

INSTALLATION

THERMALLY BROKEN FIXED WINDOWS

USAW800 & USAW800-5 SERIES

FE/BR Windows

DOS Model GWV-15R-USB-03



Contents

1. General notes and information
2. Installation instructions of single windows
3. Installation instructions of multiple field windows
4. Cleaning instructions for glazing
5. Cleaning instructions for framing with anodized surfaces
6. Glass replacement instructions for FE/BR windows
7. Tool set for installation

1. General notes and information

1.1 The USAW800 window is designed for forced entry, bomb blast and ballistic resistance applications.

1.2 The USAW800 window consists of forced entry and ballistic resistant Aluminum profiles and designed to be installed into steel sub frames.

1.3 The USAW800 windows are delivered completely glazed with all glazing beads screwed to the window frame.

1.4 The corners of the window frame construction will be mitered and Crimped

1.5 Finish:

The frame surface finish will be standard Clear anodized Class 1

1.6 Glazing:

The glazing will be in accordance with the relevant resistance requested. It will be shipped regaled.

1.7 Check the final (as built) drawings and the architectural drawings to make sure that the window to be installed is correct.

1.8 Check whether reference number on window frame matches the reference number of wall opening on the sub frame.

1.9 Check that window size and rough opening size are compatible before starting the installation process.

1.10 The glass surfaces are easily damaged or scratched. The protective films may be removed after completion of the installation, field painting and final cleaning.

1.11 Use the following photographic sequence to properly install the single window.

2. Installation instruction of single windows

2.1 Place the crate onto the ground with the arrows showing up.
CAUTION: Check that the top is up, see markings on crate.



2.2 Cut and remove banding and unscrew the side marked (open this side) using a Phillips #2 screwdriver or a screw gun.



2.5 Remove the spacers (Styrofoam or wood) from the sides of the window as well as at the head and bottom. Check for shipping screws holding windows in place these must be removed before windows can be removed from crate.



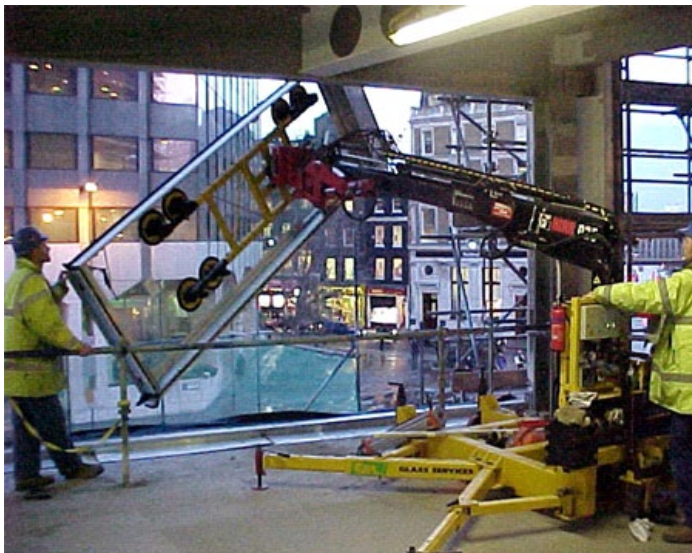
2.6 Lift the window by putting a suction cup on the exterior light of glass. This will be marked.



2.8 Completely lift the window off of the crate and lower it on its side onto two blocks which are placed perpendicular to the window on the floor. This can be performed with many different types of lifting cups.



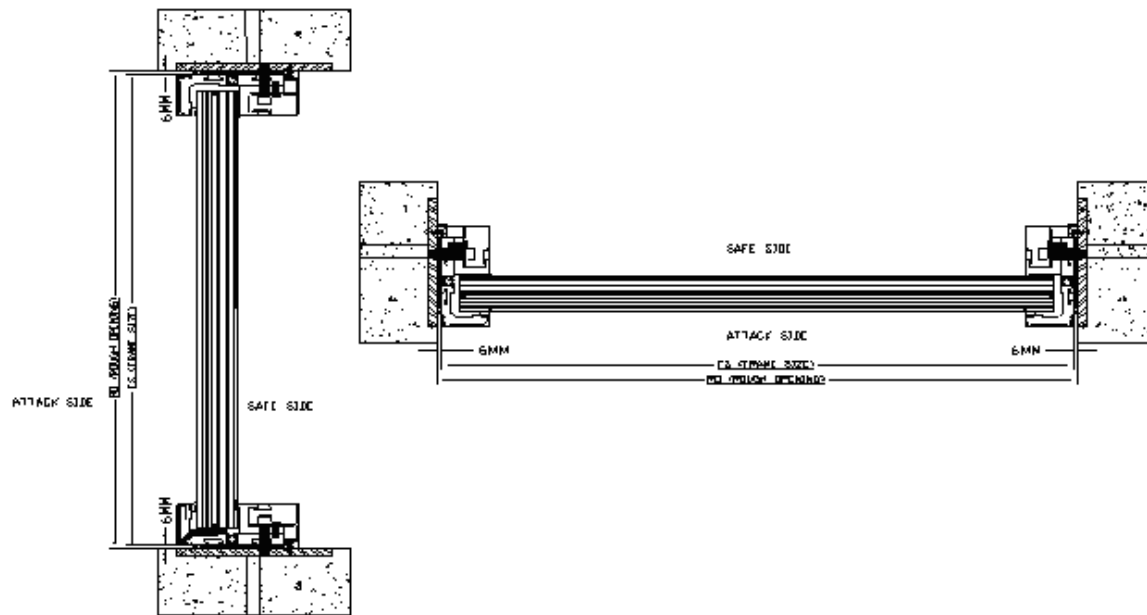
2.9 now place suction cup lifting device on the exterior glass and Transport the window to its installation opening. The window will be easily set by crane from the exterior of the building. If glass is the on the interior side you may lift from the interior side as an option. Do not place suction cups on polycarbonate.



2.10 If there is more than one window in the crate (maximum of four windows per crate) repeat no. 2.4 to 2.9.

2.11 Remove all packing material from area.

2.12 Check rough opening and window frame measurements to ensure a proper fit. Recheck reference number on window and reference number on the drawings. The gap between the window frame and the rough opening must not exceed 6 mm ($\frac{1}{4}$ inch) at any point.

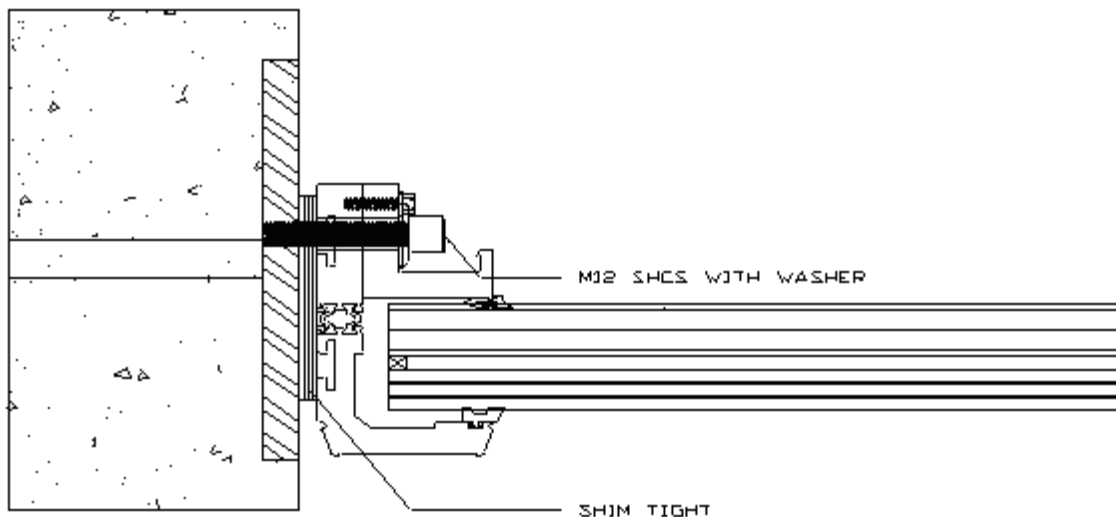


If the rough opening is too large the following corrective measures may be considered: contact the field supervisor.

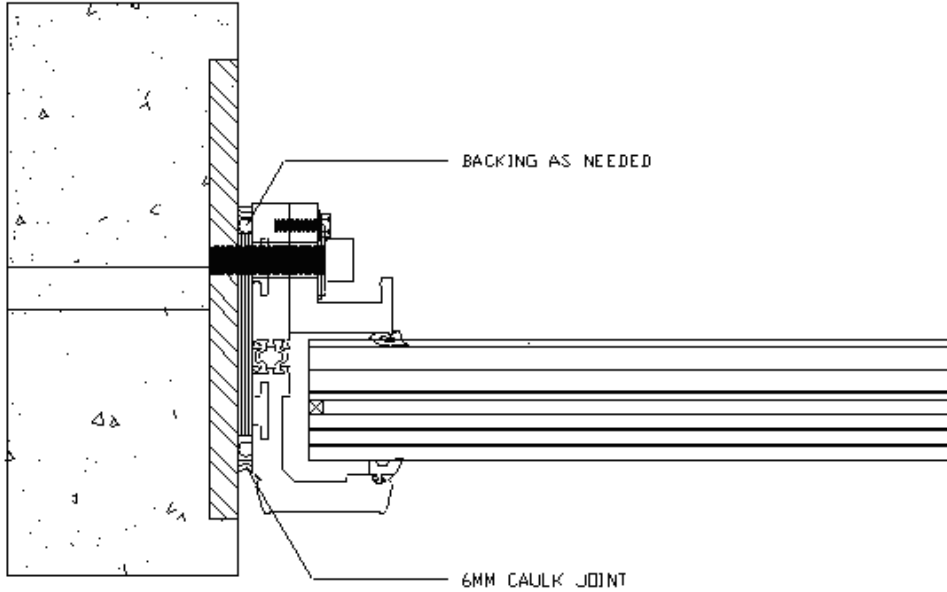
2.14 Place the window inside opening and set on 6mm of shims provide in the accesories box. Place the two of the M 12 screws with washer using a 10 mm Allen in each side of the window. Do not tighten these at this time. Now release the cups and start this process over on the next window.



2.15 Plumb the four sides of the window in the opening using a level. Use plastic shims between the frame and the wall.



2.16 once plumb and level start all M12 screws with washer using a 10 mm Allen and shim around each screw then start to snug all screws. The area between the window and the sub frame must be shimmed tight you must not spread the window when toquing the anchors screws.

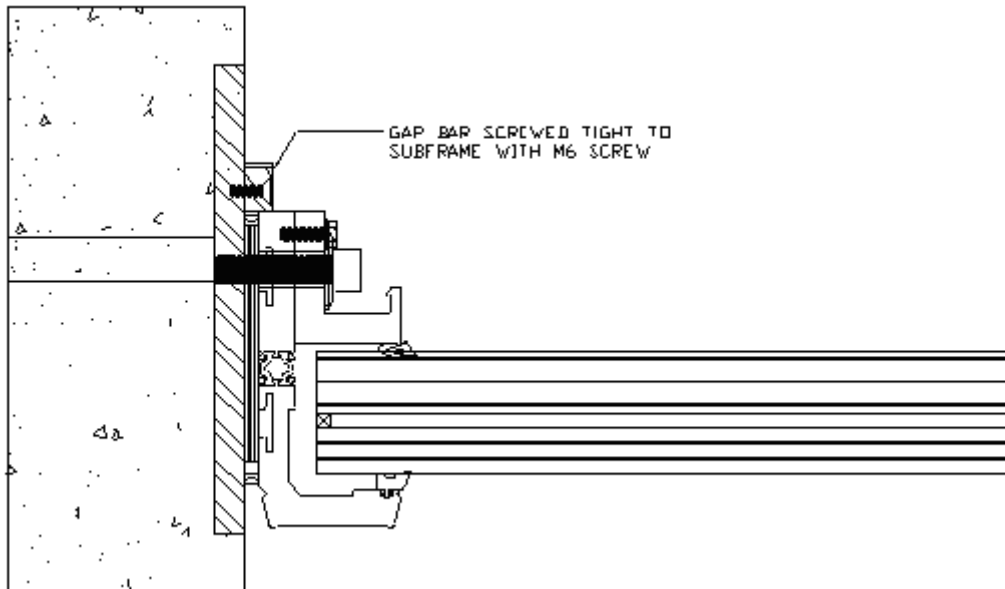


2.17

Now that all anchors are snug torque to 146 NM or 33 foot pounds.

Now the windows should have backing rod installed on the interior and exterior.

Caulk the exterior and interior sides. The exterior caulk should be set far enough back to you have no interference with placing the snap covers.

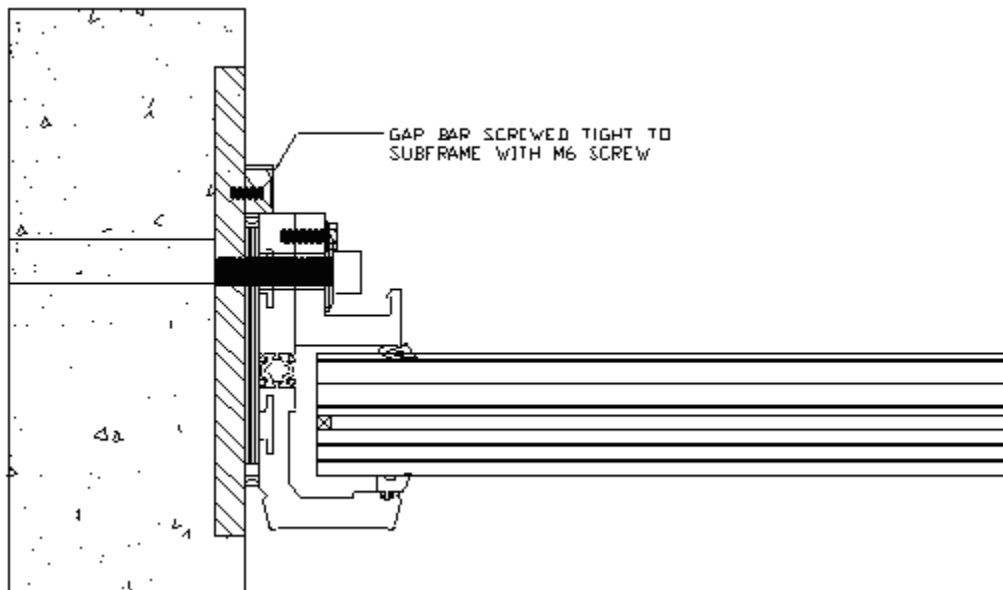


In the case of bullet resistance requirements

Measure for the steel ballistic gap bars. These may need to be cut or ground down with a grinder to fit tight to the window. Place the ballistic gap bar on one sides of the window flat to the wall. Drill in place through the factory drilled holes with a 5mm drill bit. Now tap the holes so the bar can be screwed in place using the M6 screws provided.

Repeat this on the remaining three sides.

CAUTION: There must be absolutely no gap between the steel bar and the wall.



2.19 locate and install exterior and interior snap covers. Do not beat on with a hammer they will dent. Apply pressure to the edges on the snap cover when trying to install them. If needed get a small wood block and place on the edge of the cover using a no bounce hammer you may tap the wood block to fully engage the snap covers.

3. Installation description of multiple field windows

3.1 Installation of the USAW800 multiple field window is similar to the single window with the following exceptions:

3.2 Before starting unpacking the windows check the rough opening size.

3.3 Bring the crate containing the multiple field windows as close to the rough opening as possible.

Depending on the final size of the multiple field window the joint (joints) necessary for transportation between the single windows will be screwed Together through the predrilled holes using the M12 provided screws after the window is inserted into the rough opening of the building structure or while the windows already sit in the rough opening.

4. Cleaning instructions for glazing

4.1 Introduction

Glazing as part of the façade is subject to natural staining and staining during the construction time. Normal stains.

4.2 Types of cleaning

4.2.1 During construction time

In principle any aggressive stains must be avoided during the construction period. However if stains occur they must be removed immediately by the originator using non aggressive agents.

Concrete and cement mud, plaster and mortar are very alkaline and result in corrosion of the glazing if they are not removed immediately with clear water.

Stains consisting of dust and granular materials must be removed professionally however on no account without the use of water.

The so called First Cleaning after the construction period is used to clean the elements after completion of the building. The First Cleaning can not be used to remove all stains and contaminations that occurred during the entire construction period.

4.2.2 During use of the building In order to maintain the characteristics of the glazing during its lifespan it is necessary to professionally clean in regular intervals.

4.3 Cleaning instructions for glazing

The following suggestions apply to all glazing used in buildings.

When cleaning glass it is always necessary to use clean water in order to avoid any scratching of the glass by dirt particles. Possible tools for the cleaning of glass is e.g. soft and clean sponges, leather, cloths or rubber wipers. Additionally the cleaning process can be assisted by the use of commercial glass cleaning agents or neutral cleaning agents. If the stains on the glazing consist of grease or sealant residues, the removal can be done using commercial solvents such as denatured spirit or isopropanol. The use of chemical cleaning agents such as alkaline, acids and agents containing fluorides are prohibited.

The use of pointed or sharp metal objects e.g. blades or knives can cause surface damage (scratches). A cleaning agent must not damage the surface visibly. If damages of the glass products or glazing surfaces are noticed during the cleaning process, which are caused by the cleaning the cleaning process must be stopped in order to avoid additional damages. Information on how to proceed must be obtained.

5. Cleaning instructions for Aluminum framing and painted surfaces

5.1

Painted surface finish will last many years if properly cared for. surfaces can be influenced by the atmosphere as well as environmental conditions. There are no maintenance-free surfaces, they contaminate with time and their appearance can deteriorate. Cleaning at regular intervals are necessary in order to keep the appearance and protect the n surfaces from environmental influences.

Use water and surface-active agent together with a soft brush to clean the surface carefully. The pH-value should be between 5 and 8. Do not use any abrasive agents, solvents, steel wool, fluorides, chlorides or similar which could affect the surface.

The compatibility with surrounding materials (e.g. glazing or sealants) must be ensured.

Afterwards use a cleaning agent and a clean cotton cloth to clean the surface. Sample at a hidden part of the element. After cleaning use clear water and a sponge to remove any remaining cleaning agent. There must be no cleaning agent left over in any gaps or joints of the construction.

6. Glass replacement instructions for windows

Carefully uncrate the glass. Note that even though this material is forced entry/bullet resistant, it will chip by a careless tap of a hammer or wrecking bar and will crack and break when dropped. During the glazing process, do not allow the glass to rest on one of its corners.

Security glazing are also very heavy and can weight up to approx: 140 kg/m² To determine the size of replacement glass needed, measure the vision opening of the attack side of the window and add 48 mm to the measured width and height. Follow the steps outlined below to remove old glazing and reglaze the window.

6.1 On the internal/protected side of the window remove the snap covers by prying with very light force in an upward direction. Mark the installation position (top/bottom) of the covers.

6.2 Mark the installation position (top/bottom) of the glazing bead frame then Unscrew using an Allen wrench no 10.

6.3 Lift glazing bead frame from window assembly.

6.5 position suction cups on glass and carefully pull the glazing out the internal side. Ensure that the glazing does not fall from the glass opening.

CAUTION: The glazing is very heavy and can weigh up to 140 kg/m²

6.6 Remove the glazing from the glazing rebate using suction cups.

6.7 Completely clean the glazing rebate of any glass debree or setting blocks. Remove external gasket.

6.8 Remove glass from the crate and lay it flat, removing wrapping paper if necessary.

6.9 replace external gasket onto frame.

6.10 Put two setting blocks, thickness 6 – 7 mm, each approx. 5 cm from the edge, into the glazing rebate at the bottom.

6.11 Carefully insert the glazing using suction cups. Make sure the gap between glass and frame is approx 6 mm all around the frame. Check that the external face of the glazing is correctly seated.

6.12 Secure the glazing against dropping out and fill the glazing rebate with a Wedge gasket.

6.13 Reinstall the glazing bead frame in the original position and screw tightly using an Allen wrench. Install all snap covers. Installation is complete.

Tool Set

The following list gives the tools recommended for the installation:

- Screw-gun and drill
- 4 piece suction-cups for the glazing
- Level length 80 cm
- Level length 2 meter
- Screw driver with Phillips-bits size 1,2,3
- drill bits # 5mm # 10.2mm
- Screw-taps m12 x 1.75m 6 x 1
- Allen-head bits or sockets size 4. 8.10 mm
- Angle-grinder
- Tap handle
- Torque wrench
- Hammer-drill with 6, 8, 10,12mm drill-bits
- Hand-drill and different size of drill-bits