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WELCOME TO THE

CONSTRUCTION TYPES

INFORMATION PACK

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INTRODUCTION

Within this information pack we wanted to provide you with some visuals over the different construction types used in modern and historical building construction, hopefully you can make reference to this when speaking with your customers and advise them in your discussions about their home insurance.

We have focused on two main sections:

Standard Construction Types

Non-standard Construction Types

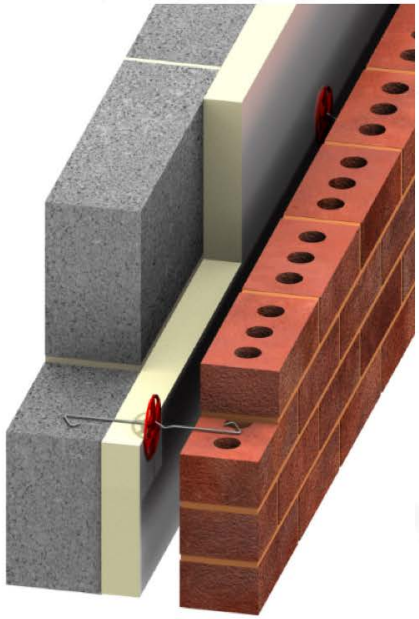
STANDARD CONSTRUCTION TYPES

BRICK AND BLOCK

In modern traditionally built houses the walls are built in two layers. There is an internal block work wall and the external wall built of brick or stone.

These, together with some internal partitions which are also built of block work, will support the structure of the house and provide roof support.

Most modern construction usually includes an insulation layer between the block and brick walls.



STANDARD CONSTRUCTION TYPES

SLATE OR TILE ROOF

Slate is a natural stone, tiles are manufactured. A 'slate tile' is a piece of slate measured, cut and prepared for use as a tile. Slate is a fine-grained metamorphic rock that can be split easily into thin layers; it's mainly grey in colour, with a wide variety of textures, colour varieties and irregular patterns.

Tiles are made from a variety of hard-wearing materials, usually fired clay and concrete.

They are used for covering surfaces such as roofs, walls and floors, Clay tiles are capable of performing down to pitches as low as 15° (depending on the type of clay tile) whereas slates can only perform down to 25°.

STANDARD CONSTRUCTION TYPES

FLAT ROOF

There are three main construction types when it comes to a flat roof, these are typically;

FELT ROOF

E.P.D.M. / RUBBER ROOF

FIBREGLASS G.R.P.

Hover over the blue buttons for more details

NON-STANDARD CONSTRUCTION TYPES

COB, COBB OR CLOM

Making buildings with dirt is an idea that's been around almost as long as man has been on earth. The traditional material for English cob was soil (clay-based) mixed with water and straw, sometimes with crushed flint or sand added.

Whilst the cob is simple, it's incredibly durable, with the oldest standing cob built in the UK dating back to the 1200s.

The construction technique involves building up thick walls by working in layers, letting each one harden before adding the next. The wall is then plastered with clay or lime, or can be left unfinished. Cob is simple, cheap, requires few tools other than your hands and is extremely environmentally friendly. The end result dries almost as hard as concrete, making it ideal for structural walls. It's durable, fire-resistant, has high levels of insulation and malleability, allowing the walls take on any shape you wish.

NON-STANDARD CONSTRUCTION TYPES

ECO OR GREEN ROOF

A green roof or living roof is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.

Green roofs serve several purposes for a building, such as absorbing rainwater, providing insulation, creating a habitat for wildlife, decreasing stress of the people around the roof by providing a more aesthetically pleasing landscape, and helping to lower urban air temperatures and mitigate the heat island effect. They effectively utilize the natural functions of plants to filter water and treat air in urban and suburban landscapes. There are two types of green roof: intensive roofs, which are thicker, with a minimum depth of 12.8 cm (5.0 in), and can support a wider variety of plants but are heavier and require more maintenance, and extensive roofs, which are shallow, ranging in depth from 2 cm (0.79 in) to 12.7 cm (5.0 in), lighter than intensive green roofs, and require minimal maintenance.

NON-STANDARD CONSTRUCTION TYPES

CLADDING

Cladding is a non-loadbearing skin or layer attached to the outside of a home to shed water and protect the building from the effects of weather. It is a key element in the aesthetic appeal of the home and directly influences both building cost and property value.

Cladding is typically made from wood, metal, plastic (vinyl), masonry or an increasing range of composite materials. It can be attached directly to the frame or to an intermediate layer of battens or spacers to prevent condensation and allow water vapour to escape.

Wood cladding such as European oak or red cedar which are popular in the UK typically have a life expectancy of around 40-60 years and will require regular or some maintenance. Most come with a 15 year guarantee from the fitting or construction service.

NON-STANDARD CONSTRUCTION TYPES

PRE-FABRICATED CONSTRUCTION

Prefabs (prefabricated houses) were a major part of the delivery plan to address the United Kingdom's post–Second World War housing shortage. They were envisaged by war-time prime minister Winston Churchill in March 1944, and legally outlined in the Housing (Temporary Accommodation) Act 1944.

Taking the details of the public housing plan from the output of the Burt Committee formed in 1942, the wartime coalition government under Churchill proposed to address the need for an anticipated 200,000 shortfall in post-war housing stock, by building 500,000 prefabricated houses, with a planned life of up to 10 years within five years of the end of the Second World War. The eventual bill of state law, agreed under the post-war Labour government of Prime Minister Clement Attlee, agreed to deliver 300,000 units within 10 years, within a budget of £150m.

Today, a number survive, a testament to the durability of a series of housing designs and construction methods only envisaged to last 10 years, on the back of this scheme local authorities developed non-traditional building techniques, which included some prefabrication notably pre-cast reinforced concrete (PRC) to fulfil the under-predicted demand.

THATCHED ROOF

Thatching is the craft of building a roof with dry vegetation such as straw, water reed, sedge , rushes, or heather, layering the vegetation so as to shed water away from the inner roof. It is a very old roofing method and has been used in both tropical and temperate climates. By contrast in some developed countries it is now the choice of some affluent people who desire a rustic look for their home, would like a more ecologically friendly roof, or who have purchased an originally thatched abode.

Good thatch does not require frequent maintenance. In England a ridge normally lasts 8–14 years, and re-ridging is required several times during the lifespan of a thatch. Experts no longer recommend covering thatch with wire netting, as this slows evaporation and reduces longevity. Moss can be a problem if very thick, but is not usually detrimental. The thickness of a layer of thatch decreases over time as the surface gradually turns to compost and is blown off the roof by wind and rain. Thatched roofs generally needs replacement when the horizontal wooden '*sways*' and hair-pin '*spars*', also known as '*gads*' (twisted hazel staples) that fix each course become visible near the surface. It is not total depth of the thatch within a new layer applied to a new roof that determines its longevity, but rather how much weathering thatch covers the fixings of each overlapping course. *"A roof is as good as the amount of correctly laid thatch covering the fixings."*

TIMBER FRAME

In timber frame construction the internal structure is a wooden frame which has been designed to support the structure of the house. This frame is then clad by a facing material such as brick or stone, to provide an attractive finish.

Timber framing and "*post-and-beam*" construction are methods of building with heavy timbers rather than dimensional lumber such as 2x4s.

Traditional timber framing is the method of creating structures using heavy squared-off and carefully fitted and joined timbers with joints secured by large wooden pegs (larger versions of the mortise and tenon joints in furniture). It is commonplace in wooden buildings from the 19th century and earlier. The method comes from making things out of logs and tree trunks without modern high tech saws to cut lumber from the starting material stock. Using axes, adzes, and draw knives, hand-powered auger drill bits (brace and bit), and laborious woodworking, artisans or farmers could gradually assemble a building capable of bearing heavy weight without excessive use of interior space given over to vertical support posts.

STEEL FRAMED CONSTRUCTION

Building in steel has been popular in the UK, USA and South Africa for some time. The steel framework is lightweight, strong, weather resistant and quick to erect. Exterior panels are attached to the steel frame and then rendered. Most of the materials are made to measure prior to delivery on site and thus the house can be made weatherproof very quickly.

Steel framed construction properties often use SIPs (Structural Insulated Panels) for the infill wall construction. SIPs are fabricated in a factory off-site and can be delivered pre cut and pre insulated, meaning a new house can be erected in 2-3 weeks.

The panel frame is made from a sandwich of two layers of structure and one layer of insulation. The standard comprises of two layers of Oriented Strand Board (OSB), either side of of premium carbon treated expanded polystyrene (EPS).

NON-STANDARD CONSTRUCTION TYPES

BUNGAROOSH

What is Bungaroosh?

Bungaroosh is almost exclusively found in Brighton. It became popular between the mid-18th and the mid-19th centuries, and was a response to hefty brick taxes. The main component of Bungaroosh was hydraulic lime, although it was typically created from a variety of other miscellaneous items.

Builders of the time tended to take a relaxed approach to the composition of Bungaroosh, adding all manner of materials like pieces of brick, wood, stones, sand, flint and other flotsam they found lying around. This eclectic mixture was then put into a matrix of hydraulic lime and left to set as best it could. As you can imagine, Bungaroosh with a particularly low lime content and low quality filler materials was especially structurally unsound, but even the higher quality recipes left a lot to be desired.

What are the Problems with Bungaroosh?

Buildings made with Bungaroosh can suffer from a multitude of problems. It's not as resilient as most other building materials, and properties built from it have an increased incidence of just about every structural problem you can possibly imagine. Bungaroosh is not very water resistant, either: water can easily soak through the walls, leading to chronic problems with damp. In some cases– for example if the walls become too saturated with water–elements of the Bungaroosh can dissolve and move, undermining the structural integrity of the building.

In houses built with Bungaroosh, it's especially important to reduce opportunities for penetrating damp to occur. On the other hand, if the Bungaroosh gets too dry, there is a chance that the walls might crumble. Given these

limitations, just imagine how difficult it must be to fix shelves or pictures to Bungaroosh surfaces. All things considered, it's not an optimal building material for a house, and the real surprise is that so many Bungaroosh properties are still standing.

CONTACT US

Sales Support: 0333 2000 444
advisers@assurant.com