



CHANGES IN AS1684-2021 FOR HOLES AND NOTCHES IN WALL FRAME MEMBERS

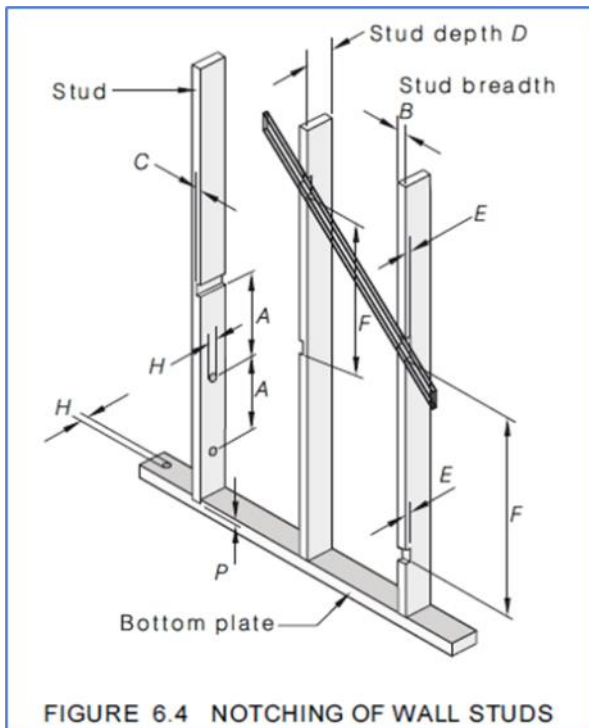
There are many reasons why members in wall frames would require holes, notches or rebates and it could range from electrical or plumbing services, diagonal bracing elements, installation of anchor rods or trenching for wall plates. AS1684-2010 dealt with certain rules and restrictions in 'Section 6 – Wall Framing' within 'Clause 6.2.1.4 Notching, trenching and holes in studs and plates' with specific references to 'Figure 6.4 Notching of wall studs', 'Table 6.1 Holes and notches in studs and plates' and 'Figure 6.5 Notching of jamb studs'. These requirements have remained constant for many years, until the latest AS1684-2021 edition, which includes revisions to address some commonly encountered challenges with holes and notches in current construction practices. The first revision within Clause

6.2.1.4 now distinguishes between two categories of wall frame classifications which are as follows:

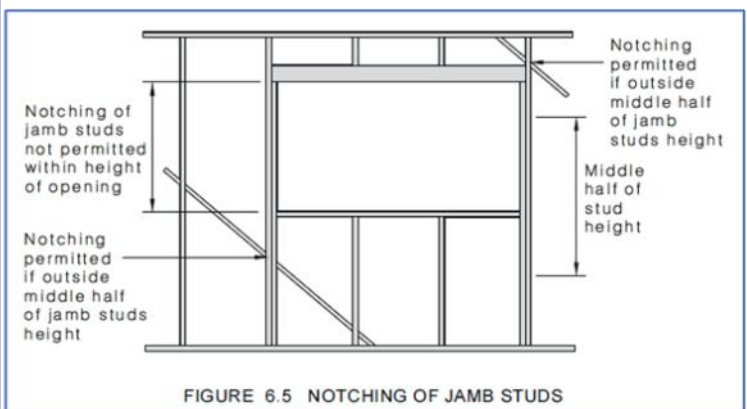
a) General (external walls, load bearing walls and braced sections of internal non-load bearing walls) – where the general requirements and limits still apply, including notching of studs and jamb studs.

b) Internal non-load bearing walls (excluding sections of wall that have diagonal or structural sheet bracing installed) – which are also subject to the general requirements (excluding sections of braced walls) with the additional inclusion of three new allowances:

Holes in plates and noggings of diameter up to 52 mm may be located on the centre-line of the wide



Symbol	Description	Limits	
		Notched	Not notched
A	Distance between holes and/or notches in stud breadth	Min. 3D	Min. 3D
H	Hole diameter (studs and plates)	Max. 25 mm (wide face only)	Max. 25 mm (wide face only)
C	Notch into stud breadth	Max. 10 mm	Max. 10 mm
E	Notch into stud depth	Max. 20 mm (for diagonal cut in bracing only) (see Notes 1 and 2)	Not permitted (see Note 1)
F	Distance between notches in stud depth	Min. 12B	N/A
P	Trenches in plates	3 mm max.	



- i) Holes in plates and noggings of diameter up to 52 mm may be located on the centre-line of the wide face provided they are spaced a minimum of 1800mm apart and are not located adjacent to significant defects.
- ii) A single hole in a stud of diameter up to 52mm may be located on the centre-line of the wide face provided they are not located adjacent to significant timber defects and can only occur not closer than in every fourth stud.
- iii) A single notch in a stud up to 50% of the stud depth may be used where it is not located adjacent to significant timber defects. The notch can only occur not closer than in every fourth stud.

It is quite common to find larger diameter electrical and plumbing services in residential buildings that require large diameter holes in studs, noggings or wall plates accordingly. The new revision for up to 52 mm diameter holes in non-load bearing walls will certainly help address many current scenarios which would be deemed non-compliant and subject to engineering verification, reinforcement measures or even the possibility of replacement.



Photo 1 - Example of plumbing pipes through wall plates

Unfortunately, there will often be known scenarios where these new allowances are still inadequate, such as large holes greater than 52mm through wall plates (as shown in Photo 1) or holes through jamb studs or critical studs (as

shown in Photo 2). These types of non-compliant holes can be addressed by reinforcement measures such as proprietary stiffener products currently available in the market. Such products would be fixed to the stud or wall plate with fasteners to “stiffen” the local region, thereby allowing the larger hole to be drilled and services to pass through, while maintaining the structural integrity of the member or frame as a whole.

Historically these stiffeners have needed to be fitted prior to the services being run through the timber. Pryda has recently introduced a new option which comes in two parts and can be retrofitted around the pipe or duct afterwards – a handy solution for when certifiers pick up on non-compliant penetrations that doesn’t require any trades to return to site.



Photo 2 - Example of plumbing pipe through jamb stud

Refer to your nailplate supplier for available product solutions and always follow the product literature, specifications and installation instructions to ensure a compliant outcome for your client on site.

This edition of FTMA Tech Talk was written by Nick Cui, Design Services Manager ANZ of our Gold Sponsor, Pryda.



If you have any questions for Nick, please don’t hesitate to contact him.

Ph: (03) 9554 7001

E: ncui@prydaanz.com