

SURECAV[®] SureCav Embodied CO2 Production compared to Concrete Blocks

An average, 3-bedroom, 100m² wall area dwelling, will require 185 sheets SureCav. SureCav removes the need for 20-tonnes of dense concrete backing blocks, as shown in the chart below. These calculations are based on a weight for weight comparison.

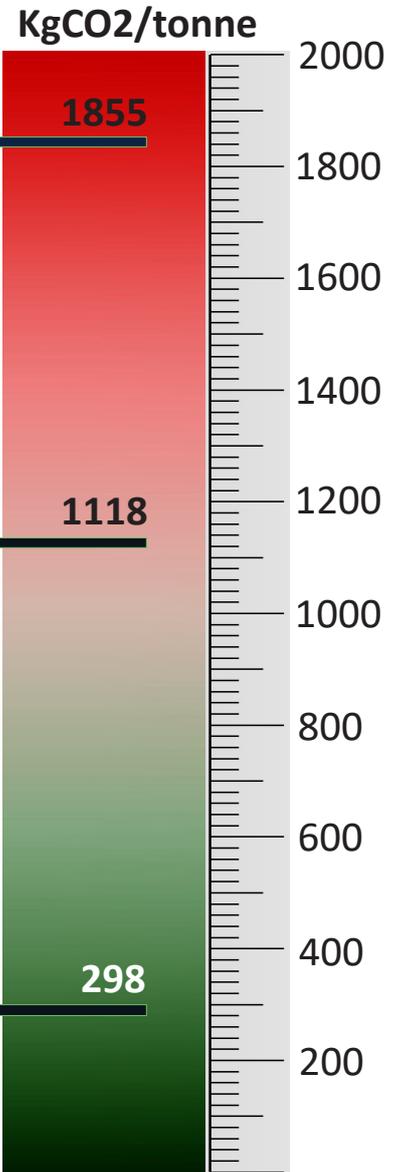
Dense concrete blocks: 92.75 (ECO2) kgCO₂/tonne
 20 tonnes 100mm (ECO2) kgCO₂/tonne
 (cradle to factory gate)¹

Virgin polypropylene = 4,490 (ECO2) kgCO₂/tonne
 0.249 tonnes (ECO2) kgCO₂/tonne
 (cradle to factory gate)¹

SureCav is made from 100% recycled polypropylene

100% recycled Polypropylene = 1200 (ECO2) kgCO₂/tonne
 185 sheets SureCav, injection-moulded
 0.249 tonnes (ECO2) kgCO₂/tonne (re-processed)^{2,3}

100% recycled feed-stock is estimated to require a third or less of the energy used when compared to virgin materials



Conclusion: SureCav produces around a sixth or less of the embodied carbon, in production, compared to the concrete-block backing wall it replaces.

References:

1. Inventory of Carbon & Energy (ICE database from Bath University v3)
2. T.A. Tukker, Plastics Waste – Feed-stock Recycling, Chemical Recycling and Incineration, 2002.
3. Full BSRIA-ICE-guide based on the data sourced from Geoff and Craig 2008, Dong 2018 and O’Farrell, 2018