



Detailed Step by Step Guide:

How to Install Arrow Freestanding Precast Concrete Wall

To be read in conjunction with the relevant ACP Concrete Installation Drawings

Overview - IF IN DOUBT THEN ASK

It is recommended that all persons involved in the off-loading and installation of any concrete panels should have training and hold current certificates in all relevant areas such as craning, forklift truck operation, use of access hoists and carry current CSCS cards.

All persons must be equipped with safety clothing including boots, gloves, high visibility clothing, hard hats & safety glasses. Where concrete cutting or grinding is to be carried out, dust masks must be used.

THESE NOTES ARE ONLY ISSUED AS GUIDANCE. ALL SPECIFIC SAFETY INSTRUCTIONS REGARDING WORKS WITHIN THE SPECIFIC SITE MUST BE FOLLOWED AT TIMES.

Hazards

Main hazards include working with mobile plant & machinery, working with suspended precast units, working within a construction site and damage to structure and third parties. Working at heights and falls.

Risks

Main risks associated include death, crushing, dust inhalation & falls.

Environmental

There are no specific risks to the environment other than dust and noise during cutting operations.

Manual Handling

There should not be any manual handling of items over 15kg required.

Any manual handling tasks must be executed in accordance of Manual Handling Regulations by persons trained in manual handling.

Plant Required

- Crane, Forklift or Telehandler – Specification to suit unit weight.
- Simple 3 leg lifting chains
- Hand tools

Arrow Panel Bunker Panel - Installation Method

Units up to 3.0m Tall

Step 1

Suitable site access and safe unloading areas must be arranged prior to delivery of units. If there is any concern over ground stability then an engineer must be consulted. Units up to 3.0m tall are transported in the upright position. Unloading can be made using suitable tested fork truck or telehandler with tines inserted into the recesses cast into the base of the units. Units must be placed on level firm clean ground and units stacked as on the delivery vehicles.

Step 2

Units should be lifted using suitable telehandler or crane with a simple certified, tested chain with safety hooks onto tested RD30 wire loop lifter (available from ACP Concrete Ltd) located in lifting inserts cast into the top edge of the panels. Checks of rated lifting capacity of loader, lifters, chains or slings MUST be made against weights of Units before handling. Check lifters and chains are fully secured.

Units over 3.0m Tall

Step 1

Suitable site access and safe unloading areas must be arranged prior to delivery of units. If there is any concern over ground stability then an engineer must be consulted. Units over 3.0m tall are transported lying on the lorry bed. Access to the vehicle bed is required to attach lifting clutches and chains – a fall arrest system must be utilised to protect from falls off the lorry bed. Suitable, certified, tested chains with safety hooks must be attached onto tested RD30 Wire Loop Lifters (available from ACP Concrete Ltd) located in lifting inserts cast into the edge of the panels. Checks of rated lifting capacity of crane, lifters, chains or slings MUST be made against weights of Units before handling. Check lifters and chains are fully secured. Units must be placed on level firm clean ground and units stacked on timbers as on the delivery vehicles.

Arrow Panel Bunker Panel - Installation Method Continued

Units over 3.0m Tall

Step 2

Suitable site access and safe unloading areas must be arranged prior to delivery of units. If there is any concern over ground stability then an engineer must be consulted. Units over 3.0m tall are transported lying on the lorry bed. Access to the vehicle bed is required to attach lifting clutches and chains – a fall arrest system must be utilised to protect from falls off the lorry bed. Suitable, certified, tested chains with safety hooks must be attached onto tested RD30 Wire Loop Lifters (available from ACP Concrete Ltd) located in lifting inserts cast into the edge of the panels. Checks of rated lifting capacity of crane, lifters, chains or slings MUST be made against weights of Units before handling. Check lifters and chains are fully secured. Units must be placed on level firm clean ground and units stacked on timbers as on the delivery vehicles.

Single precast units should be transported from stacking area to installation area and lifted to the vertical by re-attaching the lifting clutches into the top of the units

All Units

Step 3

Panels should either sit directly onto clean level structural floor slab or may be bedded on a suitable high strength mortar. The floor slab/base must be free of any loose material before setting the panels up (otherwise spalling may occur). Ensure first panel is in correct position and is vertical in all planes. Ensure all panels are true and level and pack under panels to achieve level top line if required. Set packers to ENSURE that at the highest point on the foundation strip no packers will be required. Square sections (40mm x 40mm) steel shims are suitable packers

Step 4

Check top height as work goes on. There may be a slight variation in the length of panels (+/- 3mm) so check top height in centre of each panel with survey level and by eye. It is desirable that the leading edge of each panel is vertical.

Step 5

IF FIXING INTO POSITION - Using suitable drilling equipment, drill holes into foundation / floor slab concrete through the preformed holes in the panel toe. Clean holes, insert Excalibur bolts and tighten to recommended torque setting as detailed on fixing guidance notes (supplied with bolts).

Step 6

Corners are made up of Sloped and Standard units. Firstly install Standard unit as above. All sloped panels must be lifted from above using the appropriate lifting shackle. Once positioned, a secure connection should be made using the fixing bolts provided. Drill through the standard panel into the centre of the sloped panel (in most cases preformed holes are cast into unit to form either left, right or central corners). Insert the fixing bolts in accordance with the supplier's recommendations.

Step 7

Fill any lifting holes (if used) and any areas damaged during installation with a bonding mortar using a suitable SBR (i.e. Unibond, Sika Latex etc)

Step 8

Apply surface protection where necessary.

Step 9

An annual maintenance check should be carried out by a suitable responsible person. Check all surfaces and fixings for any signs of corrosion. Also check all surfaces of the panels and supporting structures for any signs of cracks or impact damage. A qualified engineer must be contacted if any corrosion or cracks are noted.

IF IN DOUBT ASK, WE WILL BE PLEASED TO HELP.
contact us. [{link}](#)

Safe Storage & Disposal of Materials

Sika Grout 111

- No special consideration for storage other than avoidance of frost. Store in dry conditions.
- No special requirement for disposal of packaging. Avoid litter and use skips on site.
- Remove unused packs from site for later use on other contracts.
- Avoid watercourses with material and packaging.

Concrete Panels

- No special consideration for storage
- No special requirement for disposal

Typical Unit Weights – 1.0m Wide

1.5m - 1.62t	3.0m - 2.37t
2.0m - 1.80t	3.6m - 2.59t
2.4m - 1.94t	

DISCLAIMER

Please note that any information provided is to be used as a *guide only*. Any lifting/handling operations should be carried out by trained and competent personnel only. ACP Concrete Limited will not be held responsible for any damage or injuries in connection with handling or installation not carried out by ACP (Concrete) Limited.