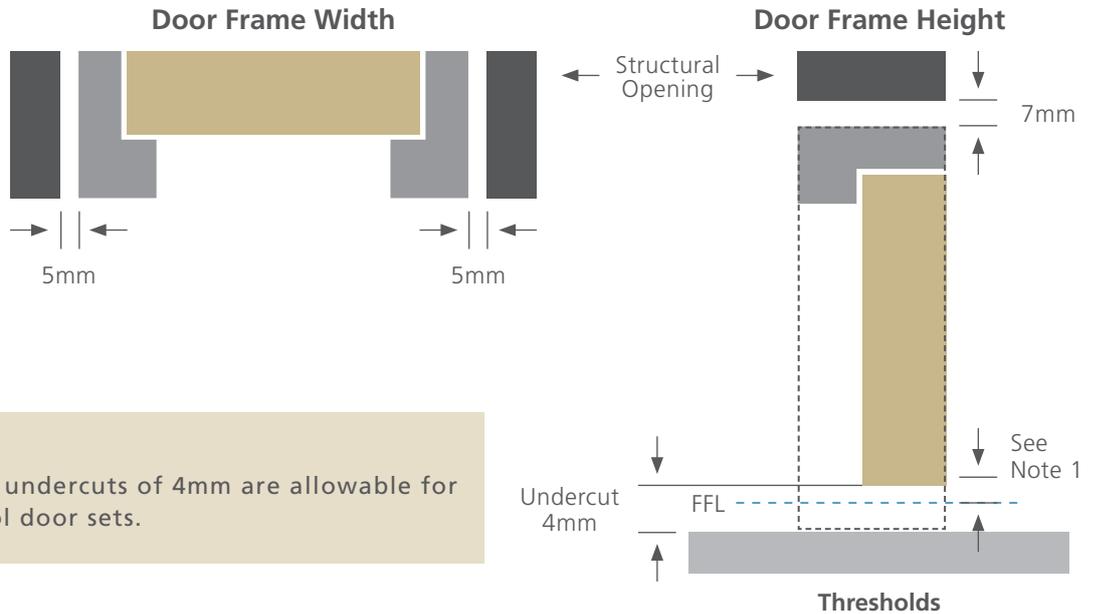
Ensure the floor surface is level with no high spots.



FIRE DOOR FRAME SIZE AND FITTING MARGINS

Overall door frame dimensions should be 10mm less than the total width of the structural opening and 7mm less than the total height of the structural opening. This allows for the jambs to be packed up slightly in the event of an uneven floor surface or to avoid high spots of floor coverings.

JELD-WEN doorsets have a standard 15mm undercut to allow for the finished floor level (FFL) to be built up.

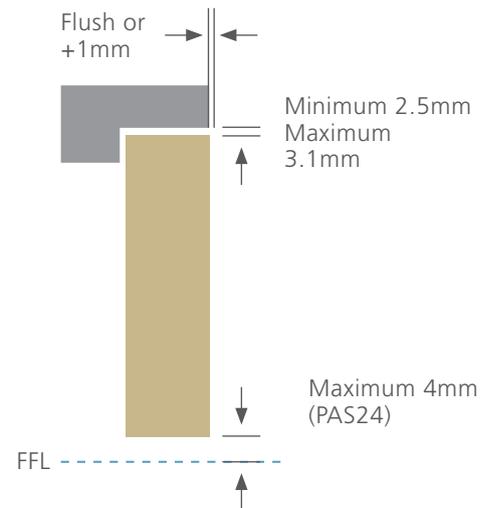


NOTE 1

Maximum finished floor undercuts of 4mm are allowable for PAS24 and smoke control door sets.

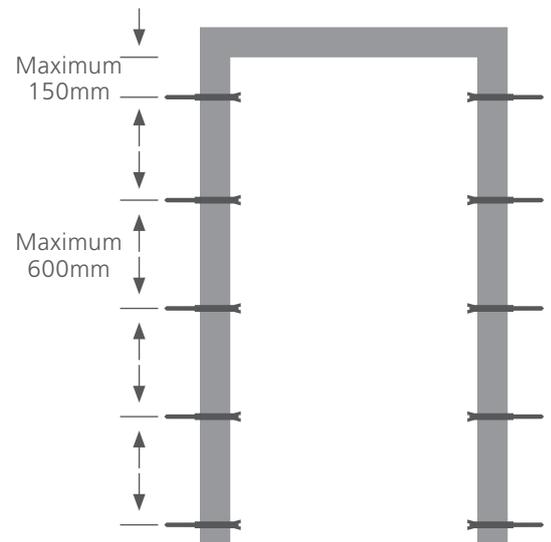
FIRE DOOR TO FRAME MARGINS

- Gaps between door leaf and frame should be set at max 3.1mm at the head and 3.5mm on the vertical edges.
- Factory produced doorsets use 3mm gauges to set perimeter gaps. These are left in the assembly to assist with safe transportation of the doorset.
- Door leaves must not be proud of each other or from the door frame by more than 1mm.
- Threshold: Maximum 4mm gap between the bottom of the leaf and finished floor height (FFL).
- Either an Exitex MDS 25/5/2, MDS25/58 threshold plate or Norseal 810S drop seal and hardwood sill shall be fitted in order to comply with smoke control. Thresholds shall be bedded onto a continuous bead of silicone between the threshold and sill or floor level.



FIXING THE FIRE DOOR FRAME

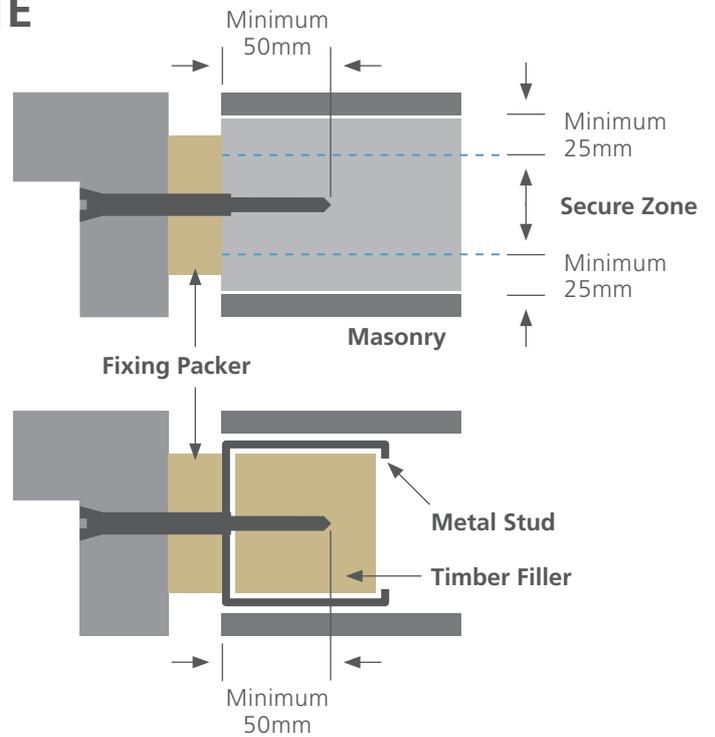
- Fixture should be positioned max 150mm from the top edge of the frame with a maximum of 600mm between centres.
- There must be a minimum of 4 fixings per jamb.
- Ensure fixing points are pilot drilled and counter bored to prevent the timber from splitting.
- Ensure fixing holes are filled and made good.



FIXING THE FIRE DOOR FRAME

The supporting construction must allow for secure fixture of the door frame.

- Fixtures must penetrate the supporting construction by a minimum of 50mm.
- When fixing into metal stud partitions ensure a full length of timber filler is fitting in the stud.
- When fixing into masonry ensure a minimum clearance of 25mm from the edge of the block is maintained to avoid blow out (excluding plasterboard thickness).
- Where possible fixing should be central to the frame depth to prevent frame twist.
- Use packers behind the frame and align close to the fixture point. Ensure the frame is pulled tight to the packer and supporting construction.
- Check to ensure the frame remains true. Adjust packers as appropriate.



INSTALLATION

Only install doorsets when site conditions are suitable and relative humidity is 40-60%. Incorrect site conditions could affect the operation of the doorset after installation due to the following reasons:

- Expansion of the door/frame due to excessive moisture.
- Movement of supporting construction.
- Shrinkage due to forced drying.

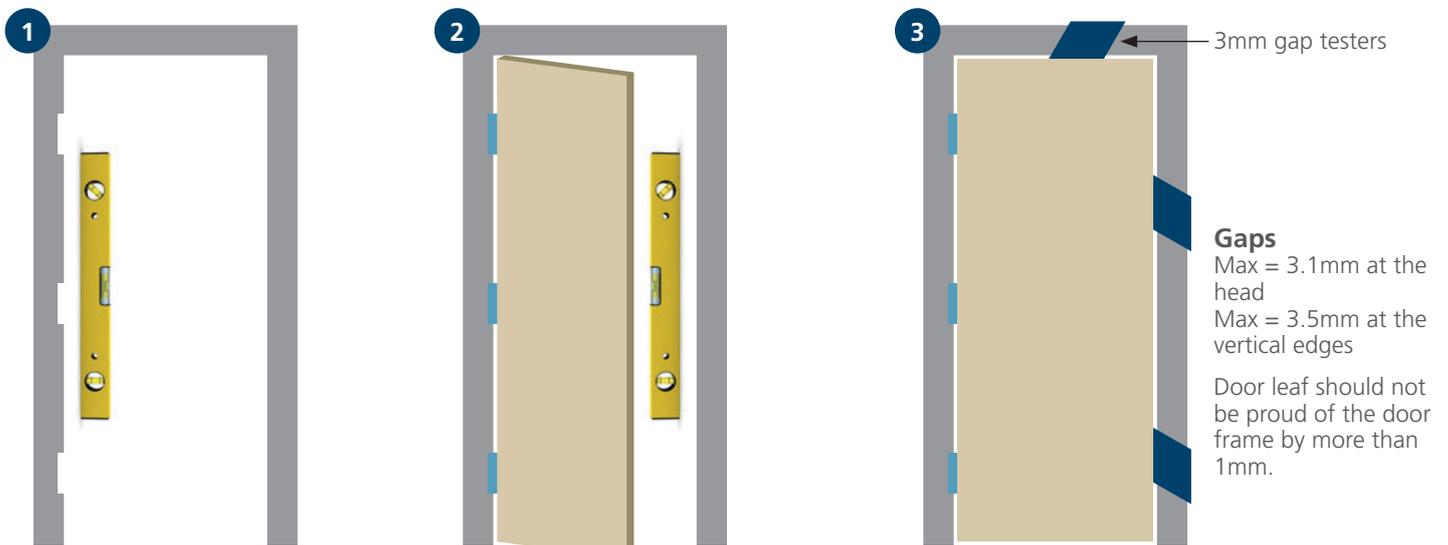
The doorset frame must be installed directly onto the subfloor and not the floor covering. No gaps are permitted to the underside of the frame. If jambs have been up packed to square the assembly, ensure 30min or 60min intumescent mastic seals the gaps.

Note: Remember no site modifications are permitted to the factory hung doorset as this will invalidate the Q-Mark certification.

PACKING

- Pack between the frame and supporting structure directly above or behind fixing positions.
- Packers may be timber of equal density to the frame (640Kg/m³), Plywood or plastic.
- 70mm x 70mm PVC horseshoe packers must be used at frame to brickwork fixing points.

3 STEP GUIDE TO HANGING A DOOR



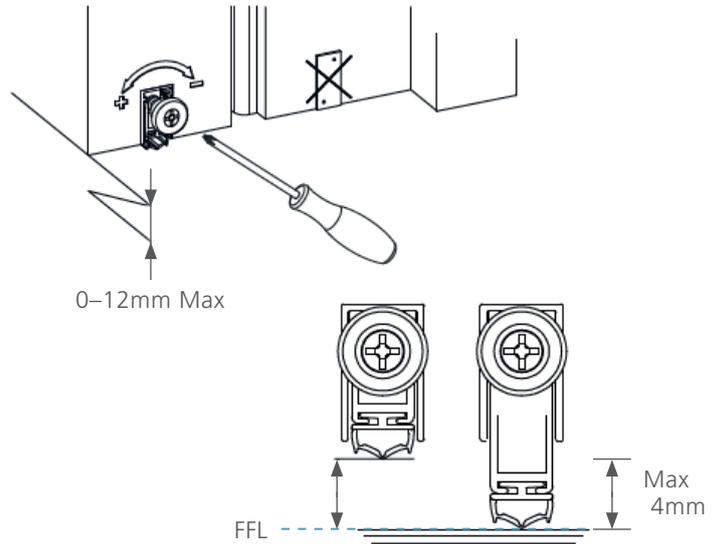
Fix the hanging jamb and ensure it is plumb and square.

Hang the door and plum the closing jamb and head to the door perimeter before fixing.

Check perimeter gaps and ensure the door operates smoothly.

ADJUSTING DROP SEALS

- Doors supplied with drop seals fitted will not have been adjusted to the finished floor surface level (FFL).
- Using a screw driver adjust accordingly by rotating clockwise or counter clockwise.
- For optimum results, the seal should be adjusted so the silicone gasket touches the FFL in the final closing moment of the door.
- Ensure the installation of the product does not impede the opening or closing of the door.
- It is recommended to check the adjustment of the door seal periodically to ensure the door closes and latches properly.
- **Note:** maximum threshold gap (underside of door to FFL) of 4mm is permitted.



FACE FITTED DOOR CLOSERS – ESSENTIAL TO OVERALL PERFORMANCE AND COMPLIANCE OF THE DOORSET

- Door closers will be supplied loose with the doorsets as the door cannot be shipped with these items fitted.
- Door closers should always be fitted in strict accordance with the manufacturer's instructions and using the fitting template provided with the closer (e.g. Rutland instruction shown).
- The door closer arm should only be fixed to the frame, and not on to the architrave (where fitted) as this will affect correct and safe operation.
- If architrave is to be fitted then this should be notched around the closer arm connection back to frame.
- Closing speeds to be adjusted accordingly, in line to manufacturer's guidance to ensure correct operation.
- Door sets supplied with concealed closers will have the linking arm disconnected to allow easier transportation and installation. Ensure the linking arm is fixed.

Standard Arm Closer
TS3204BC**

TEL: +44 (0) 1246 261 491 | www.rutlanduk.co.uk

Operations and Maintenance Manual

10 YEARS WARRANTY

1100mm Max door width

80kg Max door weight

180° Close Angle

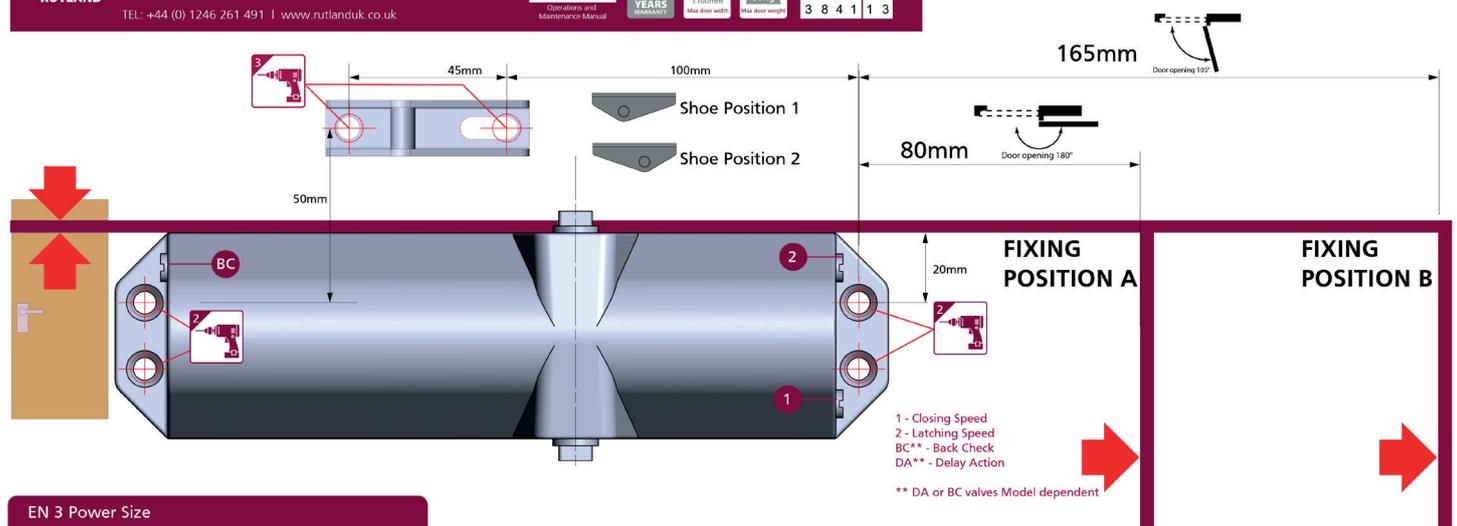
Free Stage Control Regulation

CE UK CA
1812 1720

BS EN 1154

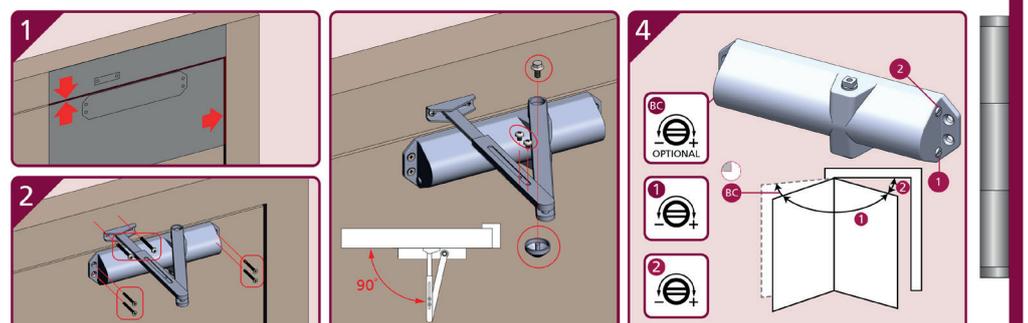
4	8	3	1	1	3
3	8	4	1	1	3

PRINT TO A3 PAPER SIZE FOR 1:1 SCALE



EN 3 Power Size				
EN Size	Max door width	Shoe Position	Fixing Position	
2	850mm	180°	2	A
3	950mm	180°	2	A
3	950mm	105°	1	B
4	1100mm	105°	1	B

IMPORTANT NOTES
 DELAYED ACTION & BACK CHECK (DA&BC) VALVES ARE NOT STANDARD, THESE ARE OPTIONAL. FOR UNINSULATED STEEL DOORS IP.FSM MUST BE USED. THE FINISH BOLT MUST BE TORQUED TO 10Nm.
 A MECHANICAL DOOR CLOSER IS NOT DESIGNED TO OVERCOME POOR FITTING. EXCESSIVE AIR PRESSURES OR BINDING SMOKE AND WEATHER SEALS. EXCESSIVE AIR PRESSURES CAN BE CREATED BY THROUGH DRAFT, BY AIR CONDITIONING, IN SMALL ROOMS WITHOUT VENTILATION, OR WHERE NO AIR TRANSFER GRILLS ARE FITTED. MECHANICAL DOOR CLOSERS ARE DESIGNED TO CLOSE THE STATED AND TESTED SPECIFICATION OF DOOR WEIGHT AND DOORS/DOOR ASSEMBLIES WHEN DOORS ARE FITTED WITH CORRECT GAPS AND NOT BINDING OR SEALS. IF YOU ENCOUNTER PROBLEMS WITH DOORS NOT CLOSING PLEASE WATCH OUR '5 WAYS TO TROUBLE SHOOT A DOOR CLOSER' VIDEO ONLINE. WHERE DOORS ARE NOT CLOSING DUE TO AIR PRESSURES THEN PROFESSIONAL ADVICE FROM AN AUTHORISED INSTALLER IS RECOMMENDED TO FIT TESTED AND THIRD PARTY CERTIFIED AIR TRANSFER GRILLS AND/OR AUTOMATIC DOOR OPERATORS.
 NOTE: BC VALVES ARE DESIGNED TO ASSIST BACK CHECK AND DO NOT REPLACE THE REQUIREMENT FOR CORRECTLY FITTED DOORSTOPS OR SAFETY BARRIERS.
 FURTHER WARRANTY INFORMATION: <https://www.rutlanduk.co.uk/rutland-warranty>



FIRE STOPPING BETWEEN FRAME AND STRUCTURAL OPENING

Fire stopping products between the frame and structural opening must be tested to one of the following standards. The test duration must be equal to or greater than the specified integrity period of the fire doorset.

INTUMESCENT MASTIC

Test evidence between any material. Length of tested seal must be at least 1mtr, but this does not restrict the total length of a fire door.

- EN1366-4
- EN 1634-1
- BS476 part 20
- BS476 part 22
- Soundal Firecyl FR, Soundal Fire Silicone B1 FR, Promat Promaseal Fire Intumescent Acrylic Sealant and Promaseal Fire Resistant Silicone Sealant have been specifically tested in conjunction with this door set specification

EXPANDING FOAM

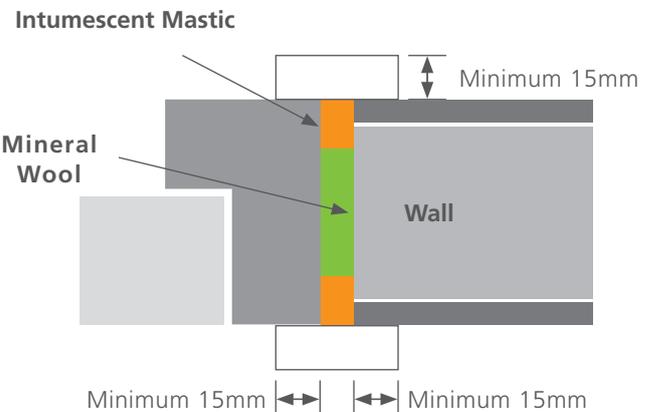
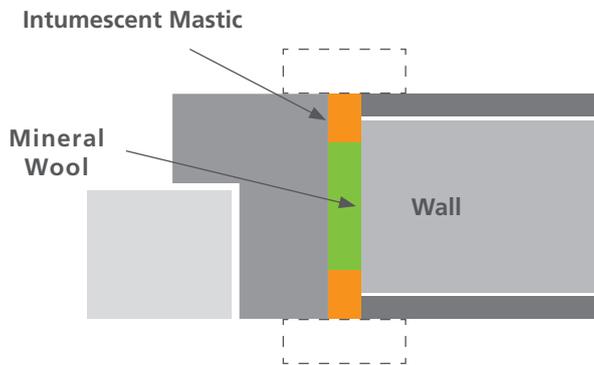
- EN1366-4
- EN 1634-1
- BS476 part 20
- BS476 part 22
- Fire and Acoustic Seals FD60 Fire Rated Foam and Exitex Blue 60 Fire Foam have been specifically tested in conjunction with this door set specification

MINERAL/ CERAMIC FIBRE

- Euroclass A1 or A2 to EN13501-1 and heat resistant to 1000°C

General guidance: For specific details on supporting construction for structural openings to door frame gaps on 30 or 60 minute fire doors, please refer to BS8214:2016 9.4.1, tables 2 to 5.

SEALING TO STRUCTURAL OPENING: UP TO 10mm GAP



FD30

- Mastic applied to fill the gap to a minimum depth of 10mm.
- Architraves optional if capped with mastic and tightly packed with mineral wool.

FD60

- Mastic applied to fill the gap to a minimum depth of 10mm.
- Architraves optional if capped with mastic and tightly packed with mineral wool. Architrave to be minimum 15mm thick and have 15mm overlap on both the frame and the wall.

NOTE: If fitting to a wall that is likely to distort during a fire mineral wool should be tightly packed in all cases.

SEALING TO STRUCTURAL OPENING: 10mm - 20mm GAP

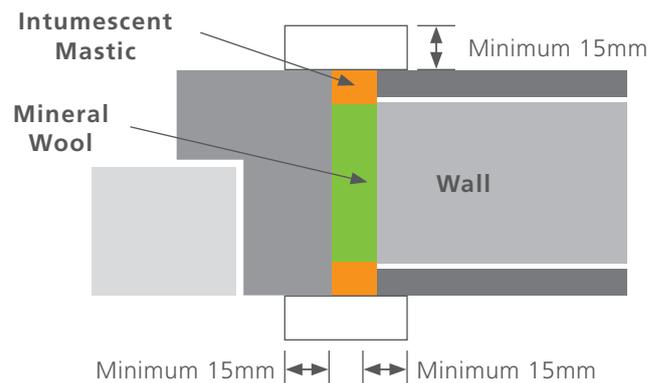
FD30 & FD60

- Tightly packed mineral wool capped each end with mastic to a minimum depth of 10mm.
- Architraves are optional.

ALTERNATIVE:

Gap fully filled with expanding fire foam, 15mm thick minimum architraves must be fitted in softwood, hardwood or MDF with 510kg/m³ minimum density, 15mm overlap on both the frame and the wall).

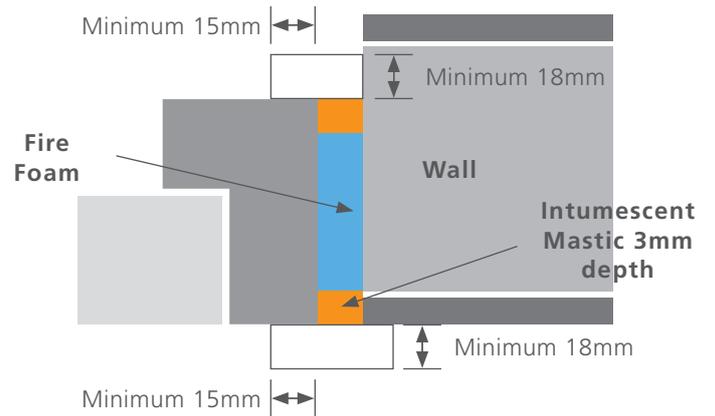
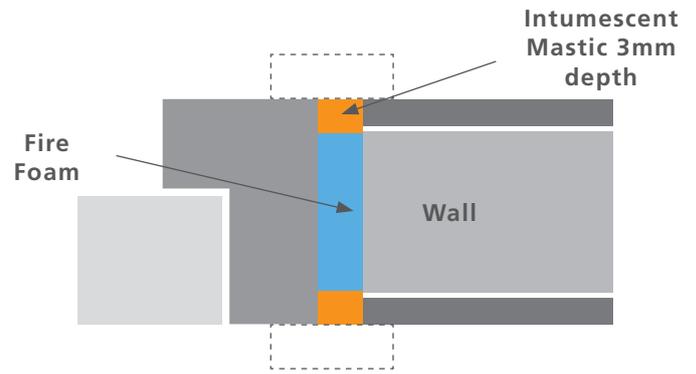
NOTE: To comply with smoke control all options must be capped with mastic.



WINKHAUS TESTED SEALING TO STRUCTURAL OPENING: UP TO 26mm Gap

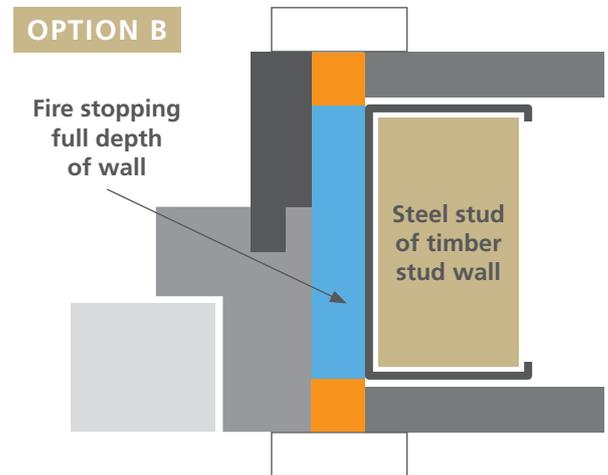
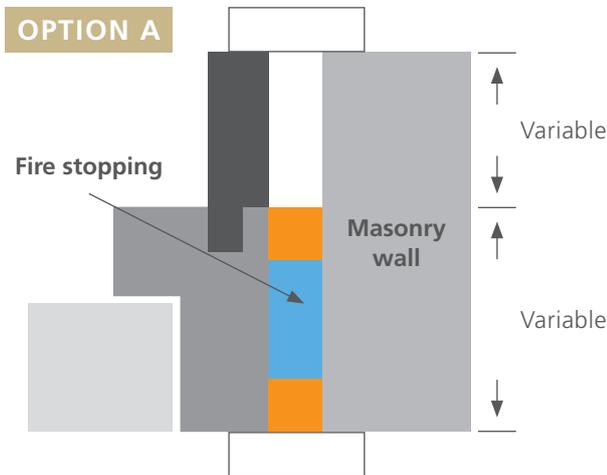
Gaps up to 26mm wide (FD30 & FD60)

- The full depth of the void is to be fully filled with one of the following tested foams
 - Fire and Acoustic Seals FD60 Fire Rated Foam
 - Exitex Blue 60 Fire Foam
- Each face of the foam filled void shall be capped with one of the following intumescent mastics to a nominal thickness of 3mm
 - Soundal Firecryl FR, Soundal Fire Silicone B1 FR,
 - Promat Promaseal Fire Intumescent Acrylic Sealant
 - Promaseal Fire Resistant Silicone Sealant
- Architraves are optional where the door frame and wall are of equal depth.
- In instances where the wall thickness is greater than the depth of frame timber architraves of minimum 18mm thick must be fitted to both faces with a minimum 15mm overlap to door/gap other than when architrave abuts the wall.



EXTENSION LINERS

Extension liners fit into the frame grooves and can be adjusted to suit small variations in the structural opening wall depths.



OPTION A should only be used if the wall aperture is suitably protected so that the effects of fire cannot affect the wall. If this is not the case, fire stopping must be to the same width and material as the frame as shown in **OPTION B**.

Q-MARK PLUG IDENTIFICATION

PLUG DEFINITIONS



OUTER PLUG COLOURS

	YELLOW OUTER	30 MINUTES fire integrity period. Used for either a leaf, frame or complete doorsets.
	BLUE OUTER	60 MINUTES fire integrity period. Used for either a leaf, frame or complete doorsets.
	BROWN OUTER	90 MINUTES fire integrity period. Used for complete doorsets only.
	BLACK OUTER	120 MINUTES fire integrity period. Used for complete doorsets only.

Q-MARK FIRE DOOR PLUG IDENTIFICATION AND TRACEABILITY

NUMBER



The number embossed in the centre of the inner tree for all colours is the identification number for a Q-Mark certified fire door manufacturing company or Q-Mark certified installation company.

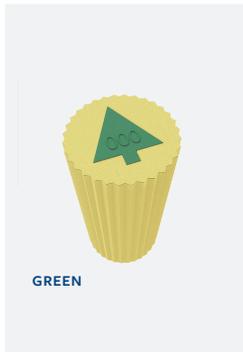
This maintains traceability to demonstrate which company was responsible for completing each part of the doorset manufacture, assembly and installation process.

ALPHA-NUMERIC CODES ARE USED FOR ALL CERTIFIED MANUFACTURERS/INSTALLERS ABOVE CERTIFICATE 999.

1000 to 1099 = Axx	1700 to 1799 = Hxx	2400 to 2499 = Pxx
1100 to 1199 = Bxx	1800 to 1899 = Jxx	2500 to 2599 = Qxx
1200 to 1299 = Cxx	1900 to 1999 = Kxx	2600 to 2699 = Rxx
1300 to 1399 = Dxx	2000 to 2099 = Lxx	2700 to 2799 = Sxx
1400 to 1499 = Exx	2100 to 2199 = Mxx	2800 to 2899 = Txx
1500 to 1599 = Fxx	2200 to 2299 = Nxx	2900 to 2999 = Uxx
1600 to 1699 = Gxx	2300 to 2399 = Oxx	3000 to 3099 = Vxx

Q-MARK PLUG IDENTIFICATION

INNER PLUG COLOURS



Fitted within the appropriate outer plug to a door leaf (leaf manufacture only) or door frame (frame manufacture only) to identify that it is a Q-Mark approved door leaf or door frame. The leaf and frame could come from different Q-Mark certified fire door manufacturers.

The door leaf or door frame may not be in a finished state. It must be fully prepared for all the required intumescent strips around the perimeter gap, which can be either fitted or supplied loose but must be supplied. If the intumescent strips are supplied loose, they must be clearly identified to the appropriate door leaf or frame to which they will be fitted.

The door leaf or frame might not be fully prepared for all of the appropriate hardware, in which case it must be clearly specified which hardware and any required associated intumescent protection is to be finally fitted at a later date by others.

Clear instructions for the further processing and installation of the door assembly must be supplied by the Q-Mark certified fire door manufacturer relating to a specific Initial Type test or Field of Application within the fire door manufacturer's scope of certification.

GLAZING (ALL DOORSET MATERIAL TYPES)



Fitted within the appropriate outer plug to a door leaf only if glazing is in the door leaf. This plug is in addition to all other required plugs, to identify that glazing has been correctly specified and fitted to the door leaf by a Q-Mark certified fire door manufacturer as per the same Initial Type Test or Field of Application used to manufacture the door leaf.

If glazing is included within an integral sidelight or fanlight (not within the door leaf), then all

components for the glazing system must be specified and supplied by the certified fire door manufacturer, but may be finally fitted on site where necessary, in which case clear installation instructions must be provided by the Q-Mark certified fire door manufacturer relating to a specific Initial Type Test or Field of Application within the fire door manufacturer's scope of certification.

COMPLETE DOORSET – Q-MARK CERTIFIED FOR FIRE ONLY (ALL DOORSET MATERIAL TYPES)



Fitted within the appropriate outer plug to a door leaf and/or door frame to identify that it is a Q-Mark certified (factory hung) doorset. Where fire door plugs are not able to be fitted due to the doorset materials or design, then a label that depicts these plugs can be supplied by BM TRADA if necessary. The completed leaf and frame must have been physically quality checked together as a matched pair in the factory. The leaf and frame may then be sent to site at different times providing that clear traceability is in place to join the correct leaf and frame together again on site for installation.

There will be no further preparation work carried out to either the leaf or frame before it can be fitted into the building substrate. It is permissible for hardware such as locks, hinges or door closers etc. to be finally fitted during the installation process, but the preparations to accept the hardware will have been completed by the Q-Mark certified fire

door manufacturer. All items of hardware (including closers, locks, handles, hinges, letterplates etc.), along with the supply of any required intumescent protection materials, must be supplied by the Q-Mark certified fire door manufacturer and identified for the specific doorset.

Clear instructions for final assembly and installation of the doorset must be supplied by the Q-Mark certified fire door manufacturer relating to a specific Initial Type Test or Field of Application within their scope of certification.

The final assembly and installation of the doorset should be able to be completed with simple tools only, such as a screwdriver. No further preparations are allowed to be completed by the installer other than appropriate pilot holes for screws etc.

Smoke control cannot be claimed when a silver inner tree has been fitted.

COMPLETE DOORSET – Q -MARK CERTIFIED FOR FIRE AND SMOKE CONTROL (ALL DOORSET MATERIAL TYPES)



Fitted within the appropriate outer plug to a door leaf and/or door frame to identify that it is a Q-Mark certified (factory hung) doorset with fire resistance and smoke control. This is only applicable where a fire resistance & smoke control. Field of Application is specifically shown on the certified manufacturer's scope of certification document for the particular manufactured doorset. Where Q-Mark plugs are not able to be fitted due to the doorset materials or design, then a label that depicts these plugs can be supplied by BM TRADA if necessary. The completed leaf and frame must have been physically quality checked together as a matched pair in the factory. The leaf and frame may then be sent to site at different times providing that clear traceability is in place to join the correct leaf and frame together again on site for installation.

There will be no further preparation work carried out to either the leaf or frame before it can be fitted into the building substrate. It is permissible for hardware such as locks, hinges or door closers etc. to be finally fitted during the installation process, but the preparations to accept the hardware will have been completed by the Q-Mark certified fire

door manufacturer. All items of hardware (including closers, locks, handles, hinges, letterplates etc.), along with the supply of any required intumescent protection materials, must be supplied by the Q-Mark certified fire door manufacturer and identified for the specific doorset.

Clear instructions for final assembly and installation of the doorset must be supplied by the Q-Mark certified fire door manufacturer relating to a specific Initial Type Test or Field of Application within their scope of certification.

The final assembly and installation of the doorset should be able to be completed with simple tools only, such as a screwdriver. No further preparations are allowed to be completed by the installer other than appropriate pilot holes for screws etc.

A White inner tree must be used where the doorset is manufactured to include both fire resistance and smoke control, which must be in accordance with the specific fire resistance and smoke control Field of Application report(s) listed on the manufacturer's Q-Mark scope of certification document for that specific doorset design.

Q-MARK PLUG IDENTIFICATION

NO. OF PLUGS	TREE COLOURS	PLUG & TREE COLOURS	REQUIREMENT
FD30 FIRE AND SMOKE CONTROL			
1	White		Complete Fire and Smoke doorset / hung with Ironmongery + intumescent fitted. No glazing.
2	White & Orange		Complete Fire and Smoke doorset / hung with Ironmongery + intumescent fitted. Plus, glazing.
FD60 FIRE AND SMOKE CONTROL			
1	White		Complete Fire and Smoke doorset / hung with Ironmongery + intumescent fitted. No Glazing.
2	White & Orange		Complete Fire and Smoke doorset / hung with Ironmongery + intumescent fitted. Plus, glazing.

Q-MARK FIRE DOOR INSTALLER CERTIFICATION

- To demonstrate the doorset has been installed by a Q-Mark approved installer, the doorset must be fitted with the relevant fire rated plug fitted with a gold inner tree.
- Gold trees can only be fitted to a silver certified factory hung doorset.

Q-MARK PLUGGING & LABEL LOCATIONS

DOOR PLUGGING

The Q-Mark plugs will be fitted in accordance with our standard detail shown to the right.

If glazing is included, 2 hole positions will be machined, and plugs 1 & 2 are fitted in the factory. Position 3 will remain for the Q-mark installers plug (installer plug must be fitted on site by the certified installer).

If no glazing, 1 hole positions will be machined, and only plug 1 is fitted in the factory, and position 2 will remain for the Q-mark installers plug.

PAS24 LABELS

For security doors only, a Q-Mark PAS24 label will also be present on the hinge edge of the door positioned below the Q-Mark plugs. Example label and position shown.



MANUFACTURING AND IDENTIFICATION LABELS

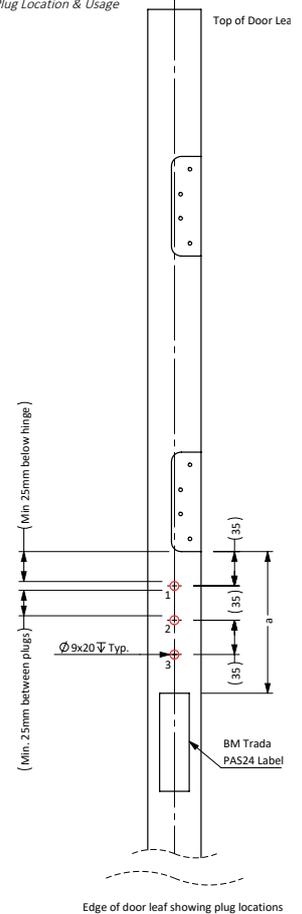
These labels will be applied in the factory to every doorset, with the same label fixed to both the top of the doors and the top of the frame.

Glazing Specification	a	Outer Plug Position (Yellow FD30 / Blue FD60)	Inner Tree Colour		
			Silver, White or Green	Orange	Gold *****
Without Glazing	(105)	1	X	-	-
		2	-	-	Installer to machine and insert
		3	Do not machine	Do not machine	Do not machine
With Glazing	(140)	1	X	-	-
		2	-	X	-
		3	-	-	Installer to machine and insert

Note: All of the plugs and labels permanently attached to the door must not be removed or painted over as this will invalidate any certifications or warranties.

Gold inner tree labels are to be installed by only certified installers on site

Standard Detail - Licensed Door Processor
Q-Mark Plug Location & Usage



OPERATION AND MAINTENANCE

THE REGULATORY REFORM (FIRE SAFETY) ORDER 2005

Article 17 <https://www.legislation.gov.uk/uksi/2005/1541/article/17>

“Where necessary in order to safeguard the safety of the relevant persons the responsible person must ensure that the premises and any facilities, equipment and devices provided in respect of the premises under this Order or, subject to paragraph (6), under any other enactment, included any enactment repealed or revoked by this Order, are subject to a suitable system of maintenance and are well maintained in an efficient state, in efficient working order and in good repair”

The Order continues to detail the requirements of the responsible person to appoint one or more competent persons to assist in undertaking the preventive and protective measures.

Periodic checks should be completed to ensure fire doorsets are functioning correctly, are not physically damaged and correct gaps are maintained. The Fire Safety Act 2022 requires communal doors in high risk buildings to be checked every 3 months and flat entrance doors every 12 months.

BM TRADA Q-MARK FIRE DOOR MAINTENANCE SCHEME

- Raise the on-going fire door maintenance standards
- Ensure the product's fire resistant capability is maintained
- Ensure the product service life is maximised through correct maintenance
- Provide peace of mind that the maintainer is suitably qualified and that their work is continually assessed by an independent body
- Provide specifiers with the means to demonstrate that maintenance meets the required standard