

# Tradical<sup>®</sup> Hemcrete<sup>®</sup>

## Embodied CO<sub>2</sub>

Tradical<sup>®</sup> Hemcrete<sup>®</sup> absorbs carbon dioxide in its creation.

Tradical<sup>®</sup> Hemcrete<sup>®</sup> is unique because the CO<sub>2</sub> absorbed in the growing of the hemp more than offsets the CO<sub>2</sub> produced in the manufacture of the binder. Indeed during the life cycle of calcium hydrate (lime) the main constituent of the binder in Tradical<sup>®</sup> Hemcrete<sup>®</sup> is that a large portion of the CO<sub>2</sub> emitted in manufacture is reabsorbed as it cures and reverts back to limestone (calcium carbonate).

Independent studies have shown that for a 300mm wall, Tradical<sup>®</sup> Hemcrete<sup>®</sup> locks up around 40kg of carbon dioxide for every m<sup>2</sup> of wall, whereas a typical brick and block cavity wall will create in its manufacture around 100kg of CO<sub>2</sub> per m<sup>2</sup> of wall.

The net benefit of using Tradical<sup>®</sup> Hemcrete<sup>®</sup> over traditional wall construction is 140kg per m<sup>2</sup> of wall or 20 tonnes of CO<sub>2</sub> 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<sup>®</sup> is used as insulation in floors and roof.

In summary:

A traditional brick and block wall emits in its construction	100 kg/m <sup>2</sup> CO <sub>2</sub>
A 300mm Tradical <sup>®</sup> Hemcrete <sup>®</sup> wall absorbs in its construction	-40 kg/m <sup>2</sup> CO <sub>2</sub>
Nett benefit	140 kg/m <sup>2</sup> CO <sub>2</sub>

For a typical house the wall area	140 m <sup>2</sup>
Equates to	20 t CO <sub>2</sub>
For a typical house the embodied carbon dioxide	50 t CO <sub>2</sub>
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 CO<sub>2</sub>) will be an increasingly important part of the total lifecycle analysis of the building's carbon dioxide.

Construction in Tradical<sup>®</sup> Hemcrete<sup>®</sup> will save many years of CO<sub>2</sub> emissions from that building.

For more information on specifying Tradical<sup>®</sup> Hemcrete<sup>®</sup> for carbon efficient, high code level buildings please contact our technical advisors below.