



GIB[®] Residential Garage Boundary Walls

Supplement To: 'GIB[®] Fire Rated Systems, August 2001'

Scope of Use

The solution offered in this bulletin is intended for use when the NZBC Acceptable Solution C/AS1 requires a Fire Resistance Rating (FRR) for a single storey residential garage boundary wall on or within 1m from a property boundary. This information bulletin assumes that the garage or carport has a Fire Hazard Category of 1 as defined in Table 2.1 of C/AS1 - a standard single household garage for use by the household occupants only (SH purpose group) and is designed to comply with the NZBC with particular reference to C/AS1.

Compliance with the NZBC

- Under normal conditions of dry internal use GIB[®] Fire Rated Systems have a serviceable life in excess of 50 years and satisfy the requirements of NZBC Clause B2 — Durability.
- GIB[®] Fire Rated Systems provide passive fire protection in accordance with the requirements of NZBC Clause C3 — Spread of Fire.
- GIB[®] Residential Garage Boundary Walls satisfy the requirements of NZBC Clause C4 — Structural Stability during Fire¹ and have been specifically designed to fall inwards and away from the adjacent property boundary when collapse conditions are reached during a fire.

Selecting the FRR

If the garage meets the following conditions, the FRR of the boundary walls can be assessed from this information bulletin. For situations outside these conditions Part 5 and Part 7 of NZBC Acceptable Solution C/AS1 must be followed with respect to establishing the required FRR (S-Rating) and distance to the boundary.

- i) For small detached garages less than 40m² floor area and less than 1m from the boundary a 15/15/15 two way FRR is required.
- ii) For attached garages, and detached garages greater than 40m² floor area, and less than 1m from the boundary, a 30/30/30 two way FRR is required.
- iii) For garages 1m or more from the boundary no fire rating is required.
- iv) A carport can have 100% unprotected walls and roof (no FRR) if two sides of the perimeter are open, and:
 - a) the roof plan is less than 40m² and no part of the roof is closer than 0.3m to the boundary
 - b) the roof plan is greater than 40m² and no part of the roof is closer than 1m to the boundary

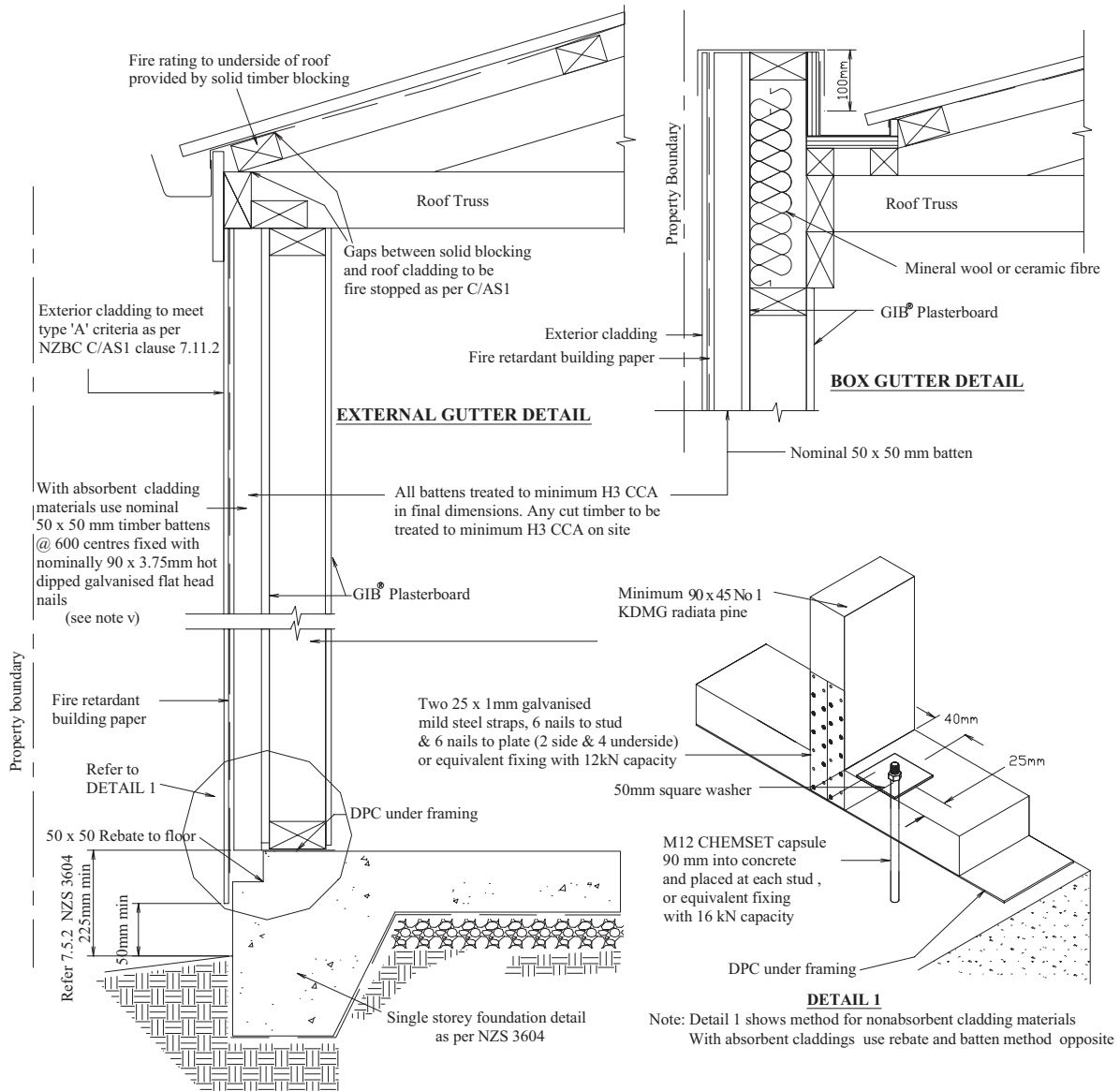
If these conditions are not met then the requirements of C/AS1 clause 7.8.10 must be complied with.

A garage or carport can be connected to a house without a FRR (between the garage and house) provided that the house is under the same ownership as the garage/carport and solely for the use of the occupants of the household.

¹ Reference: MacDonal Barnett Partners, Consulting Civil and Structural Engineers, Report No 5109 CRB, dated 13 October 1993, Producer Statement dated 1 March 1994, and letters/faxes dated 12/6/02, 28/6/02, 2/12/02 & 17/12/02.

Notes

- i) When the wall is less than 1m from the boundary a two way fire rated system is required, constructed in accordance with 'GIB® Fire Rated Systems, August 2001'.
- ii) When the wall is less than 0.2m from the boundary, the garage walls at 90° to the boundary are required to have a fire rated return wall within the 0.2 metres from the boundary. The fire rating shall be the same rating as the boundary wall, if no fire rating is required for the boundary wall then a fire rated return wall is not required. Alternatively a fire rated wing wall complying with Table 7.3 of the NZBC Acceptable Solution C/AS1 could be constructed.
- iii) Sheet joints in GIB® Plasterboard linings under an external cladding do not require taping and stopping.
- iv) Impervious cladding materials with a ventilation air-space, such as corrugated steel or aluminum weatherboards, may be installed over fire retardant building paper directly over the external GIB® linings.
- v) Absorbent cladding materials, such as fibre-cement or polystyrene cladding systems, must be separated from the external GIB® linings by means of vertical battens with a nominal depth of 50mm, and fire retardant building paper behind the cladding material. The battens are to be treated to minimum H3 CCA in its final dimensions. Any cut timber is to be treated to minimum H3 CCA on site. Battens are to be fixed with nominally 90 x 3.75mm hot dip galvanised flat head nails.
- vi) Cladding materials must comply with the requirements of NZBC Acceptable Solution C/AS1 clause 7.11.2. This requires a 'Type A' cladding when the wall is within 1m of the boundary². Claddings classified as 'non-combustible' will meet the Type A criterion. Typical examples are concrete, brick and steel claddings. Cellulose fibre-cement with finishes/coatings less than 1mm thick will also typically be classed Type A. Products such as plywood and timber or PVC weatherboards will not meet the Type A requirement and therefore cannot be used when the wall is within 1m of the boundary.
- vii) The drawings below assume a standard wall height up to 2.4m and a stud spacing of 600mm. Walls up to 2.8m require stud spacing at 450mm and walls up to 3m require studs at 400mm.
- viii) For retrofit situations please contact the GIB® Helpline on 0800 100 442 for other options.



² The cladding is tested to AS/NZS3837 at an irradiance of 50kW/m² for a duration of 15 minutes and also is required to meet the requirements of C9.1 of the NZBC Acceptable Solution C/AS1.