Installation
Outer Frame

Framing installation
These recommendations are intended as a check list for the installer, to ensure that important aspects are observed.

Caution
During assembly and installation, care should be taken to avoid damage to the surface finish of the aluminium.

If alkaline building materials, e.g. mortar/plaster, are to be used during the installation, ensure that powder coated/anodised surfaces are protected, or alternatively any droppings are cleaned off immediately, to prevent degrading the surface finish.

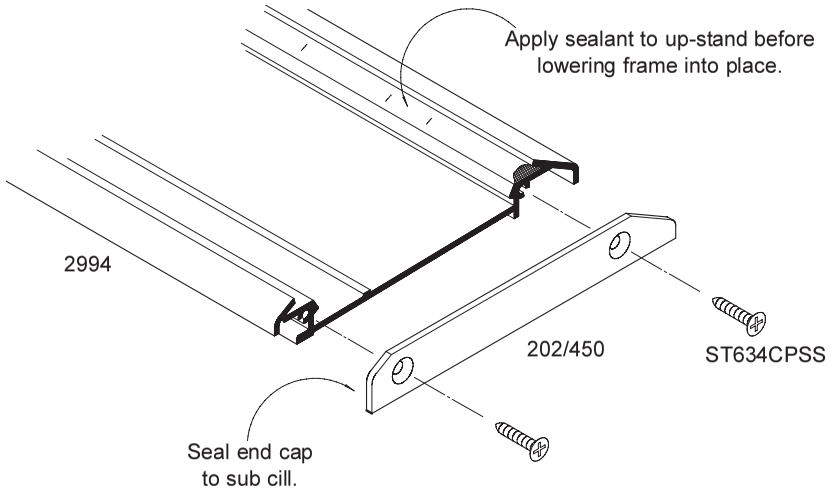
Cills
We recommend that all framing installations are made with the appropriate cill profiles, and that they allow for outward drainage of water which may enter the glazing.

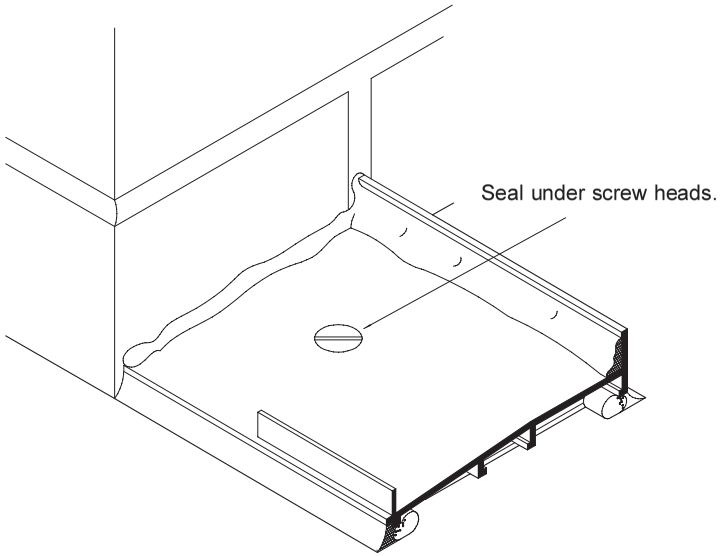
Sapa will not accept responsibility for water penetration where cill drainage is not provided.

Check prepared opening size to ensure framing can be fixed square in the opening. Lay out, level and fix cill profiles. Use packing where necessary to maintain level and prevent distortion when frames are fixed and glazed. If possible, the cill should be bedded in mastic. Fixing points should be approximately 100 mm from each end and not more than 450 mm apart.

Seal ends of cill to masonry reveals.
Apply ‘heel’ bead of sealant to base of all sub cill up-stands.

The ends of continuous sub cill 2994 are closed off with 202/450 end stops, affixed with No 6 x 3/4” csk self tap screws. Countersink fixing holes in the end stops to 8.5 dia for left hand and right hand application before fitting. Use a bead of sealant to form a water tight joint between the end cap and the sub cill.





Installation

Outer Frame

Framing installation

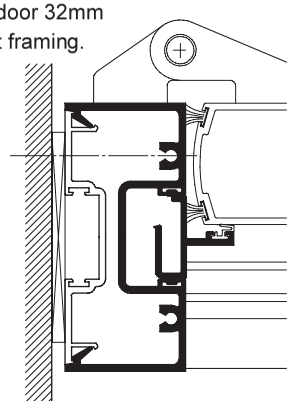
At each fixing point, clip a 202/80 fixing bridge (16mm pocket framing) or a 50mm length of 2983 (32mm pocket framing) or a 50mm length of 8019 (75mm framing) into the back of the frame member to form a back plate. Alternatively plain plate 2954 can be clipped into the back of 102mm framing sections, with the proviso that the 2954 must run the full length of the outer frame member that it is attached to.

The frame should be positioned accurately in the opening and packed to ensure that it is square and plumb. Frame to masonry fixing points should be 100mm from each end and not more than 450mm apart.

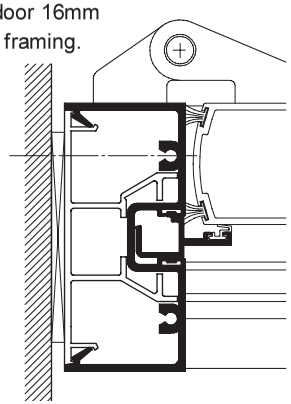
Drill a 4.5mm dia clearance hole through frame members and back plate for fixing screws at appropriate fixing centres. When securing the frame into place, do not over tighten as this may distort the outer frame.

On door frames, drill a 4.5mm dia clearance hole through frame members and back plate then csk fixing holes for screw heads at appropriate fixing centres. Note that fixings for rebate doors are not centrally located in the outer frame, but are offset with the door leaf.

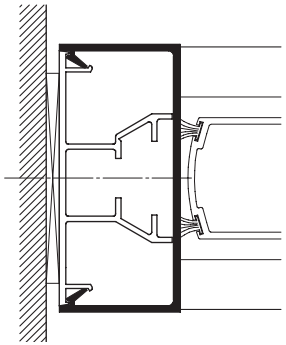
Rebate door 32mm pocket framing.

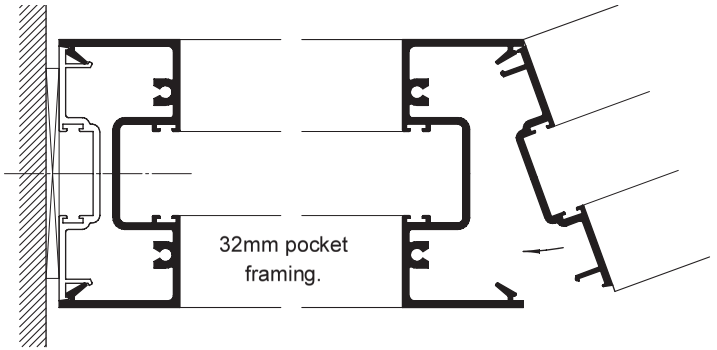


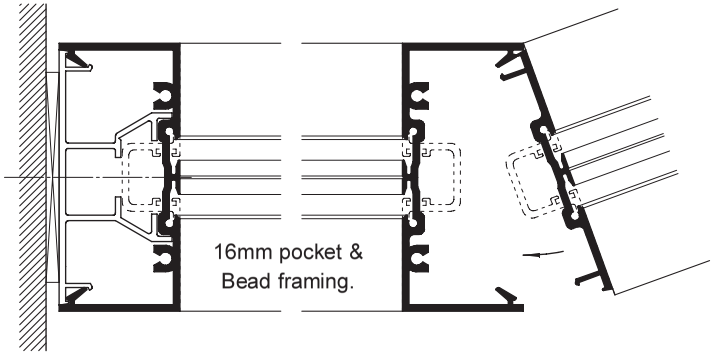
Rebate door 16mm pocket framing.

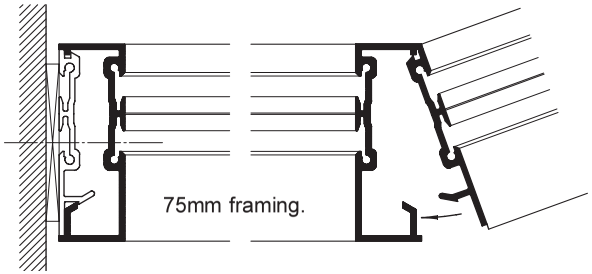


Pivot door framing.









Installation

Door Hanging

Door frame installation will have been completed with the general frame work.

Centre pivot doors

The printed instructions provided with every Dorma/Axim door closer should be followed meticulously when hanging a centre pivot door leaf. The following points are given in addition to these instructions to assist the installer.

If the Dorma/Axim instructions and the following points are not observed, Sapa, Dorma/Axim will not accept responsibility for failure or cost of replacement.

Door leaves are prepared for end or side load applications in the factory. Particular attention should be given to accurate and secure assembly of closer spindle into closer arm.

Bottom pivot

Special consideration must be given to floor pivot before hanging of door.

Accuracy of positioning is essential and height to be adjusted to give an 8mm gap between the bottom of the door and the threshold. Dead load of door must not be carried by an unsupported floor pivot component or threshold profile. Ensure that there is adequate packing between floor and pivot component.

Security of closer accessories

Before proceeding with door hanging, ensure that all door frame accessories are secure:-

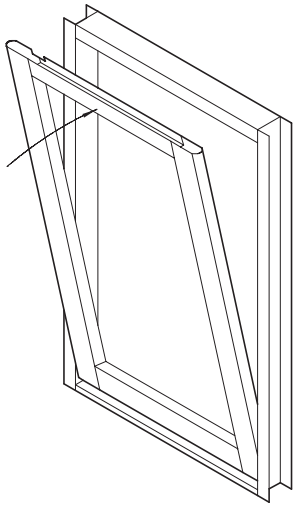
- Door closer fixing brackets.
- Door closer.
- Bottom pivot (floor or cill) assembly.

Check that door leaf accessories are secure:-

- Closer arm adjusting shoe.
- Bottom pivot bearing housing.

Side load door leaves

Position bottom of door on floor pivot with side load cut-out facing closer spindle. Swing top of door into position ensuring that closer spindle engages fully and correctly with closer arm. Fit clamping piece to closer arm ensuring that socket head screws are tightened evenly and firmly.



Side load door

Installation

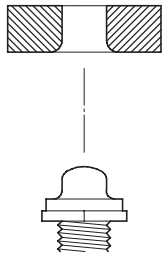
Door Hanging

End load doors

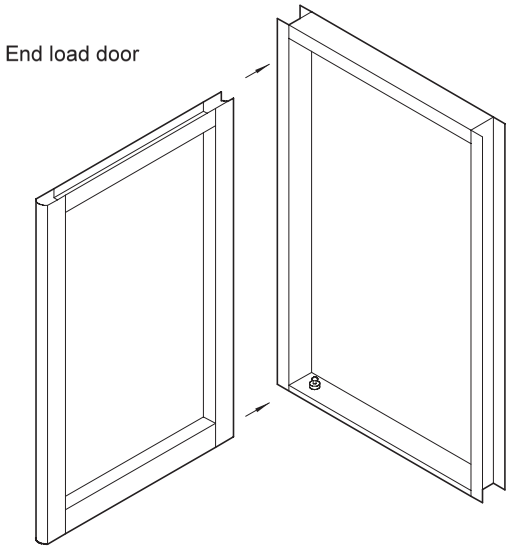
Place thrust bearing on floor pivot with the radiused inside edge facing down (Dorma only).

For closers without hold-open facility, fully close both regulating valves (turn clockwise). This will help to hang the door, in that the closer will tend to return very slowly to closed position.

Use 14mm spanner to rotate spindle to 90º open position taking care not to damage machined faces of closer spindle. With door upright in 90º open position, slide door leaf into position so that the floor pivot spring catch and closer arm engage with the floor pivot and closer spindle. Ensure that full engagement is achieved at the top and bottom of the door. Fit clamping piece to closer arm ensuring that socket head screws and washers are fitted, tightened evenly and firmly.



Dorma detail showing thrust bearing.

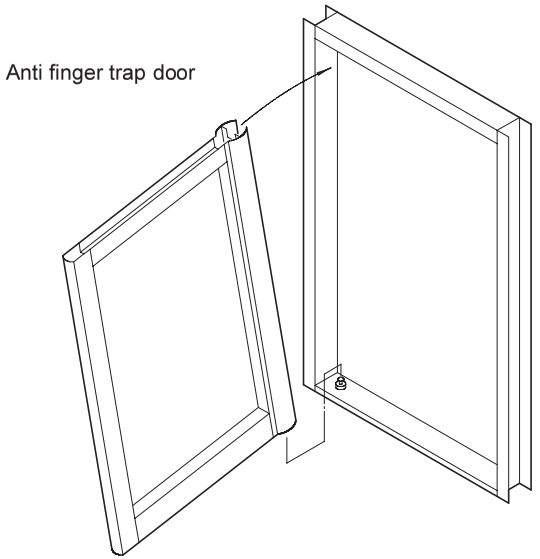


Anti finger trap doors

All Anti finger trap doors are prepared for end load application, but are fitted with a side load type bottom shoe.

For closers without hold-open facility, fully close both regulating valves (turn clockwise). This will help to hang the door, in that the closer will tend to return very slowly to closed position.

Use 14mm spanner to rotate spindle to 90º open position taking care not to damage machined faces of closer spindle. With door slightly tilted in the 90º open position, lift the bottom shoe onto the bottom pivot ensuring that the bearing fully engages onto the pivot point. Tilt the top of the door up onto the closer spindle ensuring that the spindle locates into the top arm. Fit clamping piece to closer arm ensuring that socket head screws and washers are fitted, tightened evenly and firmly.



Installation
Door Hanging

Pivot door alignment with frame
The top of the door leaf may be moved towards or away from the jambs by adjustment of the closer arm.

Open door and slacken socket head countersunk screw in top of closer arm.
Adjust door by turning the adjustment screw in the closer arm:-
Hex head screw at lock stile end of closer arm (Anti Finger Trap)
Grub screw at closer spindle end of closer arm (End & Side load)

After adjustment has been made, ensure that adjustment screw bears firmly against end of closer arm then retighten the countersunk screw in the top of the closer arm.

To centralize the lock stile with the jamb, neutral position is regulated by two hex head bolts at the top of closer arm which should be locked tightly in opposition. (If necessary one bolt may be omitted to obtain maximum adjustment in which case the remaining screw is securely tightened to hold arm against opposite flange.)

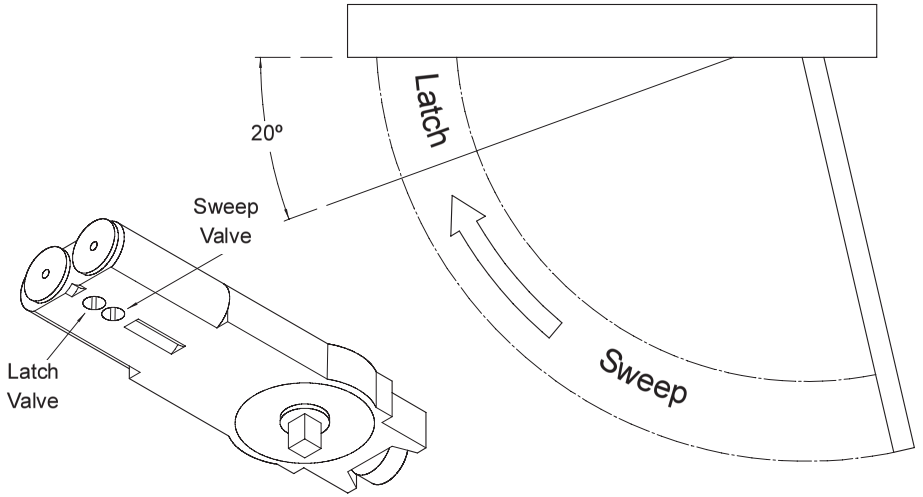
The bottom of the door leaf may be moved towards or away from the jambs by adjustment of the floor pivot shoe. (The door leaf will have to be taken out of the frame for this operation.)

Slacken the two M6 fixing screws in the floor pivot shoe then slide shoe in the required direction and retighten fixing screws. When the desired adjustment has been made, drill a 4.2 dia hole through the final fix hole in the shoe into the door leaf and secure in place with a No 10 x 3/4” pan head self tap screw. (see page 5-7)

The height of the door leaf can be adjusted by the cill bottom pivot.

Loosen locking nut and screw in or out bottom pivot then retighten locking nut. (see page 5-13)

Pivot door operation adjustment
The door closing speed can be adjusted by two valves in the door closer.
The latch valve governs the speed at which the door latches.
The sweep valve governs the speed of door closure.



Adjust latch valve by opening door 20º and allowing it to close.
(clockwise = slower , anti-clockwise = faster)

Adjust sweep valve by opening door 90º and allowing it to close.
(clockwise = slower , anti-clockwise = faster)

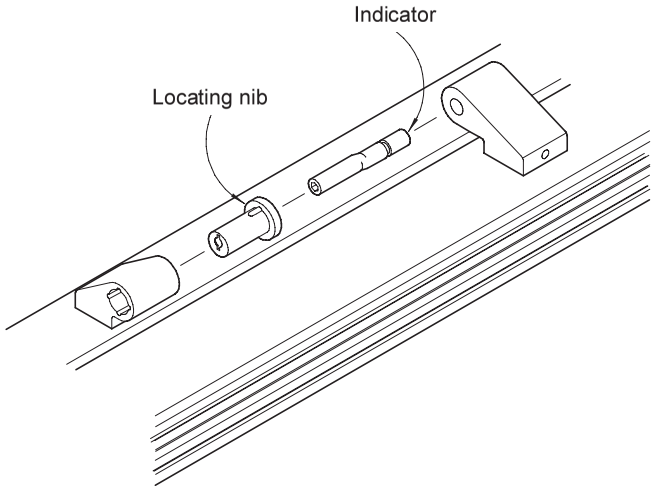
If the door closer fails to operate correctly, check security of assembly and make sure that all closer assembly details have been adhered to. If problems still persist then check strength of closer and replace if necessary.
(see page 3-7 for closer strength note)

Installation

Door Hanging

Rebate hinge doors

Lower door leaf onto hinges and check for operation and alignment. The door alignment can be adjusted in two ways, by rotation of the hinge bush or rotation of the hinge pin or a combination of both the hinge bush and pin. Neutral position is as shown with the pin indicator and the bush locating nib facing away from the door.



Initial adjustment can be obtained by inserting a 5mm Allen key into the end of the hinge pin and rotating in the desired direction. If further adjustment is required then the hinge bush can be rotated by removing from the hinge body and rotating 90º and reinserting into the hinge. Again final adjustment can be achieved by rotating the hinge pin. Once final adjustment has been made, insert the grub screw supplied with the hinge into the back of the door leaf hinge half and tighten in place in order to maintain correct door alignment. Note that it is advisable to take the door weight off of the door hinges when making adjustments.

Glazing

Outer Frame

Glazing Gaps

Before glazing can proceed, correct gasket and (if bead frame is to be used) correct bead requirements are to be ascertained. Check with the information on this and the next page for items required.

TOTAL GASKET WIDTH = GLAZING GAP - THICKNESS OF PANEL

Note that the information on this page and the next page shows typical glass, bead and gasket relationships. Due to tolerances on glass, aluminium and gaskets, practical trials must be carried out to determine ideal wedge gasket fit. (Use reasonable force with glazing paddle)

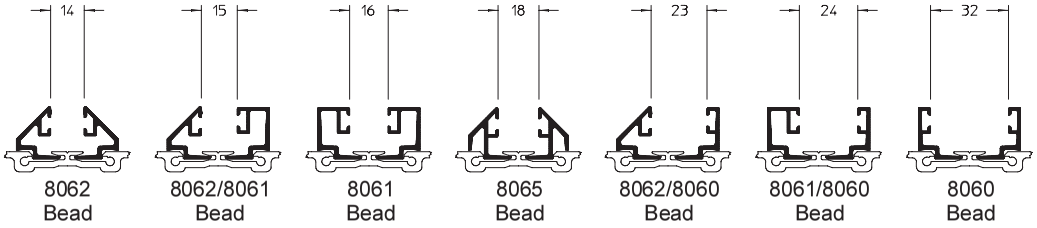
Pocket Glazing

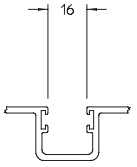
Profiles incorporating pockets contain the glass at the head and each jamb, with clip in bead at the cill. Glass units are shuffled into position by inserting fully into the jamb channel and then aligning the opposite end of the glass with the other jamb channel and then centralizing the glass between the two jambs. Lift the glass into the head channel and position setting blocks under the glass near the corners and at intermediate points on large panes. Clip in cill bead, then commence with fitting the appropriate wedge gasket, cutting oversize to allow for shrinkage and taking care not to stretch the gasket. Apply small joint sealant to all corner joints.

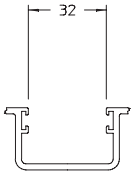
Bead Glazing

Apply the retaining gasket to the outside bead, or in the case of nib and bead frame, the nib up-stand. (Note that appropriate wedge only gaskets can be used on nib and bead frame if desired). Clip in the outside bead and place the setting blocks on the cill near the ends and at intermediate points on large panes. Position the glass in the opening and lower onto the setting blocks. Making sure that the glass is centralized clip in the inner glazing bead, then commence with fitting the appropriate wedge gasket, cutting oversize to allow for shrinkage and taking care not to stretch the gasket. Apply small joint sealant to all corner joints of the wedge and retained gasket plus all ends of all beads. Note horizontal beads are fitted before vertical beads.

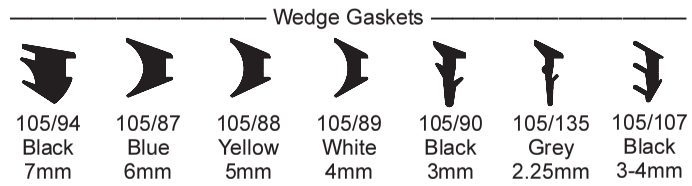
Any combination of glazing beads can be used to obtain the required glazing gap
(see following page for further examples)



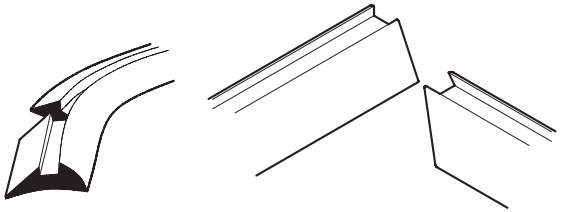




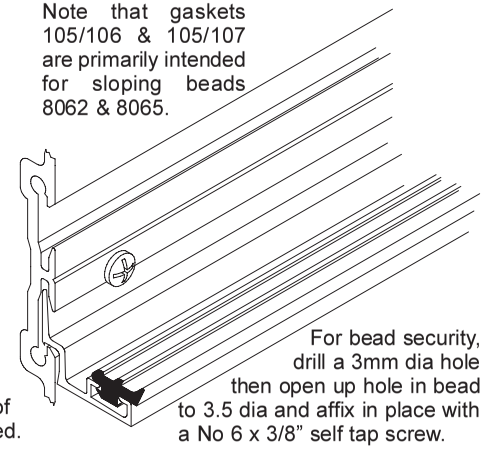
Typical glazing gaps



Note that gaskets 105/106 & 105/107 are primarily intended for sloping beads 8062 & 8065.

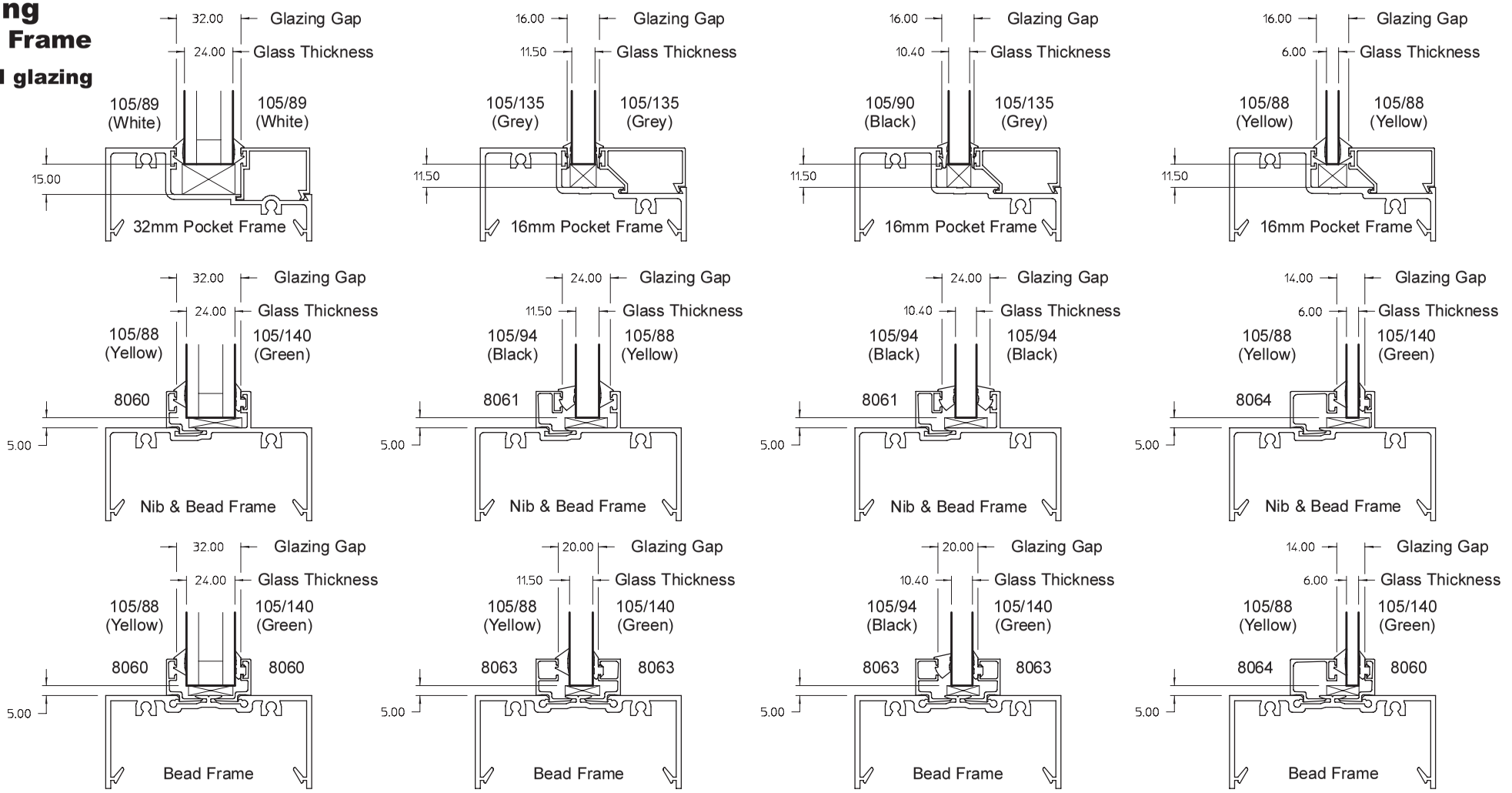


The corners of wedge gasket can be notched, or the ends of the horizontal gasket square cut with the vertical gasket mitred.



For bead security, drill a 3mm dia hole then open up hole in bead to 3.5 dia and affix in place with a No 6 x 3/8" self tap screw.

Glazing
Outer Frame
Typical glazing



Glazing

Door Leaf

Glazing Gaps

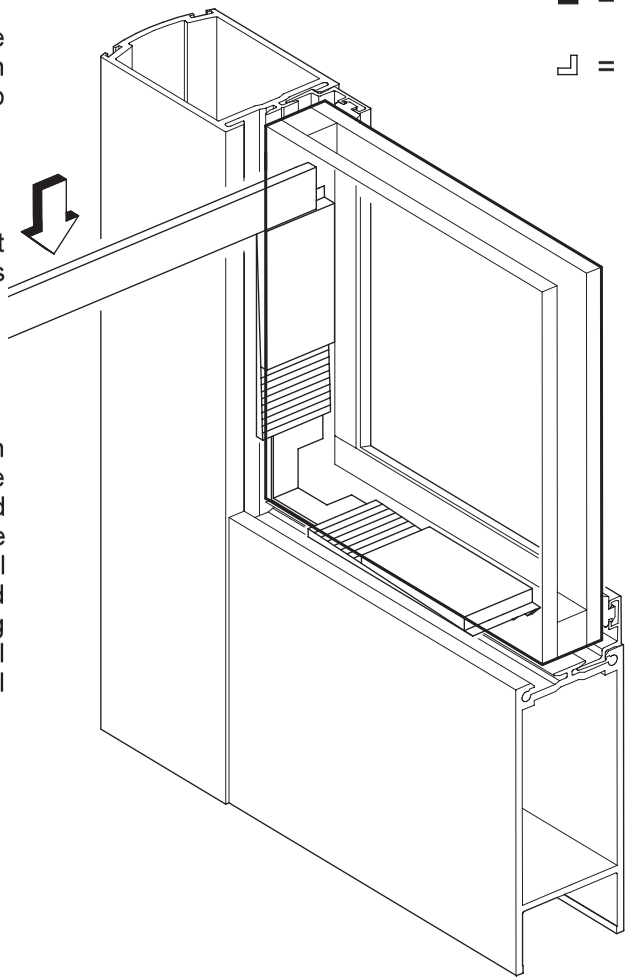
Before glazing can proceed, correct gasket and bead requirements are to be ascertained. Note the glazing gaps for door leaves are identical to bead frame in every aspect, including bead and gasket as shown on previous two pages (not nib and bead frame).

TOTAL GASKET WIDTH = GLAZING GAP - THICKNESS OF PANEL

Note that the information in this manual shows typical glass, bead and gasket relationships. Due to tolerances on glass, aluminium and gaskets, practical trials must be carried out to determine ideal wedge gasket fit.
(Use reasonable force with glazing paddle)

Bead Glazing

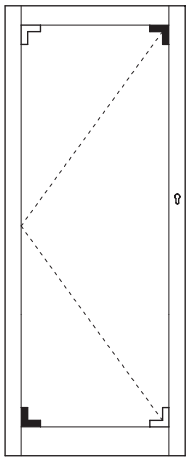
Apply the retaining gasket to the outside bead. Clip in the outside bead and position the adjustable glazing packers (202/181) in the required places. Note doors are 'toe and heel' packed as shown opposite. Additional resilient packing blocks are required if the door leaf is to be factory glazed prior to transport. Position the glass in the opening and adjust glazing packers by sliding the wedge part towards the corner until satisfactory adjustment has been made (making sure that the glass is centralized and that the door is square). Commence with fitting the appropriate wedge gasket, cutting oversize to allow for shrinkage and taking care not to stretch the gasket. Apply small joint sealant to all corner joints of the wedge and retained gasket plus all ends of all beads. Note horizontal beads are fitted before vertical beads.

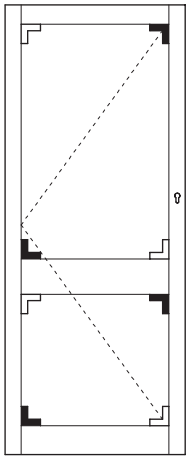


= 202/181 Adjustable Glazing Packer

= Resilient Locating Blocks (see*)

* If factory glazed, additional resilient location blocks are to be fitted.





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Sealing & Cleaning

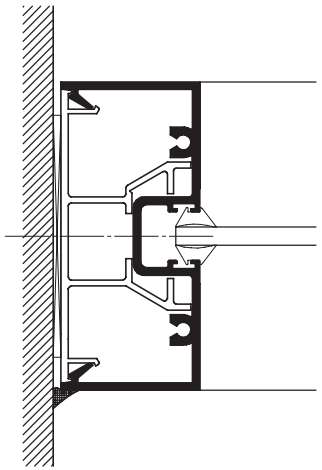
General

Sealing

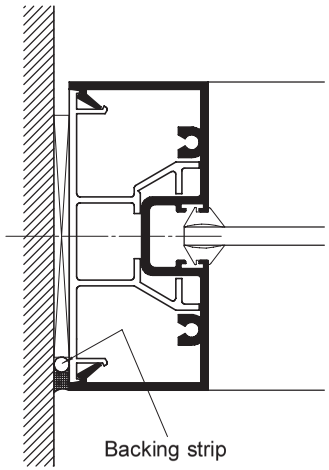
For perimeter sealing of aluminium to masonry, choose a permanently flexible, preferably extrudable, material capable of forming a water tight interface with aluminium and with masonry.

The material chosen should have a prolonged service life, i.e be compatible with SAPA products, which are extremely durable and require minimal maintenance.

Fit backing strip where necessary and apply sealant in accordance with sealant manufacturers recommendations.



For narrow joints apply sealant as fillet.



For wide joints use continuous backing plate or fixing bridge and seal to backing strip

After installation

Take particular care if there is any cement or plaster on the aluminium. It is harmful to the metal finish and ideally should be washed off immediately while it is still wet. DO NOT RUB or particles of grit will permanently damage the metal finish.

If excess sealant is to be cleaned off after installation, ensure that the solvent used cannot damage any metal finishes, synthetic rubber or plastic which may be present.

Cleaning

Use non-alkaline detergent and warm water applied with a soft cloth or sponge (a bristle brush or nylon pad may be used with care where necessary). Except in hostile environments, cleaning is only necessary from the point of view of appearance.

If excess sealant is to be cleaned off after installation, ensure that the solvent used cannot damage any metal finishes, synthetic rubber or plastic which may be present.

Routine cleaning

Relatively frequent, light cleaning is preferable to infrequent, more drastic treatments. Routine cleaning can be usually be conveniently carried out when the glass is cleaned.