



TECHNICAL MANUAL

VERSION 11

19: GARAGES

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Garages

Contents

Functional Requirements

19.1 Garages

Limitations of Functional Requirements

1. These functional requirements are limited to non-habitable buildings constructed as detached or semi-detached / integral garages only.
2. These Functional Requirements do not and will not apply to create any policy liability for any remedial works carried out by the contractor or otherwise, nor to any materials used in those remedial works.
3. The guidance provided in this Section, is guidance that provides a suggested solution to meeting the Functional Requirements. If an alternative solution is selected, then this must still meet the Functional Requirements.

Workmanship

1. All workmanship must be within the tolerance requirements set out in this Technical Manual.
2. All work is to be carried out by a technically competent person in a workmanlike manner.
3. Concreting shall not take place during cold weather periods where the working temperature is below 2°C or where ground conditions are frozen.

Materials

1. All materials should be stored, installed and protected correctly in a manner that will not cause damage or deterioration of the product.
2. All materials, products and building systems shall be appropriately tested and approved for their intended purpose.
3. All load bearing structural elements providing support to the Home will have a service life of not less than 60 years, unless specifically agreed otherwise with us. All other parts of the Home will have a lesser durability and need planned maintenance, repair or replacement during that reduced period.
4. Whilst there is and can be no Policy responsibility and/or liability for any roof covering, window / door or 'Decorative external cladding' (i.e. Cladding which is decorative only and the substrate wall provides the main weather proof barrier) to achieve a performance service life of 60 years or less, such elements shall be designed and constructed so they have an intended service life of not less than where stipulated within this Manual.
5. Timber should be adequately treated or finished to resist insect attacks and be suitable for the position used within the structure. All timber treatment should be in accordance with relevant British standards and Codes of Practice.
6. Timber used in the building to provide support to the structure must be appropriately seasoned to prevent excessive shrinkage and movement.
7. All materials should be suitable for the relative exposure of the building in accordance with the relevant British Standards.
8. Reclaimed materials may only be reused with the prior agreement with the Warranty Surveyor. Independent certification and/or testing of the suitability may be required.

Design

1. Garages should be constructed to resist lateral and vertical loads adequately.
2. Foundations should be designed and constructed to suit local ground conditions and adequately support the weight of the structure and imposed loads.
3. Specialist works must be provided and supported by structural calculations completed by an Engineer where necessary.
4. Garages shall be designed and constructed so that they:
 - a. Are structurally sound and do not impair the stability of adjacent structures;
 - b. Have adequate provision for drainage of roof water;
5. The design and specifications shall provide a clear indication of the design intent and demonstrate a satisfactory level of performance.
6. Structural elements outside the parameters of Building Regulations must be supported by structural calculations provided by an Engineer.
7. Damp proofing works should prevent any external moisture passing into the internal environment of the habitable building.
8. Projects consisting of Non-standard/Modern methods of construction must be supported with evidence of valid independent third party product conformity certification before an offer of Warranty is provided. These types of constructions must be declared before commencement.
9. A floor between the dwelling area and an integral garage shall be designed and constructed so that they:
 - a. Have adequate resistance to the spread of fire between garage, and dwelling area;
 - b. Prevent undue heat losses from the dwelling area to unheated garage.

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Limitations

This section does not apply to garages where:

- The garages is heated or protected against frost damage.
- The garages is used as a habitable space, including home offices.
- It is essential that the walls are required to resist wind-driven rain.
- The space has decorative finishes as garages may be affected by damp and will therefore be beyond the scope of the Manual.

Where a garage is intended to be built to meet the above requirements (i.e. be heated and habitable and weather resistant), the garage will need to meet all the requirements of this Technical Manual.

Provision of information

A full set of design drawings and specifications shall be made available to the Warranty Provider and all other interested parties prior to the associated works starting on site. This may include:

- Evidence to show garages are:
 - Able to sustain and transmit all normal loads to the ground without affecting their own stability or that of the housing unit (or any adjacent buildings) by excessive deflection or deformation that would adversely affect the appearance, value and serviceability of the building or the housing unit.
 - They provide an acceptable and durable external surface and are not adversely affected by harmful or toxic materials in the atmosphere or from the ground.
 - They encourage the rapid discharge of moisture due to rain or snow from their surfaces to suitable gutters and down pipes, or to some other form of collection and discharge that prevents moisture from re-entering the garage, where it might have adverse effects.
 - In the event of fire, they resist fire spread to the housing unit and to adjacent buildings.
 - They are provided with sufficient locks or other devices to resist unauthorised entry.
 - Where additional services installations are installed within the garage but where they serve the main dwelling, (such as central heating boilers or electrical or plumbing installations), these must comply with the relevant additional guidance contained in this Manual.

The Warranty Surveyor, at their discretion, may also request supporting information that demonstrates suitability for use of any materials or systems contained within the above.

Foundations

Foundations should be constructed so that loads are adequately transferred. Please refer to the 'Foundations' section for further guidance.

Ground gases

Where the garage is attached / integral to a dwelling and, the Dwelling requires gas prevention measures to be provided, the ground floor and wall structures must be designed and constructed to ensure adequate protection against ground gases emanating from the ground below.

Contaminants should be identified within the Site Investigation Report (please refer to the 'Ground Conditions' section for further guidance), and recommendations provided within the site investigation report.

Garage floor

- Ground bearing
 - Floors should have a minimum concrete thickness of 100mm and bear onto a suitable sub-base.
 - The concrete should be float finished and to at least a GEN3 grade, as the garage is not a habitable space some surface imperfections of the floor finish are acceptable.
 - The effects of normal drying shrinkage of concrete floors could cause some small gaps around the perimeter at wall junctions.
- Suspended beam and block
 - Where beam and block floors are to be installed to areas with higher potential point loads such as garages, additional reinforcing of the screed will be required to distribute loads effectively.
 - This reinforcing should be of at least an 'A' mesh quality, and the screed should be thick enough to give an appropriate depth of cover.

It is recommended that garage floors are laid to falls or have a suitable step where an integral garage is present in manner that promotes dispersion of water to a suitable point away from the building. This may be in addition to the requirements of Building Regulations relating to garage floor requirements.

Please refer to the 'Ground Floors' section for further guidance.

Walls

As garage accommodation is not habitable, single leaf 100mm walls may be considered acceptable, providing that the following provisions are met:

- The height of wall does not exceed 2400mm from ground level. Where walls are constructed that exceed 2400mm in height e.g. Gable walls, the overall thickness must be increased to at least 190mm thick.
- Intermediate piers are provided. The piers should extend the full height of the wall.
- The piers should be built off a suitable foundation.
- The wall is adequately restrained at ceiling and verge level.
- The walls are capable of adequately transferring the roof loadings to the foundation.
- Walls are pointed both internally and externally.
- Walls should be provided with a suitable DPC located at least 150mm above ground level.
- Proprietary lintels should be provided over window/door openings.

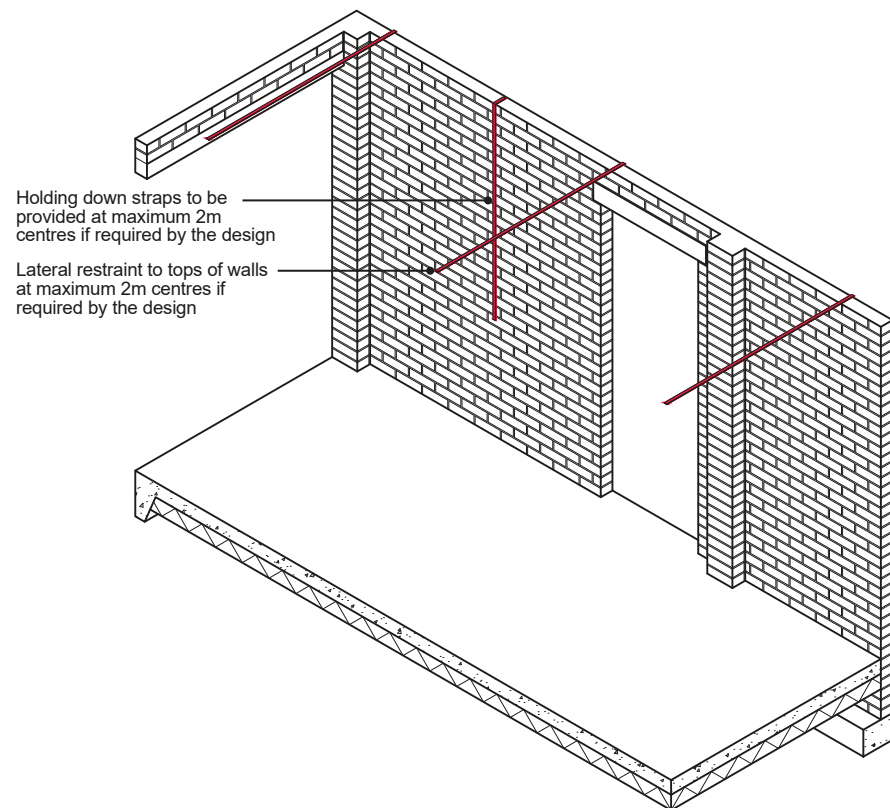
Roofs

Roofs should be weather tight. Flat roofs should have a minimum design fall of 1:40. Tiled roofs should be installed in accordance with the manufacturer's instructions, including pitch, fixing and lap.

Roof structures should be durable enough to support roof loadings adequately. Timber trusses should be adequately braced and traditional cut roofs should have timber elements that meet relevant Building Regulations and supporting documents.

Please refer to the 'Roofs' section for further guidance.

Lateral restraint to 100mm thick walls with piers



Walls between garages

Where walls separate garages under two different ownerships or tenancies, the separating wall should be taken up to the underside of the roof and fire stopped.

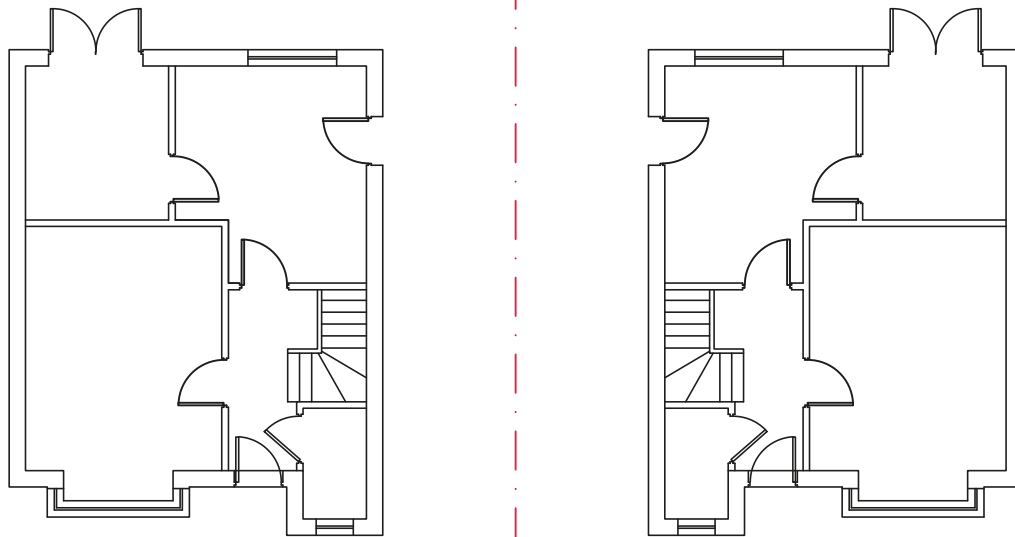
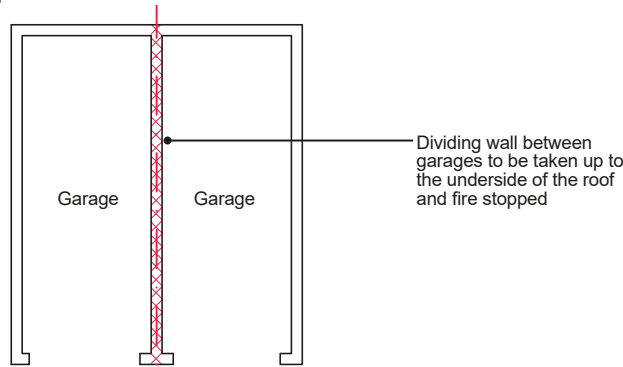
The following guidance is provided for typical examples of multiple ownership situations.

Note: The dividing walls should have the appropriate fire resistance in accordance with the relevant Building Regulations.

Example Plan 1: Linked detached garages

The dividing wall (also boundary) forms a compartment situation between two properties and must be taken up to the underside of the roof covering and fire stopped.

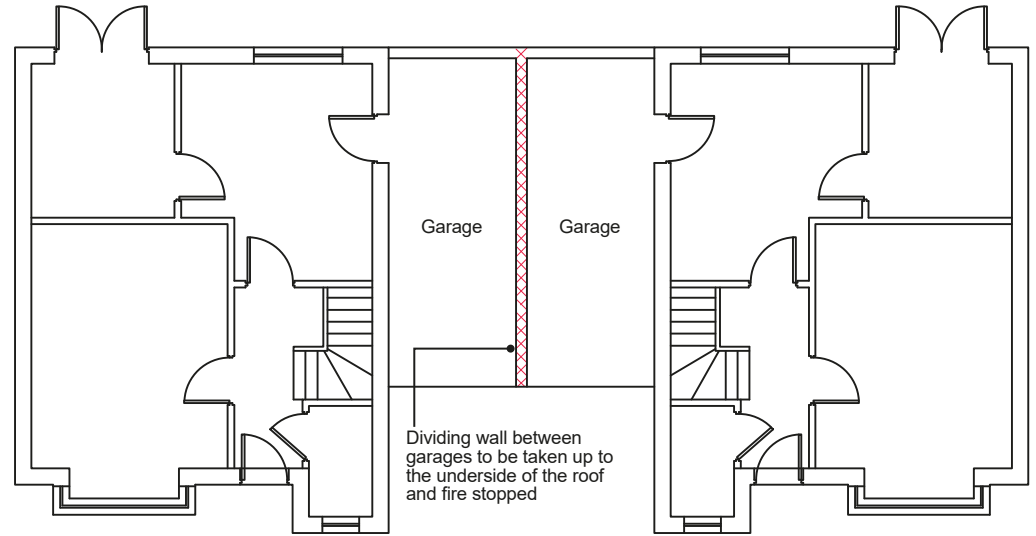
Note: red dashed line can be a site boundary position.



Detached garage away from dwelling

Example 2: Linked to dwelling and linked to another garage across boundary

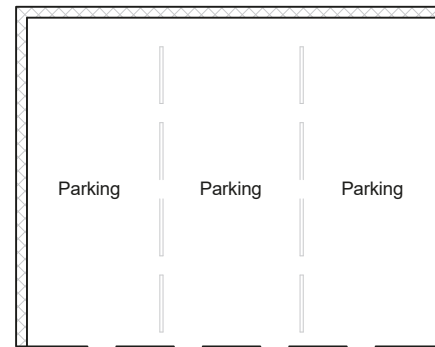
The dividing wall (on the boundary) forms a compartment situation between two properties and must be taken up to the underside of the roof covering and fire stopped.



Garages linking two properties

Example 3: Linked carport (open fronted - no dividing walls)/undercroft car parking area

Note: red dashed line can be a site boundary position.



Linked carport/parking bay

i.e. Where an allotted car park space is provided and no legal boundary situation exists between bays.

In this situation, where no ownership boundary will exist and just allotted parking bays, no requirements for compartment walls will exist, therefore can remain open.

Examples 1, 2 and 3 are for guidance purposes only in all situations compliance with the appropriate relevant Building Regulations should be achieved.

Fire stopping at roof level between party walls

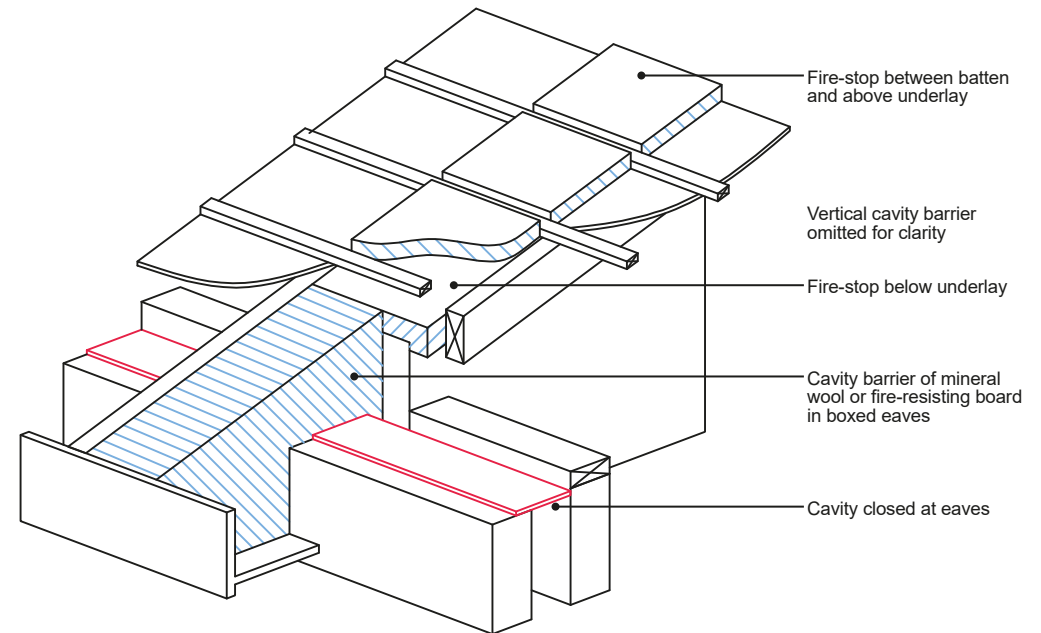
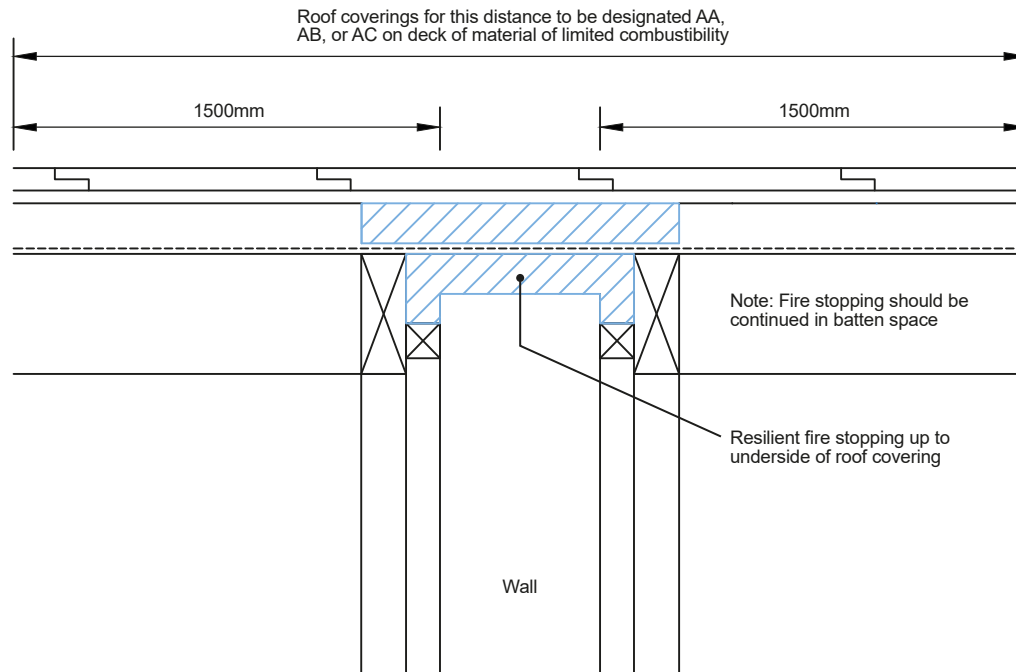
Compartmentation

The spread of fire within a building can be restricted by sub-dividing it into compartments separated from one another by walls and/or floors of fire-resisting construction. The roof void, like most spaces within a building, can provide a route for the spread of fire and smoke. As an often-concealed space, it is particularly vital that fire-resistant cavity barriers are provided at the following points:

- At junctions of separating wall and external cavity wall.
- At junctions of compartment wall and compartment floor (not illustrated).
- At junctions of separating wall with roof, under roof tiles.
- Within boxed eaves at separating wall position.

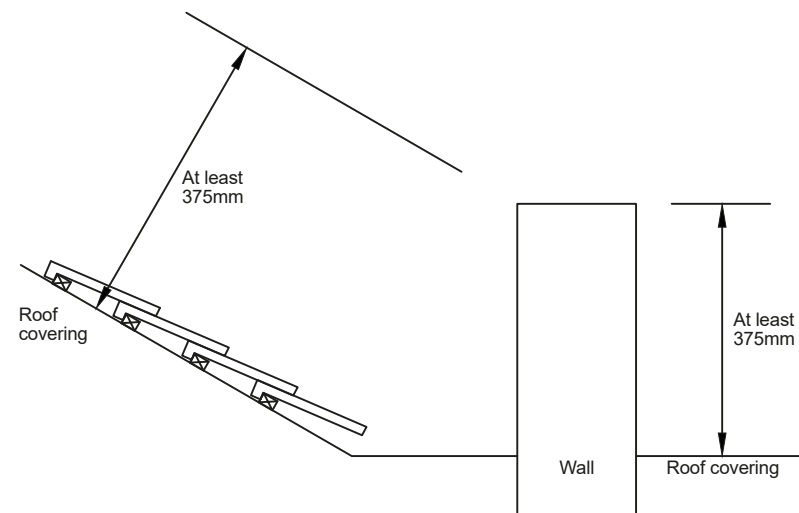
Junctions of compartment walls with roof

A compartment wall should be taken up to meet the underside of the roof covering or deck, with fire stopping, where necessary, at the wall/ roof junction to maintain the continuity of fire resistance. The compartment wall should also be continued across any eaves cavity. If a fire penetrates a roof near a compartment wall, there is a risk that it will spread over the roof to the adjoining compartment. To reduce this risk, a roof zone 1500mm wide on either side of the wall should have a covering of designation AA, AB or AC on a substrate or deck of a material of limited combustibility.



Fire stopping should be provided in accordance with the relevant Building Regulations

- Party/separating walls 25mm below the top of the rafter line and a soft fire-resistant packing, such as mineral wool, should be used to allow for movement in roof timbers and prevent distortion of the roof tiles.
- The fire stopping should be continuous to eaves level and a cavity barrier of fire-resisting board or a wire reinforced mineral wool blanket nailed to the rafter and carefully cut to fully seal the boxed eaves should be installed.



T 0800 183 1755 **E** enquiries@labcwarranty.co.uk **labcwarranty.co.uk**



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