

# Installation guide and sitework details

For 5000, 7500, 1050, 3500, 2500, 5 Bar and HSE 75 series

## Typical floor finishes

These details are intended as a general guide to correct installation - it is appreciated that site practice can vary depending on the design of slab, type of finish etc.

Further advice is always available from our technical department who can be contacted between the hours of 9 am and 5.30 pm on 01920 463230, or alternatively you can email them at [info@howegreen.co.uk](mailto:info@howegreen.co.uk).

## Preparation

Covers are supplied ready for installation internally without further preparation. In external locations, or those that may be permanently wet, all aluminium surfaces in contact with concrete should receive two coats of bituminous paint.

## Single covers

- 1 The cover should be placed into the outer frame and securing bolts screwed in loosely if applicable. For stainless covers bend out anchor lugs.
- 2 The whole assembly should be bedded down to the correct level. Haunch mortar up on outside of outer frame, to prevent any possible distortion of outer frame when surrounding floor finish is laid.
- 3 Leave the bedding mortar to cure, then complete the surrounding floor finish.
- 4 The cover should now be filled (with the exception of the 5 Bar series) without removing it from the outer frame, and using spacers provided between cover and frame. (Note that the design loading and if applicable, fire resistance can only be achieved if the infill is equivalent to the 28 day cube strength of OPC concrete of 40 MPa.)
- 5 When properly set remove cover and clean taking care not to damage any seals. Make good pointing to the underside of the outer frame. Replace cover.

## Duct covers

- 1 The outer frame will be either of one piece construction if size permits or sectional if large. If it is sectional several covers will have been screwed into the outer frame sections (these should now be loosened) to pre-space to the correct span dimensions if possible. If the unit incorporates steel beams, the beam receiving pockets (if not already attached to the outer frame) should be fitted using the screws provided. Fix stop ends to the end of the outer frame section with connecting spigots supplied. These are only for the purpose of locating one length of outer with the next and are not intended to provide a full strength joint.
- 2 Fix anchor lugs to the outside edge of the outer frame by crimping with pliers at approx. 600 mm centres. For stainless covers, bend out anchor lugs.
- 3 Place all of the removable cross members into position, (if fitted) then bed frame down to correct line and level, (if the frame is sectional working away from the stop end) making sure that the frame remains straight and is not distorted in any way. If universal beams are incorporated they require levelling by placing packing mortar between base of beam pocket and loose beam seating plates supplied.
- 4 As work proceeds place loose covers into duct frame to check that the gap between the outer frames is correct making sure that spacers supplied are used between cover and frame to maintain a minimum 1mm joint.
- 5 When outer frame is properly set remove any "spacer" covers that have been screwed into the outer frame and place in correct position in the duct frame along with all of the loose covers making sure that spacers are used to maintain a minimum 1mm joint between the cover and frame, and bolts if fitted are screwed in loosely. The covers may now be filled (with the exception of the 5 Bar series) and the floor finish to the outside of the outer frame completed. Again taking care not to distort either the cover or the outer frame sections. Larger span covers may require propping from below to prevent distortion caused by the weight of the wet concrete infill. (Note that the design loading and if applicable, fire resistance can only be achieved if the infill is equivalent to the 28 day cube strength of OPC concrete of 40 MPa.)
- 6 When properly set the covers should be removed, and cleaned taking care not to damage any seals, the joint between the cross members, (if fitted) and outer frame should be sealed with mastic.

## HSE 75 series

- 1 Remove the hinge securing bolts, then lift out the cover from the outer frame. Assemble the lower gas spring fixing brackets with the outer frame using the bolts supplied.
- 2 Bed the outer frame on mortar to the correct line and level ensuring that the lower gas spring brackets are in contact with the vertical concrete face of the pit wall.
- 3 Mark and drill the 8 fixing holes through the lower gas spring brackets into the vertical concrete face of the pit wall, and then bolt to the concrete using suitable fasteners.
- 4 At this stage the cover should be positioned within the outer frame and the hinges bolted to outer frame, the safety stay should also be attached using the bolts provided. The hinges should now be adjusted to provide a minimum 1mm gap between the cover and frame (stainless version only), the spacers provided should be used to maintain the minimum 1mm gap. Haunch mortar up on outside of outer frame, to prevent any possible distortion of outer frame when surrounding floor finish is laid.
- 5 Leave the bedding mortar to cure, then complete the surrounding floor finish.
- 6 The cover should now be filled without removing it from the outer frame. (Note that the design loading and if applicable, fire resistance can only be achieved if the infill is equivalent to the 28 day cube strength of OPC concrete of 40 MPa.)
- 7 When properly cured the cover should be lifted with care using the keys provided making sure the safety stay engages. The cover and frame should be thoroughly cleaned taking care not to damage any seals or intumescent strip fitted. Make good pointing to the underside of the outer frame.
- 8 The gas springs should now be screwed into position, then the cover can be gently lowered and locked into the closed position.

## Lifting and maintenance procedures

- 1 Remove all bolts from the lifting points using key provided except the 5 Bar series where the bolts should be loosened.
- 2 Screw in by at least 12 mm a lifting key into each lifting point except the 5 Bar series where the key should be positioned under the bolt head. A lifting device should be used where the weight to be lifted exceeds the Manual Handling Operations Regulations 1992.
- 3 Lift out cover without dragging across outer frame to avoid damage.
- 4 Clean thoroughly both the seating and cover checking the condition of the double base seal and intumescent seal if fitted, also checking the top edge dirt seal. Then re-treat the underside of the cover with waxoil or similar inhibitor if required.
- 5 Check condition of gas springs on HSE 75 series.
- 6 Replace cover carefully and insert all securing/plug bolts taking care not to over tighten.

Should any of the seals, bolts or other removable components be damaged or missing they are available for replacement.