



# Section C Properties

Logicwall® Properties, Concrete Core Fill, Steel Studs, Panel Facing Sheet, Adhesive, Materials Handling, Storage and Safety.



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# C1. Properties

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## Concrete Core Fill

The concrete supplier is responsible to provide a mix design that is suitable for filling AFS Logicwall®. The concrete core fill mix must be designed with enhanced flow characteristics. Such concrete is available from most of the major concrete suppliers concrete

suppliers. The installer is responsible for achieving a dense homogeneous mass of concrete in each pour whilst avoiding blowouts. For details, refer to Core filling of walls in the installation guide (Section K) of this manual.

## Steel Studs

The AFS Logicwall® studs which comprise the frame inside the panel are roll formed from Galvabond G2 0.55BMTZ275 coil steel. This is a hot-dipped zinc-coated commercial forming steel with a spangled surface and conforms to AS1365 and AS1397.

A material specification sheet is available upon request. The AFS Logicwall® steel studs are a patented designed stud with large flared hole penetrations at 200mm centres to facilitate concrete flow and self compaction.

## Steel Stud Properties

TABLE C1: Gross Stud Properties (without hole punch)

Type	BMT (mm)	$t_w$ (mm)	Astud (mm <sup>2</sup> )	$I_{xx}$ (mm <sup>4</sup> x10 <sup>3</sup> )	rx (mm)
LW120	0.55	108	102.9	180.0	41.96
LW150	0.55	138	117.6	309.9	51.34
LW162	0.55	150	125.3	391.8	55.92
LW200	0.55	188	146.2	678.2	68.11
LW262	0.55	250	180.3	1,378.8	87.45

TABLE C2: Net Stud Properties (with hole punch)

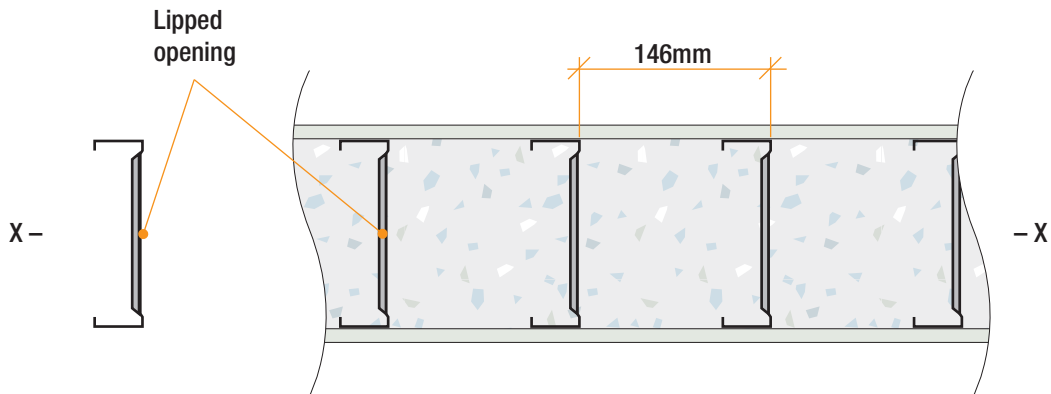
Type	Stud Spacing (mm)	$t_w$ (mm)	$t_{total}$ (mm)	$D_{punch}$ (mm)	A.stud (net) (mm <sup>2</sup> )	$I_{xx}$ (mm <sup>4</sup> x10 <sup>3</sup> )	$A_c\%$ (mm)	$f_{.stud}$ (MPa)	EQ Factors	
									$\mu$	$K_{Co}$
LW120	146	108	120	70	63.69	164.2	47.1%	300	0.741	0.235
LW150	146	136	148	100	68.09	276.5	52.3%	300	0.756	0.260
LW162	146	150	162	100	75.79	358.4	47.2%	300	0.742	0.236
LW200	146	188	200	134	77.99	602.9	50%	300	0.75	0.25
LW262	146	250	262	211	115.39	1303.5	39.7%	300	0.75	0.25

TABLE C3: Studs

Studs	MPa
$f_{sy}$	300
$f_u$	340

## Steel Stud Spacing

Fig C1: Steel Stud Plan



Steel Stud Spacing (continued)

Fig C6: LW120 – 108 Stud

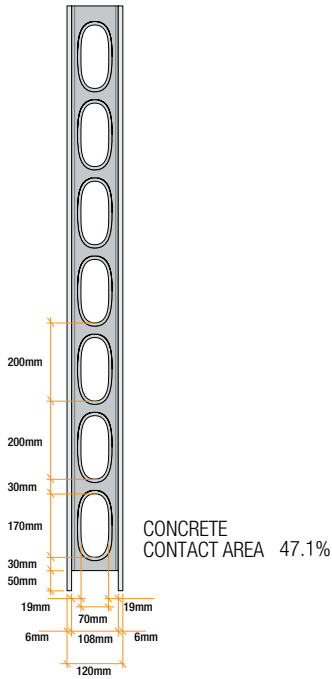


Fig C5: LW150 – 136 Stud

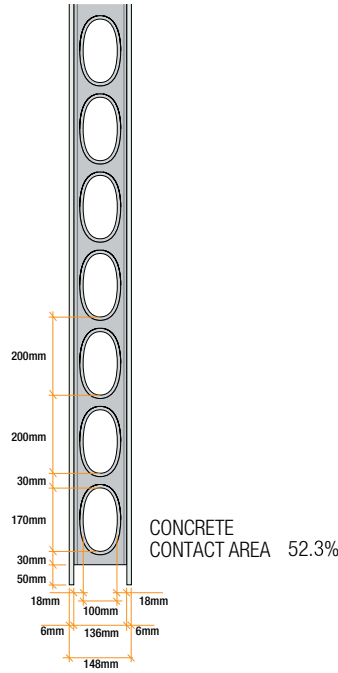


Fig C4: LW162 – 150 Stud

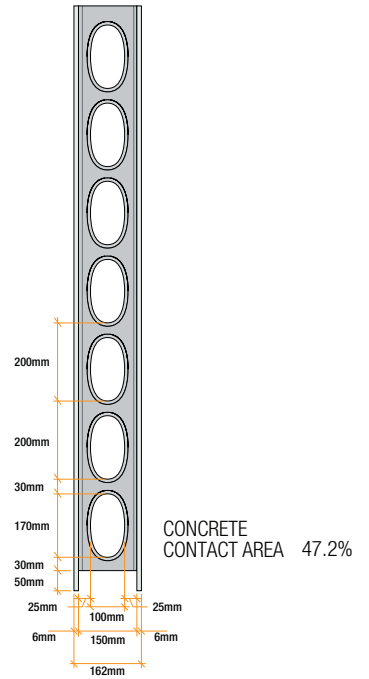


Fig C3: LW200 – 188 Stud

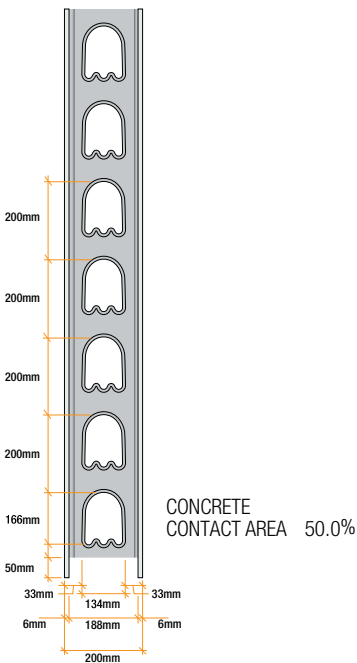
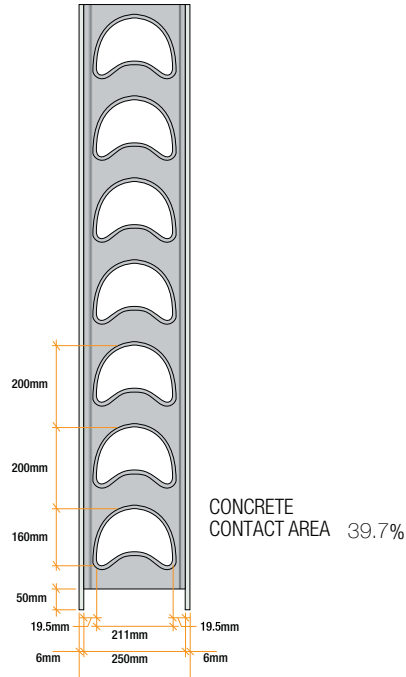


Fig C2: LW262 – 250 Stud



## Panel Facing Sheet

AFS Logicwall® is faced with 6mm recessed edge, fibre cement sheeting which is bonded and pressed to the galvanized stud frame. The sheeting is an autoclaved, cellulose fibre reinforced cement sheet which is resistant to permanent water damage and will not rot. The sheets have a recess at both long

edges for specified jointing methods. The fibre cement sheet becomes the wall face and provides a suitable substrate for applied finishes and conforms to AS2908.2 – Cellulose Cement Products Part 2 Flat Sheets.

## Adhesive

The fibre cement sheets are bonded to the steel stud frame using AFS Logicwall® specified adhesive. This has been specially designed to withstand the concrete pressures at infill stage.

AFS Logicwall® adhesive is a polyurethane product that is both an adhesive and a sealant.

## Materials Handling, Storage and Safety

### Handling and Storage

AFS Logicwall® panels should be stacked flat, off the ground on a level platform or on support members which extend the full width of the panels and are spaced at a maximum 800mm centres. Pallets of panels must be craned onto the working deck as close as possible to the erection location.

### Panel Lifter

Although panels can be placed by hand for panels over 3.3m in height, AFS recommends the use of lifting bars as shown in drawing P2445 AFS-LB-LW Rev1 – Logicwall® lifting bar details, prepared and certified by MYD consulting engineers. Refers to Certification section L for afs lifting bar certification.

### Pallet Lifter

AFS recommend the use of an approved and certified pallet lifter for the unloading of panels and packs on site. Pallet lifter safety guide handbook available upon request. Care must be taken to avoid damage to the panel edges, ends and surfaces. To ensure optimum performance, store panels under cover and keep dry prior to erecting. If the panels become wet, allow to dry before erecting and core filling.

Fig C7: Lifter



## Safety

Breathing in the dust liberated when cutting or grinding the fibre cement sheet on AFS Logicwall® panels is hazardous. It is the builder's responsibility to ensure that safe work practices are adopted. These include the following:

- Minimise dust by using hand methods to cut fibre cement sheets, i.e. tungsten-tipped score and snap knife; hand guillotine or hand saw.
- If power tools are used, they should be fitted with an efficient and well maintained on tool dust extraction device with a HEPA M class filter. Use a plunge saw with a specifically designed fibre cement blade.
- Work in the open air and within external openings (such as doors and windows in buildings) is recommended.
- Local mechanical ventilation/extraction may be required to control airborne dust levels.
- If generated dust cannot be avoided follow personal protection recommendations. Use a vacuum fitted with a HEPA M class filter instead of sweeping when cleaning dust generated from fibre cement panels.

- The Personal Protective Equipment required may vary from site to site and from time to time, and it is the responsibility of every individual to ensure that they use the appropriate equipment to safeguard themselves and those around them.

The basic toolkit should include, but not necessarily limited to:

- A- Dust masks
- B - Safety gloves
- C - Hearing protection
- D - Barrier cream / lotion
- E - Eye protection

## Material Safety Data Sheets

MSDS sheets for the following components are available on request:

- FC Sheet
- AFS Adhesive
- Steel Stud

**Fig C8: Personal Protective Equipment**

