



## Design Guidance - Site Works

### R35 Lightweight Precast Concrete Wall Panels

#### Panel Support

The minimum support area for each end of the panel is as follows:

- Panels up to 150mm thick - 150mm x 150mm
- Panels 180mm thick – 180mm x 180mm
- Panels 250mm thick – 250mm x 250mm

The support area must be designed to carry the full line load of the wall panels without bending and must be a smooth flat surface.

#### Vertical Joints

- Panel edges are cast with a plain butt joint detail with chamfered 15mm x 15mm edges.
- Panel lengths are calculated to produce a theoretical 10mm to 15mm vertical gap between panel stacks. Tolerance in the erection of the structure and the cross section of the precast units will result in a joint varying from 0mm to 30mm.
- This variation may occur joint to joint or within any individual vertical joint.
- Mastic sealant applied to the joint is designed to accommodate these variations.
- External joints can also be sealed as above if included in the quotation.

#### Horizontal Joints

- Panels have plain edges and no structural joint.
- Consideration should be given to the use of a compressible material in the horizontal joints. Any foreign material should be removed from the joint surfaces prior to assembly.
- Variations in panel cross sectional dimensions will produce small deviations in the panel joints.
- Edges have a chamfered 15mm x 15mm detail and mastic sealant applied to the joint recess is designed to accommodate these variations.

#### Erection Systems

- Panels are erected using clutches located in cast inserts.
- Erection inserts may require cleaning prior to attaching lifting clutches.

#### Floor Joint

Attention should be paid to the design to the floor to wall joint detail.

[www.thomasarmstrongacpconcrete.co.uk](http://www.thomasarmstrongacpconcrete.co.uk)

#### Vertical Internal Joint Sealant

- Internal joint seal is provided with a one-part polyurethane mastic sealant (where included in the quotation).  
**FOR FIREWALLS ONLY** - Intumescent mastic sealant applied to the joint is designed to accommodate these variations.
- Joints must be filled with backing material (not supplied) prior to sealant application.  
**FOR FIREWALLS ONLY** - Joints must be filled with fire retardant foam backing material (not supplied) prior to sealant application.
- Sealant is gunned to vertical joints and tooled into recessed "V" shaped joint.
- Sealant is supplied to provide a moisture and dust barrier and is not designed to produce an aesthetic jointing detail.
- Some curling of sealant edges may be expected during curing.
- The "V" joint is not designed to be full filled with sealant.

#### External Joint Sealant

- Where selected external joint sealant is provided with a one-part polyurethane mastic sealant (where included in the quotation).  
**FOR FIREWALLS ONLY** - intumescent mastic sealant should be used.
- Sealant is applied and treated exactly as internal joints.

#### Damage

- In the event that precast units suffer small chips and superficial damage to unit surface this damage should not compromise the unit's structural integrity but can be repaired as below.
- Any areas should be repaired with a high strength mortar.
- Colour matching of suitable repair mortar and the precast unit is not possible due to high strength requirements of the repair.
- Once the repair is fully cured, the panel joint should be cut and mastic applied as above.

**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.