Timber

Timber sizes

Timber is available in three surface finishes: rough sawn, gauged or dry dressed. For a nominal (call) size, the actual (finished) dimension will vary depending on the way it is finished.

Table 7.3 outlines the actual size of a piece of timber for a given call size and finish. (Note: These call and finished sizes refer to traditional framing and finishing timbers in accordance with NZS 3604.)

Sawn timber is generally available in sizes up to 300 mm x 100 mm and in lengths up to 6 m. Length is measured in 300 mm increments, usually starting at 1800 mm for framing

Green Actual Finished Size

Gauged

Table 7.3 Standard framing call and finish sizes.

Call size (mm)	Rough sawn (mm)	Gauged (mm)	Dressed (mm)
25	25	–	19
30	30	–	25
40	40	37	35
50	50	47	45
75	75	69	65
100	100	94	90
125	125	119	115
150	150	144	140
200	200	194	180
225	225	219	205
250	250	244	230
300	300	294	280

(Adapted from NZS 3601: 1973 *Metric dimensions for timber* with the permission of Standards New Zealand.)

Colour of treated timber

In addition to end branding framing timber for H1.2 and H3.1, a general body tint colour is used:

- Pink – boron, H1.2.
- Green or no added colour – propiconazole and tebuconazole, permethrin, H3.1.

The use of off-site fabrication increases the difficulty in identifying timber treatment types on site. Designers and specifiers and anyone supervising construction should insist that all suppliers of all timber components arriving on site provide certification of the treatment used.

Table 7.1 Required treatment levels for different end uses of radiata pine in timber-framed buildings.

Timber to be used for	Minimum required treatment	Timber to be used for	Minimum required treatment
External timber use			
piles	H5	poles	H5
deck piles in ground	H5	exposed subfloor framing	H3.2
veranda posts supported clear of ground	H3.2	veranda posts in ground	H5
deck jackstuds supported clear of ground	H3.2		
Clear of ground			
deck joists/bearers	H3.2	wall framing weather exposed	H3.2
decking	H3.2	roof framing weather exposed	H3.2
cladding or exterior trims unpainted, clear finished or stained	H3.2	shingles/shakes	H3.2
cladding or exterior trims painted	H3.1	exterior plywood unpainted or used as bracing	H3 CCA
fence rails and palings	H3.2	exterior plywood painted	H3 LOSP
fence posts	H4	balcony barrier exposed	H3.2

Framing timbers [1,2]			
external wall framing direct-fixed cladding	H1.2	external wall framing E2/AS1 cavity cladding	H1.2
balcony wall framing enclosed	H1.2	cavity battens	H3.1
parapet framing	H1.2	interior wall framing	H1.2
roof framing – low slope/skillion	H1.2	enclosed cantilevered floor joists	H3.2
roof framing – roof space	H1.2	roof sarking timber	H1.2
enclosed subfloor framing	H1.2	roof sarking plywood membrane roof	H3 CCA
Interior timbers			
window reveals to aluminium windows	H3.1	furniture	untreated
plywood	untreated	finishing timbers	untreated
flooring	H1.2	joinery	untreated

Note:

1. Douglas fir may be used untreated on low-risk design buildings as defined in Amendment 7 to B2/AS1.

2. H1.2 boric-treated Douglas fir may be used in all framing applications where H1.2 boric-treated radiata pine is permitted.

Moisture content of timber

Because timber is made up of a number of interlinked cells, shrinkage starts only when the moisture content (MC) falls below the fibre saturation point (FSP), which is 29% for radiata pine and within a 28–30% range for most other timbers.

Above the FSP, water is lost from (or gained by) the cell cavity, which does not alter the size or shape of the timber. With time, the timber will dry to a level that is determined by the relative humidity of the air around it (equilibrium moisture content). Timber will then absorb or release moisture as the relative humidity of the air changes.

Table 7.4 (adapted from NZS 3602) gives recommended moisture contents for particular timber uses to reduce:

- the amount of timber shrinkage and distortion that occurs
- the risk of mould forming on internal linings
- the risk of water condensing in wall cavities

Table 7.4 Recommended moisture content (%) at time of installation or, in the case of framing timber, at time of enclosure.

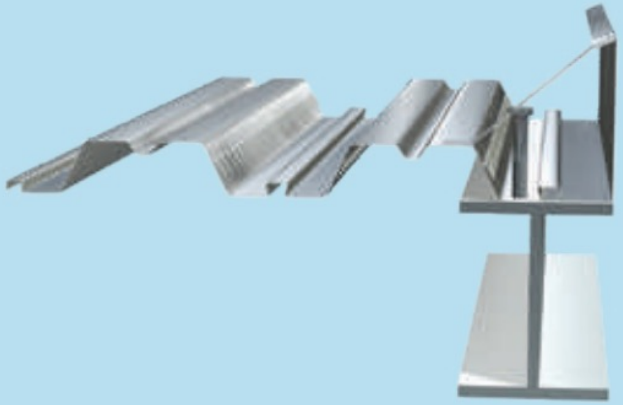
Moisture content – MC[1] at time of installation, or in the case of framing, at time of enclosure			
Use category/level of finish	**Air conditioned or centrally heated buildings**	**Intermittently heated buildings[2]**	**Unheated buildings**
1 Timber to which linings are attached to achieve a level of finish of 4 to 5 [3,4]	8–18	12–18	12–18
2. Enclosed framing (including roof trusses) to achieve a level of finish of 0 to 3 [3,4]	12–18	12–24	12–24
3. Load bearing lintels and beams4	8–18	12–20	12–20
4. Weatherboards, exterior joinery and finishing timbers[4]	14–18	14–18	14–18
5. Flooring exposed to ground atmosphere[4]	10–14	12–16	14–18
6. Interior joinery, finishing timbers and furniture[4]	8–12	10–14	12–16
7. Flooring not exposed to ground atmosphere[4]	8–12	10–14	12–16

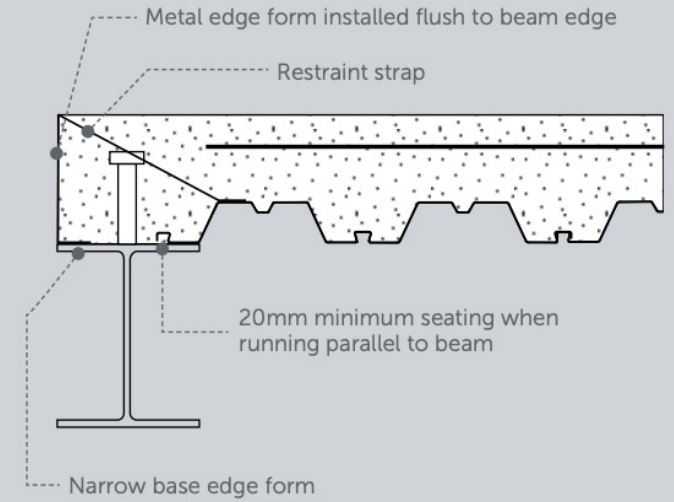
Notes:

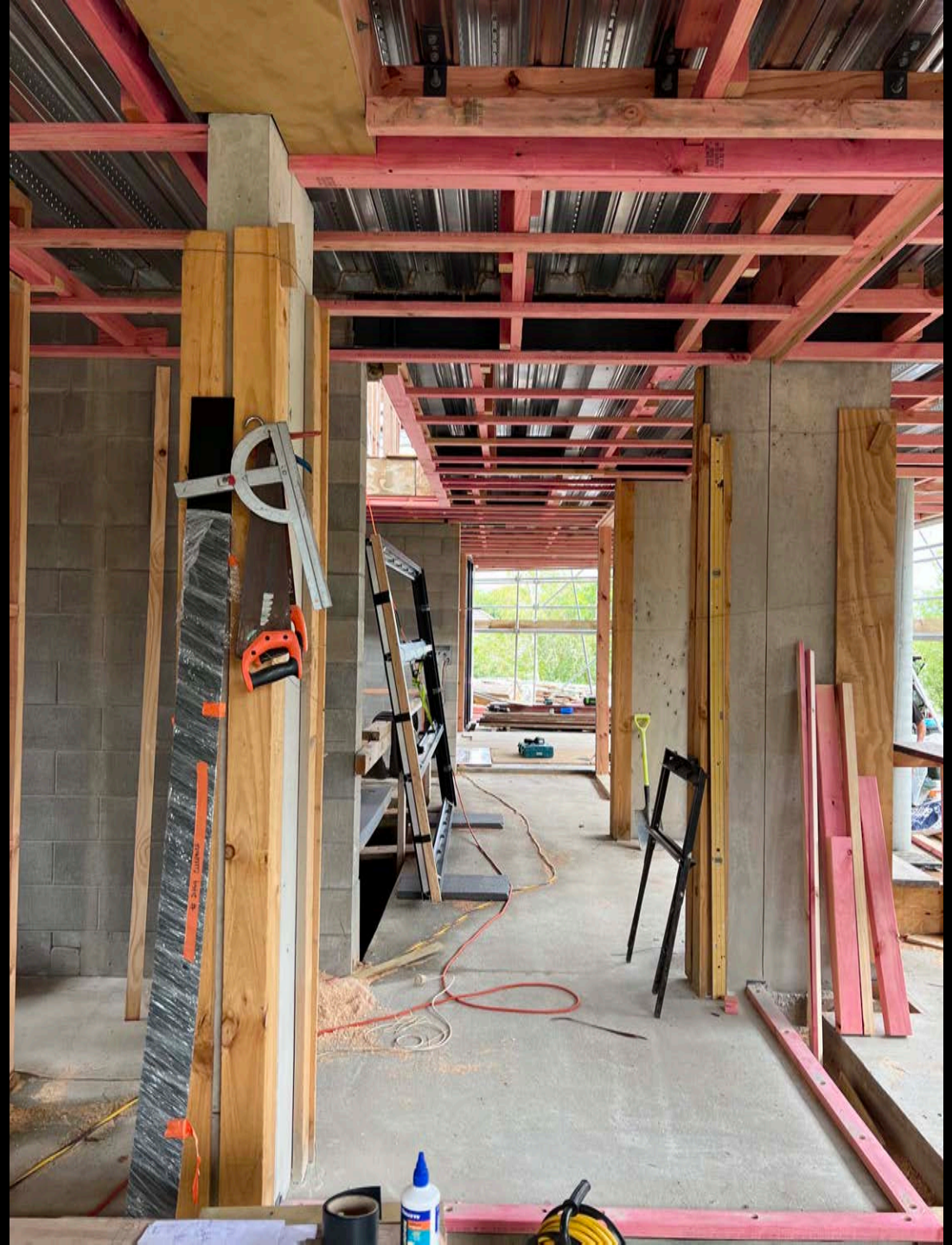
1. Allowable ranges of moisture contents are specified on the basis that 90% of pieces shall be within the specified range, the remainder shall be within ± 2%.
2. Buildings periodically heated by open fires, electric heaters, etc., such as most domestic buildings.
3. Refer to BRANZ Good Practice Guide *Internal Linings* and manufacturers' specifications for further information on the definitions of the 'levels of finish' for flush stopped linings.
4. Special handling, storage, transport packaging and fixing procedures will be necessary for material required to be installed at less than 16% to 18%, particularly overlay flooring and wall panelling where small movements will be very obvious when finished.

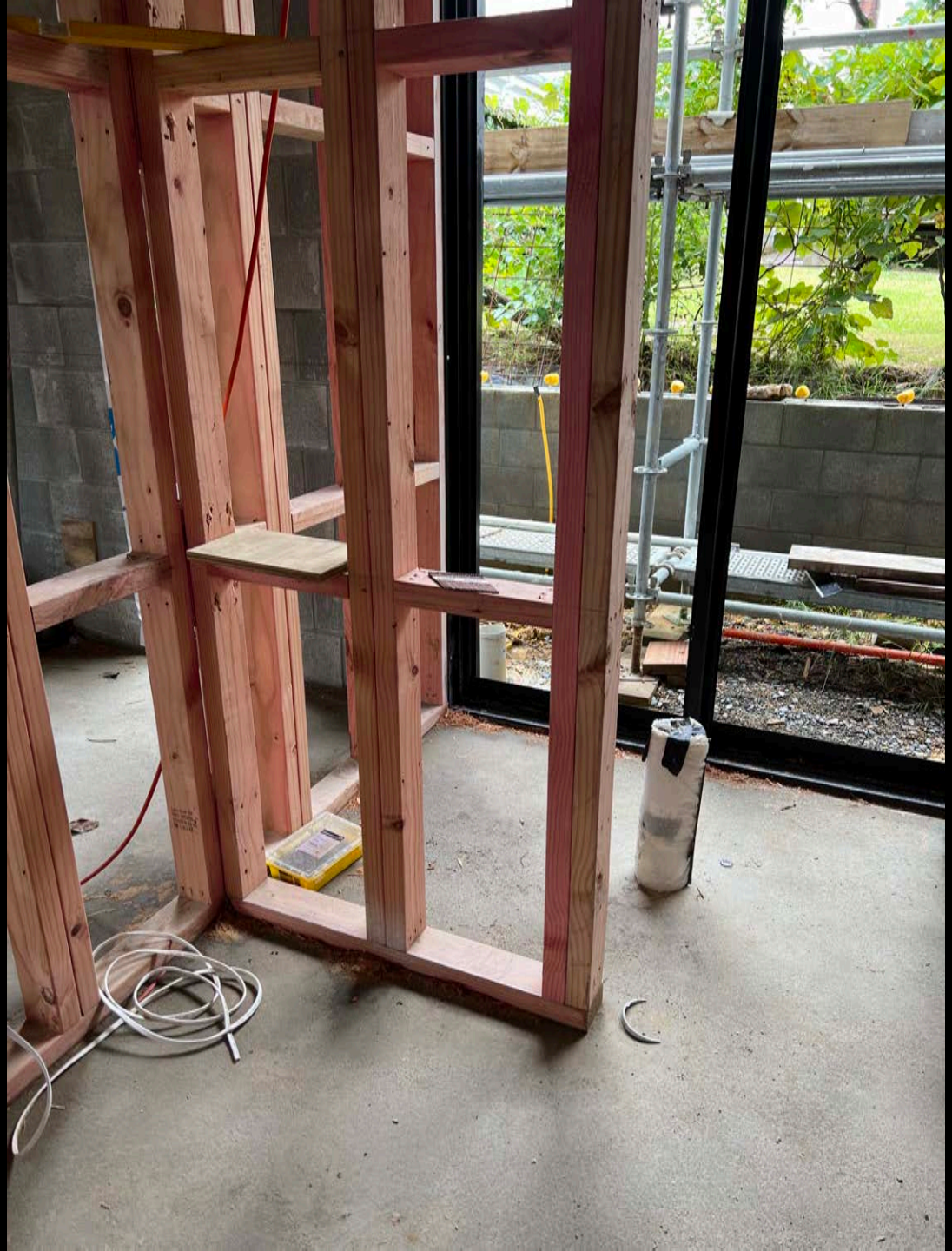
Allproof Industries:
Perimeter Drain

Suspended floor system:
e.g. Composite Floors using “tray dec”



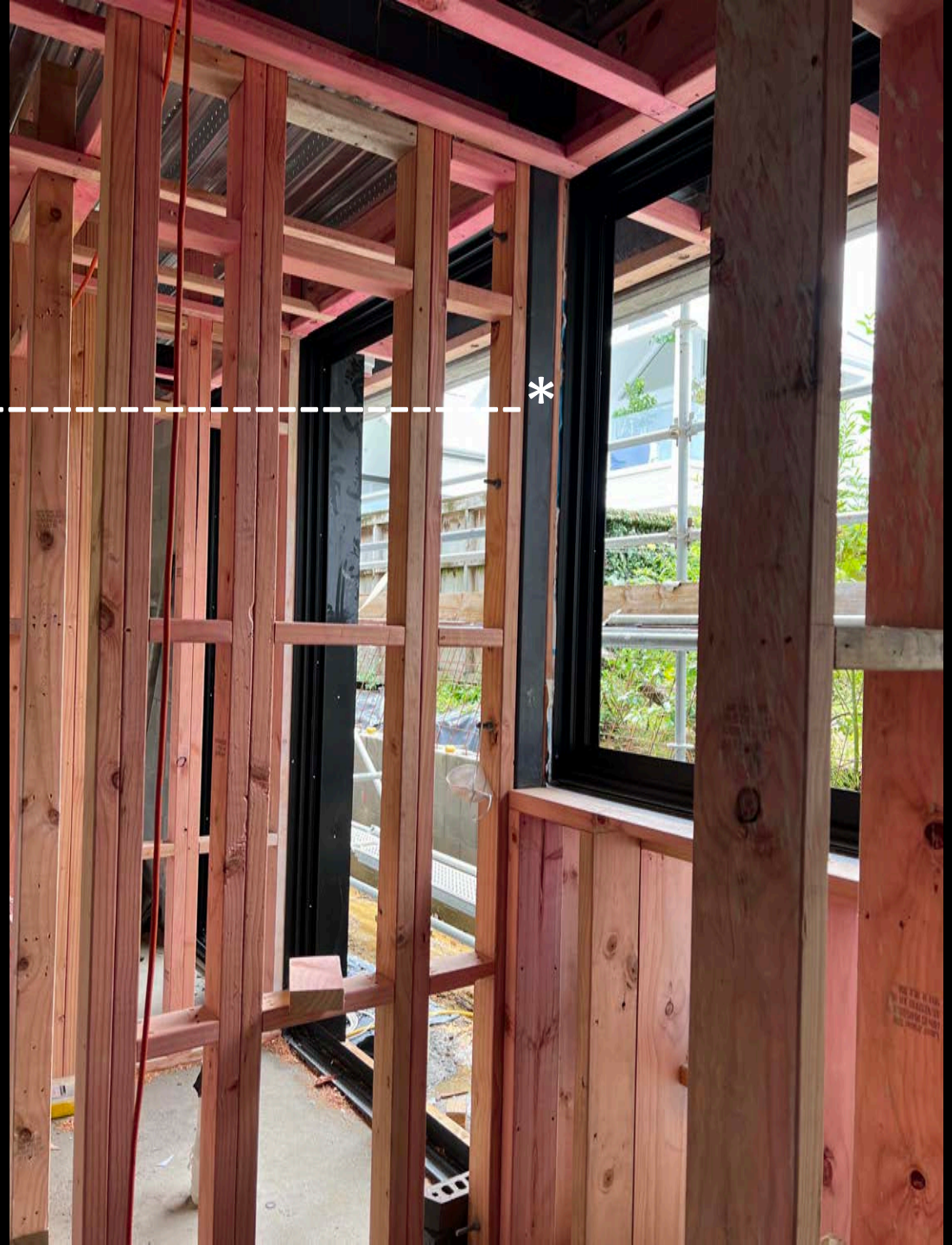




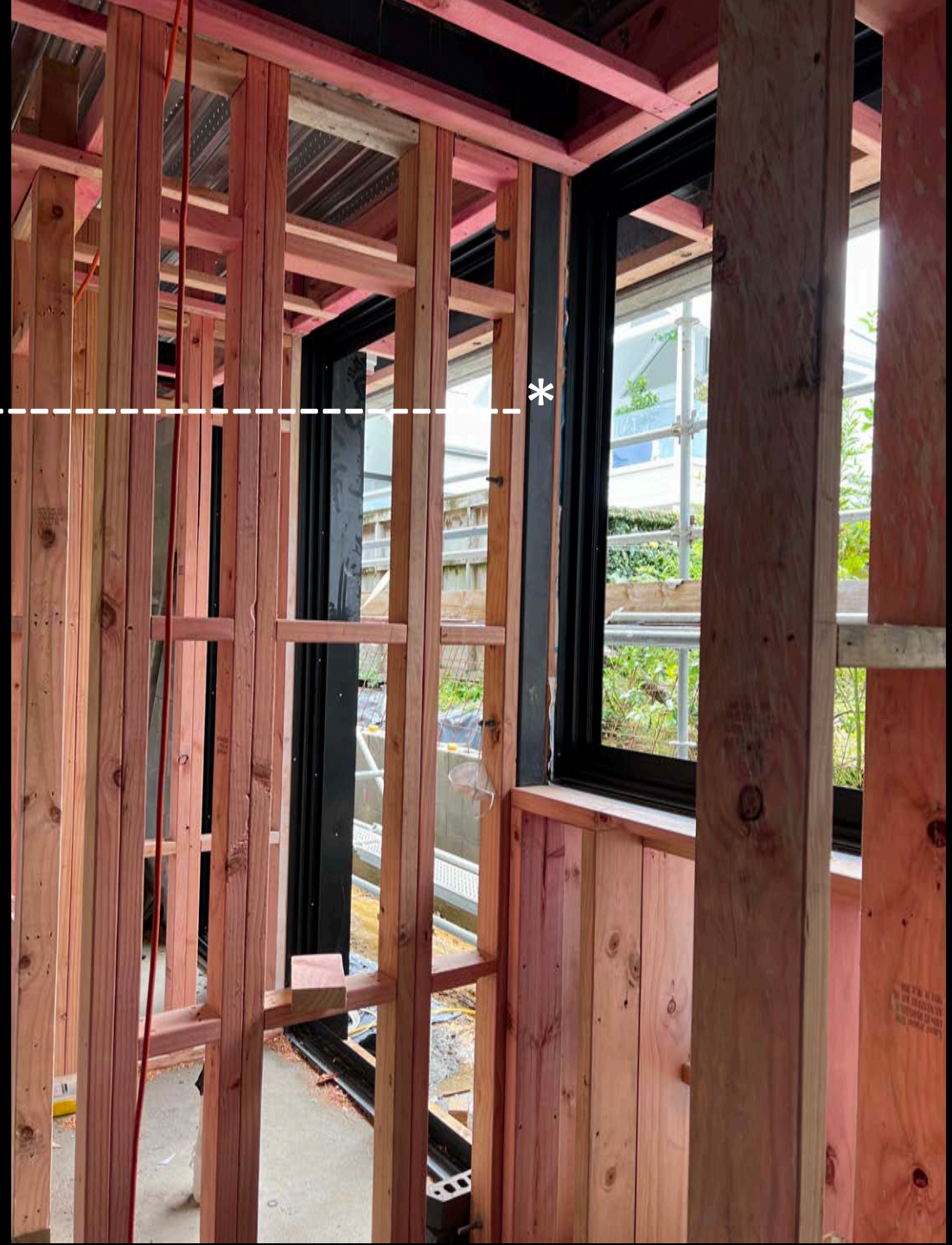


100 DIA.
Toilet drain
connection

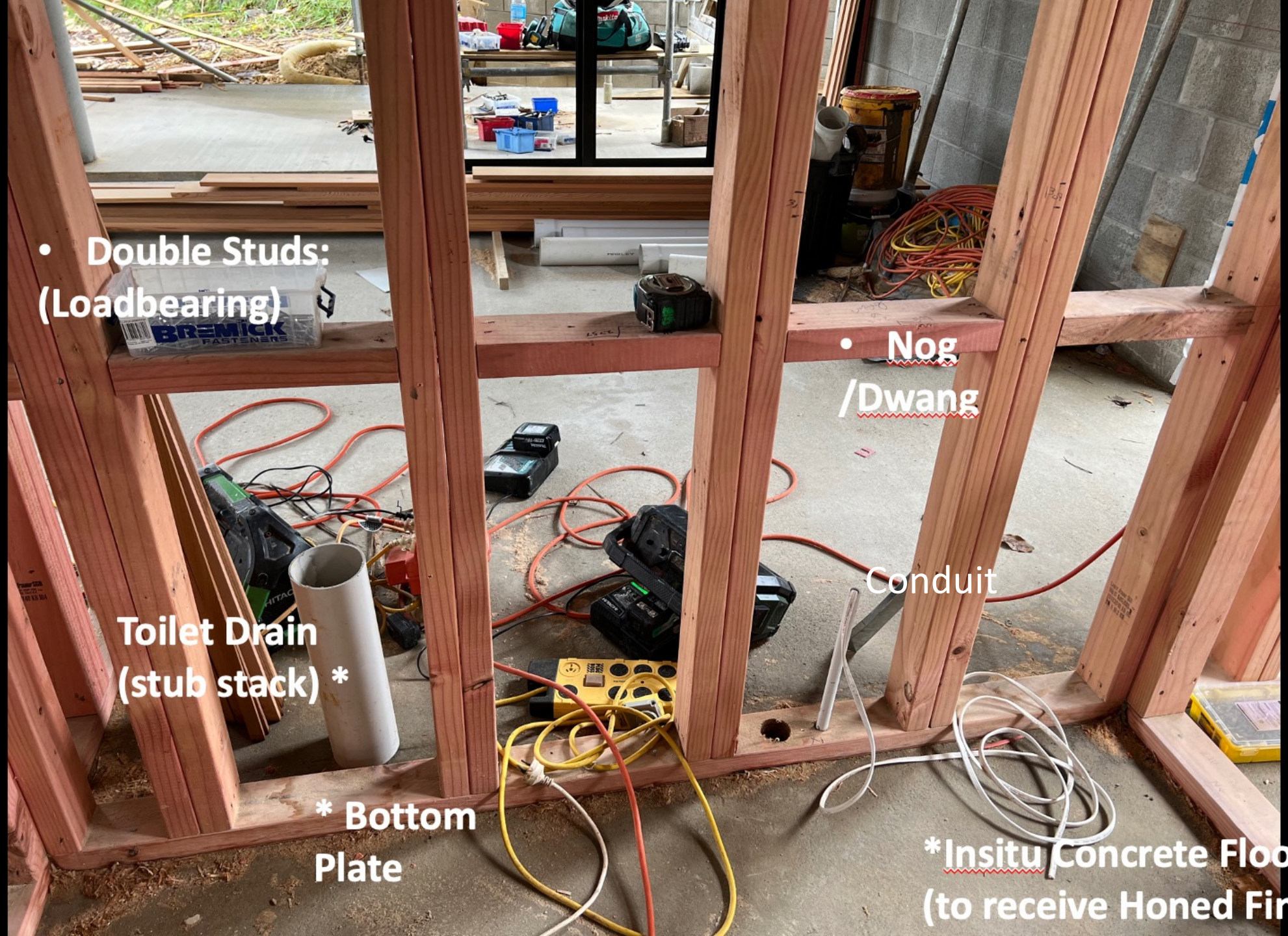
89 x 6mm SHS ----------*



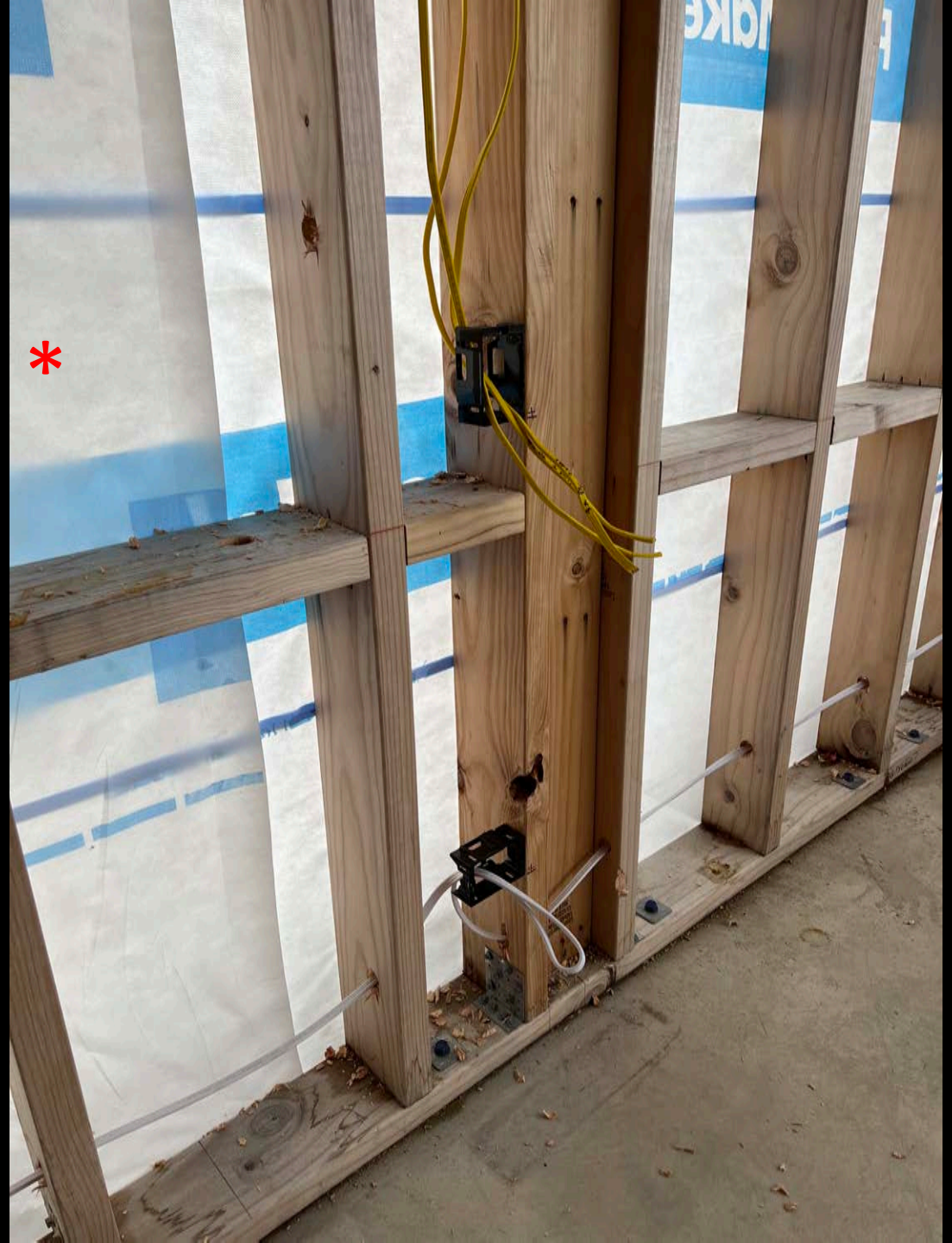
89 x 89 x 6mm (wall thickness)
Mild Steel, Square Hollow Section



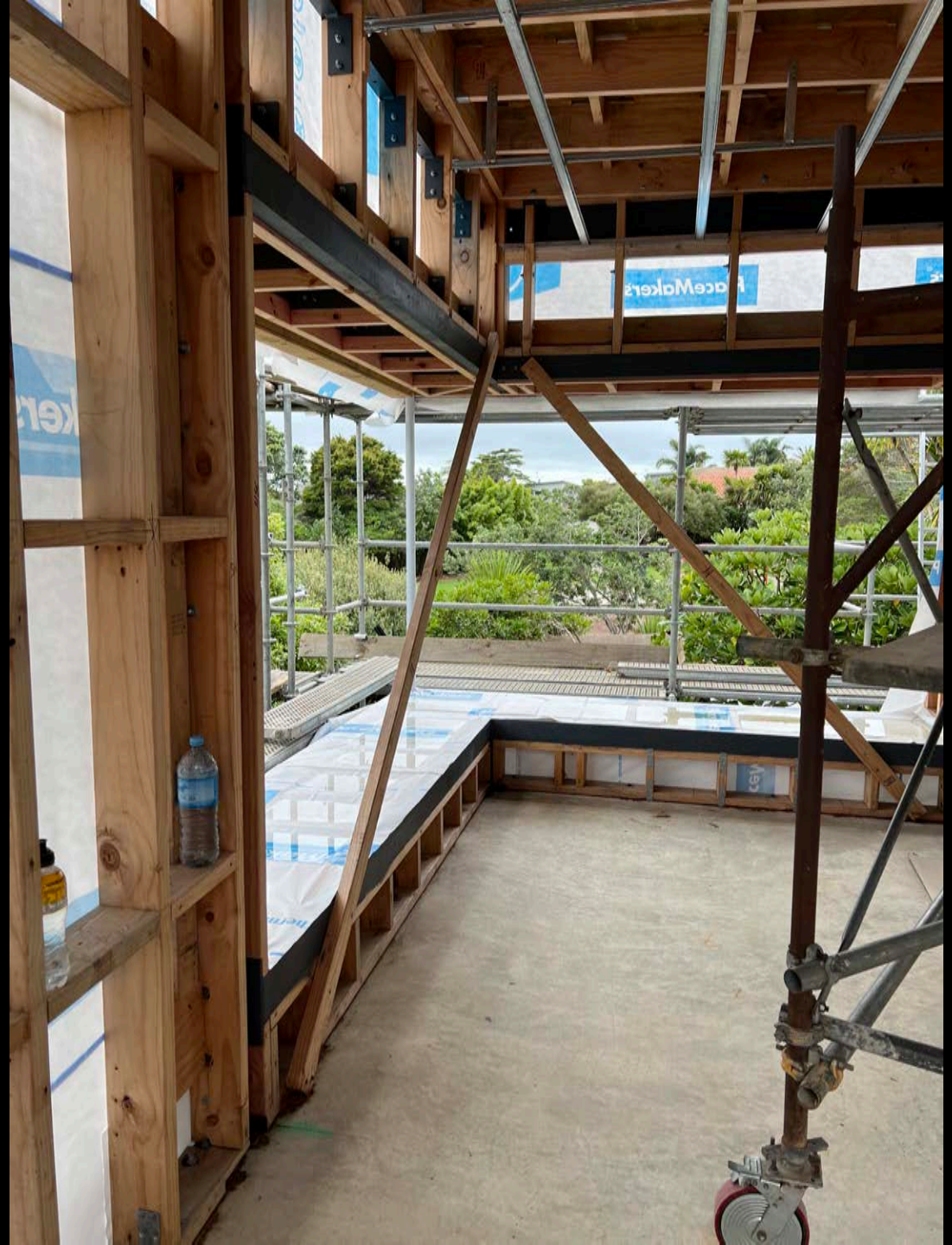

BREMICK
FASTENERS


• Double Studs:
(Loadbearing)
• Nog
/Dwang
Conduit
Toilet Drain
(stub stack) *
* Bottom
Plate
*Insitu Concrete Floor Slab
(to receive Honed Finish)

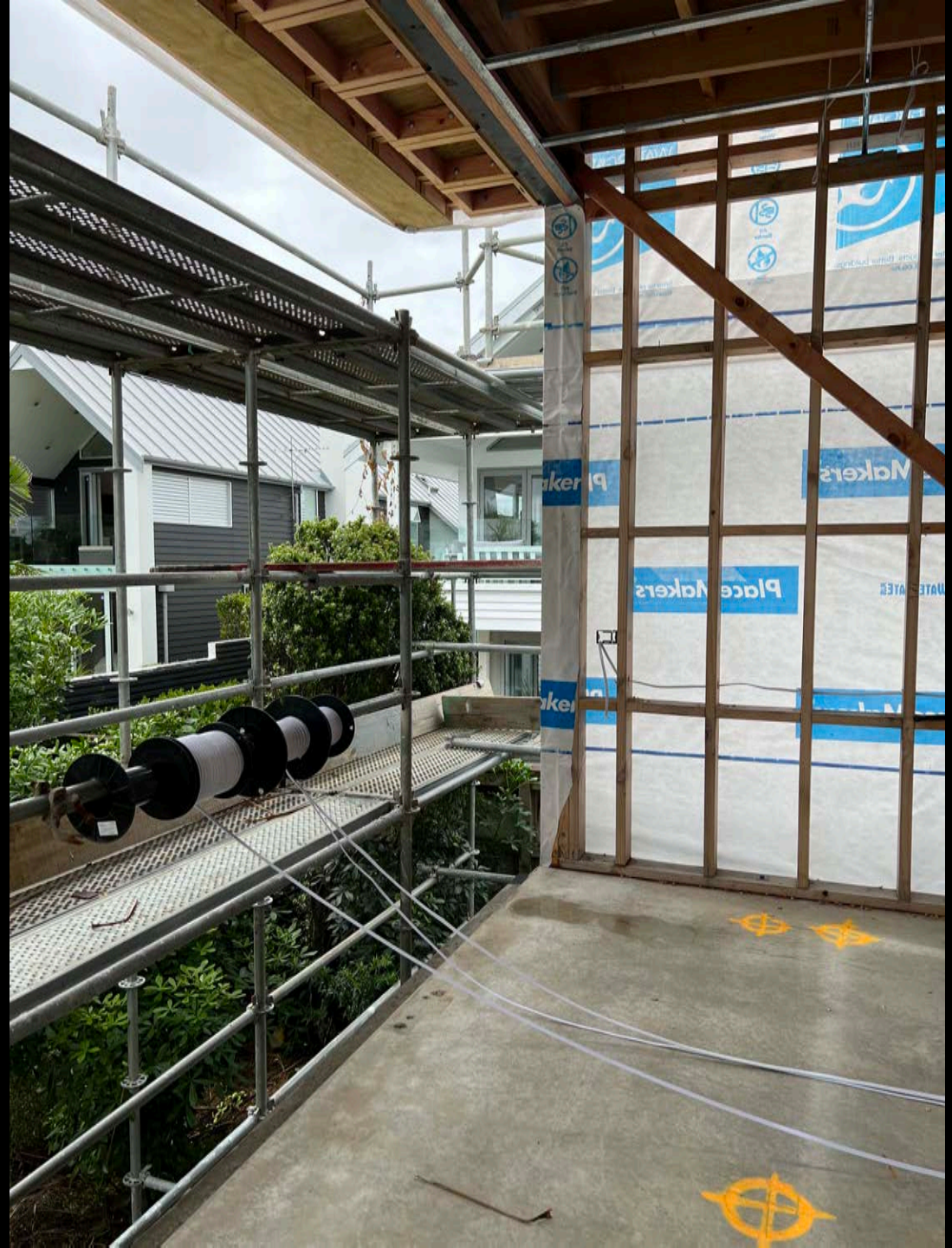
Building Wrap *



* Strapping (to receive lining)
Sometimes called “strap-and-lined blockwork”



MS. L-shaped base plate welded to end of the CHS (Circular Hollow Section), which is bolted to concrete slab via fixing bolts.
NB. Base plate has been grouted over with mortar, (sand, water, cement mixture).



Electrical “first fix”

“tails”

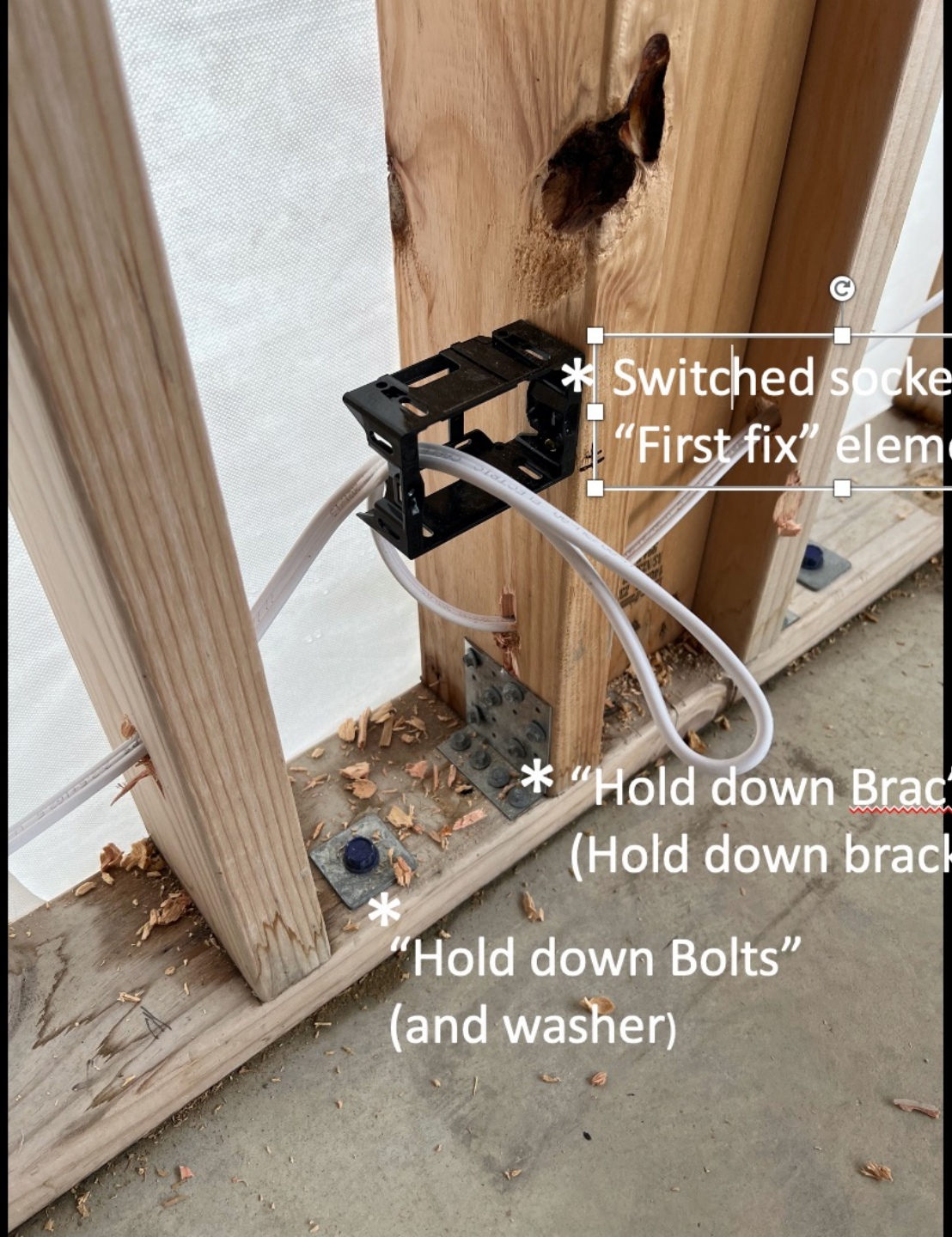

Water Barrier
Water Vapour Permeable

Nuralite Sheet Waterproofing


DPC

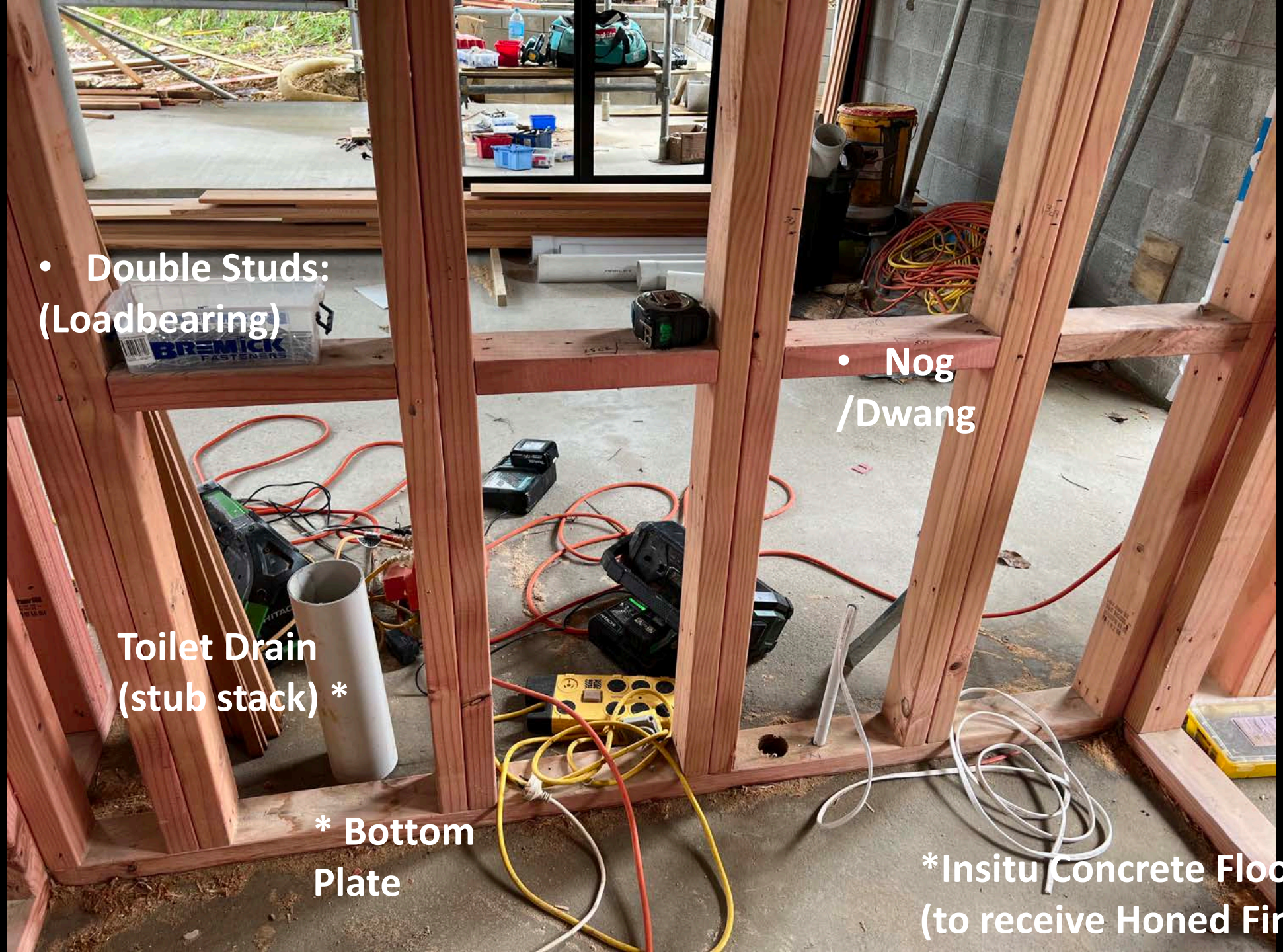
Note how the “pink” has faded off the H1.2 framing


* Rondo Ceiling battens
* Cantilever bench to be supprted by "SHS" (Square hollow Sections)


* Switched socket box
"First fix" element
* "Hold down Brac's"
(Hold down brackets)
*
"Hold down Bolts"
(and washer)


* Rondo Ceiling battens
* Cantilever bench to be supprted by "SHS" (Square hollow Sections)

100 DIA.
Toilet drain
connection *


• Double Studs: (Loadbearing)
• Nog /Dwang
Toilet Drain (stub stack) *
* Bottom Plate
*Insitu Concrete Floor Slab (to receive Honed Finish)