

Hemp Straw in Building



A whole range of sustainable building products are currently being made from all parts of the hemp plant for use in restoration and new build projects. Hemp construction uses renewable crop-based materials which absorb carbon dioxide (CO₂) as they grow, providing an opportunity to capture and store CO₂ in the fabric of buildings. Hemp fibre is made into 'user-friendly' recyclable loft insulation which does not contain harmful ingredients and compressed hemp shiv is used to make a fibre board but by far the most exciting development is Hempcrete, a material that can be used for construction.

Using the woody core of the hemp plant with a lime binder to make a biocomposite, called Hempcrete, that can be cast or sprayed into the walls of newly built houses. Hempcrete is a non structural wall infill to be used in conjunction with timber frame structures. Hempcrete walls provide all the insulation the building needs. Floor and roof insulation can also be achieved with the hemp lime biocomposite.

Hempcrete provides carbon neutral, low energy, highly insulated structures and is suitable for both new build or refurbishment.

Hempcrete is also a very good choice for renovating many old buildings with poor insulation where a layer of Hempcrete can be applied to the interior of the building providing some insulation and eliminating drafts. In some circumstances the Hempcrete can be applied to the outside of the building to achieve the same results.

The process of turning hemp into houses is not at all complex. Hempcrete is simply hemp shiv combined with natural lime and water as binding agents. This creates a creamy mix which is then poured into removable wooden shuttering and lightly tamped down to produce a 450mm wall cast around a timber frame which provides structural stability.

Hempcrete buildings have many good properties; low embodied energy - low energy used in production HemShiv for Hempcrete, high embodied carbon - Large amounts of carbon locked up in Hempcrete buildings, very good thermal insulation properties, good noise insulation properties, breathes, helps to prevent condensation, non-flammable and Self draining, resistant to rodents, insects, fungi and bacteria. They are also flexible and crack resistant, visually attractive - any shape can be constructed with Hempcrete, light weight. They also Improve with age, recyclable, sustainable - Hemp is grown every year.

How is it better for the environment?

Hemp construction uses renewable crop-based materials which have absorbed carbon dioxide (CO₂), providing an opportunity to capture and store CO₂ in the fabric of buildings. It is claimed that hemp and lime can lock up approximately 110 kg of CO₂ per m³ of wall.