

Tradical[®] Hemcrete[®]

Embodied CO₂

Tradical[®] Hemcrete[®] absorbs carbon dioxide in its creation.

Hemcrete[®] is unique because the CO₂ absorbed in the growing of the hemp more than offsets the CO₂ produced in the manufacture of the binder. Indeed during the life cycle of calcium hydrate (lime) the main constituent of the binder in Hemcrete[®] is that a large portion of the CO₂ emitted in manufacture is reabsorbed as it cures and reverts back to limestone (calcium carbonate).

Independent studies have shown that for a 300mm wall, Hemcrete[®] locks up around 40kg of carbon dioxide for every m² of wall, whereas a typical brick and block cavity wall will create in its manufacture around 100kg of CO₂ per m² of wall.

The net benefit of using Hemcrete[®] over traditional wall construction is 140kg per m² of wall or 20 tonnes of CO₂ for a typical house. This can reduce the embodied carbon dioxide emitted in the construction of the house by as much as 40%. This reduction can be increased further if Hemcrete[®] is used as insulation in floors and roof.

In summary:

A traditional brick and block wall emits in its construction	100 kg/m ² CO ₂
A 300mm Hemcrete [®] wall absorbs in its construction	-40 kg/m ² CO ₂
Nett benefit	140 kg/m ² CO ₂

For a typical house the wall area	140 m ²
Equates to	20 t CO ₂
For a typical house the embodied carbon dioxide	50 t CO ₂
Carbon dioxide saving	40%

As buildings are designed towards zero carbon in use, the carbon dioxide emitted in the construction of the building (the embodied CO₂) will be an increasingly important part of the total lifecycle analysis of the building's carbon dioxide.

Construction in Hemcrete[®] will save many years of CO₂ emissions from that building.

For more information on specifying Hemcrete[®] for carbon efficient, high code level buildings please contact our technical advisors below.