survey and installation

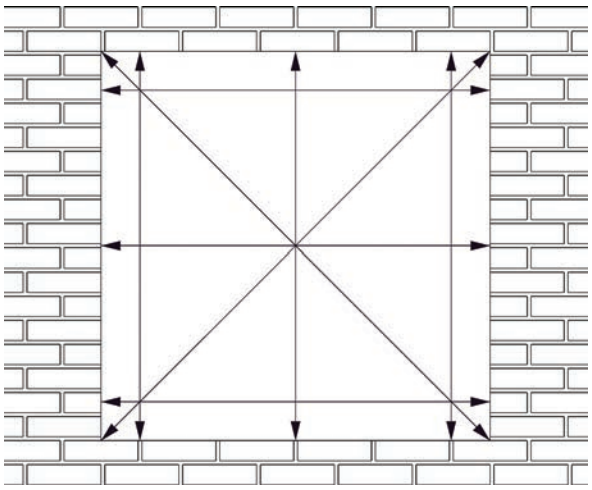


fig.1 Measurement of openings

During the survey stage, it is the responsibility of the installer to take into account the implications of all statutory regulations and health and safety issues.

1 Survey

- a check should be made to confirm there are no structural defects to the aperture. Openings are measured in line with the pattern shown in Fig.1
- the smallest width and height dimensions taken become the 'tight' sizes to be used
- a check across the diagonals is also made to confirm the square shape of the opening
- the preferred method of fixing is determined during the survey, usually in discussion with the client, along with any other issues affecting installation
- ensure installation can satisfy Part B of the Building Regulations (Fire Safety) for egress.

2 Fitting Tolerances

- fitting tolerances, or clearances, are made from the 'tight' sizes recorded above. These tolerances are essential to permit expansion and contraction of the PVC-U framing
- the table shown in Fig.2 is used to determine the tolerances normally applicable
- it will be noted that wider tolerances are necessary for larger frames and particularly for non-white colours
- once the tolerances are deducted and allowances made for, such as stub-cills, the remaining sizes are the frame 'manufacturing' sizes

3 Frame Positioning

• care should be taken to ensure that new frames are correctly positioned in the opening and are located with horizontal members level and vertical members plumb

• temporary packers/wedges should be used to position and retain framing ahead of fixing

4 Fixing Methods

A number of industry-approved methods are adopted. Fasteners and lugs used are suitably protected against corrosion in accordance with industry standards:

A Through frame fixing

Into brickwork, blockwork or other structure with expanding anchors (Fischer or similar) – the minimum penetration into the structure is 40mm.
At each point of attachment, anchors should pass through non-degradable packers to retain the fit tolerance and ensure a secure attachment between frame and structure. Care should be taken to avoid distortion through over tightening to retain correct functioning and designed performance of the finished unit. Where appropriate, self drilling and tapping screws (min. 5mm diameter) can be used to attach frames to thin-gauge steelwork, such as metal lintels. A minimum of two mechanical fixings per jamb are required.

B With fixing lugs

Alternative means of mechanical fixing to (a) above – most commonly used on new build applications to enable factory glazed frames to be used. The requirements for anchor penetration, use of frame packers and quantity of fixing points is as (a) above.

C With polyurethane foam

Typically used at the head where mechanical fixing is inappropriate and with prior agreement with the client. The foam supplier's guidelines should be followed in respect of tolerances and method of use. Foam fixings should only be used where a minimum of two mechanical fixings per jamb are provided.

D Other fixing methods

Other fixing methods should be carefully assessed for suitability and supported by appropriate professional advice.

fig.2

Normal fitting tolerance#

Frame Size	Up to 3.0M	»3.0m to 4.5M*
White PVC-U	5.0M	7.5M
Non-White PVC-U	7.5M	11.0M

Notes

The tolerances shown are per side of the frame. The thickness of any mortar bed should also be allowed.

#Tolerances for polyurethane foam fixing at the head are typically 10-15mm to be effective.

*Frames over 3.0M wide should be made as coupled units with expansion provision.

5 Fixing Locations

Mechanical frame fixings should be positioned in accordance with the details shown in Fig.3

- fixings are not less than 150mm and no greater than 250mm at corner joints
- fixings are no closer than 150mm to transom/mullion centre lines
- intermediate fixings are at max. 600mm centres
- a minimum of two mechanical fixings per jamb should be provided
- frames over 1800mm wide should receive a minimum central fixing point at head and cill
- coupled frames should be carefully aligned during fixing and secured close to the coupling bar ends
- fixings through the cill area should be sealed over against the ingress of water
- polyurethane foam fixing may be used by agreement with client for applications where the presence of steel or concrete lintels makes the achievement of secure mechanical fixing difficult

Foam fixing should not be used as the sole means of fixing. A minimum of two mechanical fixings per jamb should also be provided.

6 Glazing

- glazing should comply with BS 6262 and BS 8000-Part 7 and additionally satisfy the requirements of Approved Document L of the Building Regulations (conservation of energy) and Document N (Safety Glazing)
- glass units and/or panels should be installed in accordance with Deceuninck and the glass supplier's recommendations. Care should be taken to correctly position glazing packers to ensure integrity and prevent opening lights from sagging

7 Finishing and Cleaning

- the making good of reveals should be undertaken to the level agreed at the outset of the contract
- the removal of finishing lines (paint marks etc) of old frames from the structure should be achieved as far as practicable
- following making good, the protective tape on the framing should be removed
- any finishing trims used should be supplied by Deceuninck to ensure a colour match is achieved
- following installation and making good, frames should be cleaned and drainage paths cleared of debris

8 Sealing of Frames

- the fitting tolerance between the frame and structure should be sealed against the ingress of water, and to prevent air leakage, with a sealant appropriate to the application. Low modulus silicone sealants are commonly used with PVC-U framing as they permit differential movement without loss of performance
- on new build applications an internal seal should also be provided in accordance with 'Robust Detailing', referred to in Building Regulations
- frame to structure gaps in excess of 6mm should have a firm closed cell backing strip supplied to avoid the use of excessive sealant and possible 'sinking' during curing

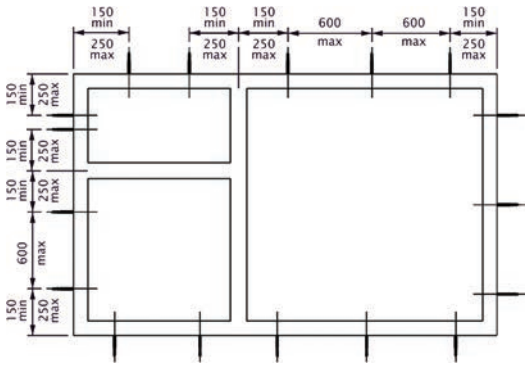


fig.3 Fixing Centres

9 Bay Window

- bay windows require special consideration
- it is important to determine from the survey if the bay is load bearing or not
- corner post arrangements are available to suit both load bearing and non-load bearing bay windows - the correct product should be used
- where any doubt exists, suitable professional advice should be sought (e.g. structural engineer)
- suitable propping (e.g. Acrow props) should be employed during removal and replacement of bay windows
- fixing centres into corner posts and structure generally as flat windows/doors

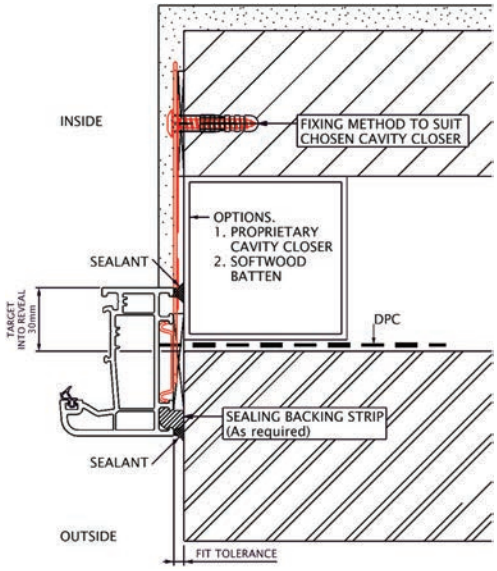
10 Final Inspection

- following practical completion, the installation should receive a final inspection for function, glazing correctness, seal quality and visual appearance
- the final inspection should be conducted with the client/ clients agent

survey and installation
new build applications

1 Typical flush jamb condition

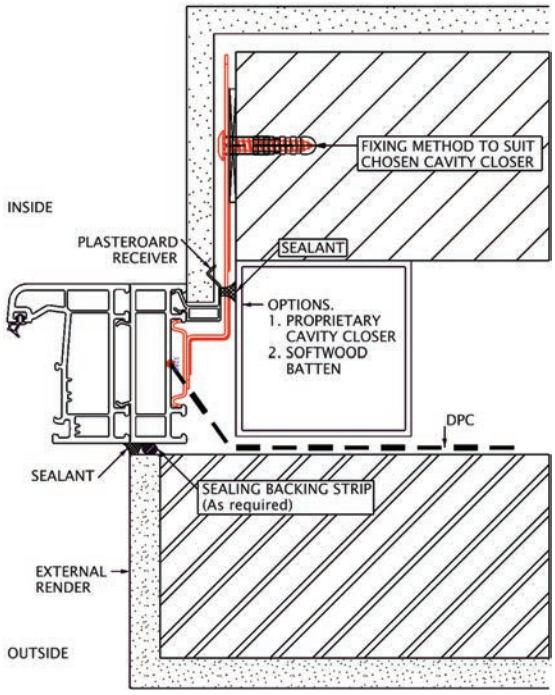
To comply with the requirements of 'Robust Detailing' in the Building Regulations, fixing for new build will incorporate the following detailing:



- fixing to be achieved with a proprietary cavity closer in accordance with latest Building Regulations
- treated softwood battens
- framing should be set back a minimum of 30mm into the cavity for sheltered or exposed zones, and fully into check for very severe zones
- a seal should be applied to both inside and outside
- minimum anchor penetration details are in accordance with industry guidelines

2 Typical stepped reveal condition

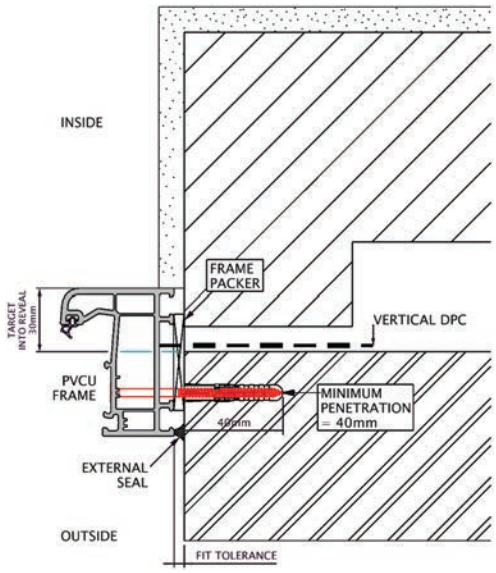
- framing should be set back fully into reveal for very severe exposure zones in accordance with 'Robust Detailing' requirements
- dual seal positions to both inside and outside
- detail shows use of cranked fixing lug and frame packer
- where external rendering or other impervious cladding is used, wider PVC-U profiles, or 'add-ons', may be needed to enable outward opening sashes etc. to function



refurbishment applications

1 Typical flush jamb condition

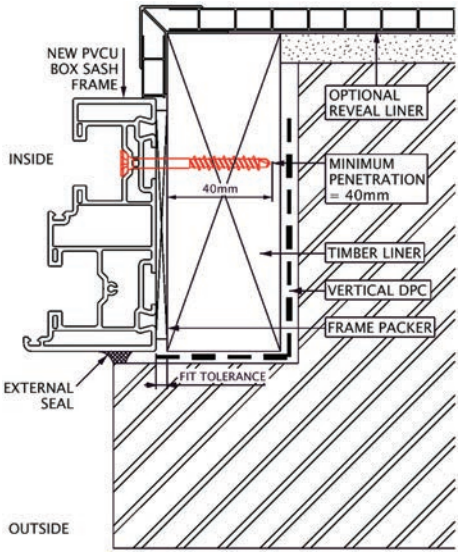
- new PVC-U frames are usually fitted back to the old internal plaster line to minimise making good and the need for redecoration
- matching internal trims can be used to finish internally
- care should be taken to ensure vertical DPC's are correctly repositioned and renewed where necessary
- fixing should be normally achieved with through frame anchors, penetrating the structure by a minimum of 40mm
- fixing is through non-degradable frame packers to ensure the fit tolerance should be maintained and the fixing is secure
- an external seal is applied using an approved sealant



For further information on the Deceuninck range of cladding, internal panelling and Twinson wood composite products, contact the Deceuninck Specification Team

2 Sash box replacement

- where old sash box frames are removed and new frames fitted, it is normal to pack out the internal reveal with a timber liner
- new PVC-U frames can match the old (as shown) or suitable alternative styles can be selected
- making good internally can re-use existing mouldings, have colour matching PVC-U liners and architraves fitted by bonding (as shown) or simply be plastered
- fixing is achieved through the frame with non-degradable packers to retain the fit tolerance
- anchors should penetrate the structure by a minimum of 40mm
- an external seal should be applied using an approved sealant



The above represents typical solutions for refurbishment work among the many available