

Life Cycle of the Cobbauge Walling System: Data for all stages of use. (System Boundaries: EN 15804)

Based on 1 m² of wall.

300mm structural cob mix, 300mm thermal cob mix



1 Product stage

A1 - raw material extraction and processing

Structural mix

481.25kg clay subsoil (12%) extracted with Yanmar B95W wheeled excavator
 7.5l diesel per hour for 01:15 minutes = 0.13litre
 Fibres: Wheat straw = 0.00925t
 Water = 39litre
 Mixing done at extraction site:
 7.5l per hour for 05:53 minutes = 0.69l

Thermal mix

88.05kg clay rich subsoil (36%) extracted by JCB Backhoe digger
 5.4l diesel per hour for 0:15 minutes = 0.0225litre
 Hemp shiv = 0.01904t
 Water = 50.2litre
 Mixing at construction site:
 1.6kwh for 1:02:30 = 1.62kwh

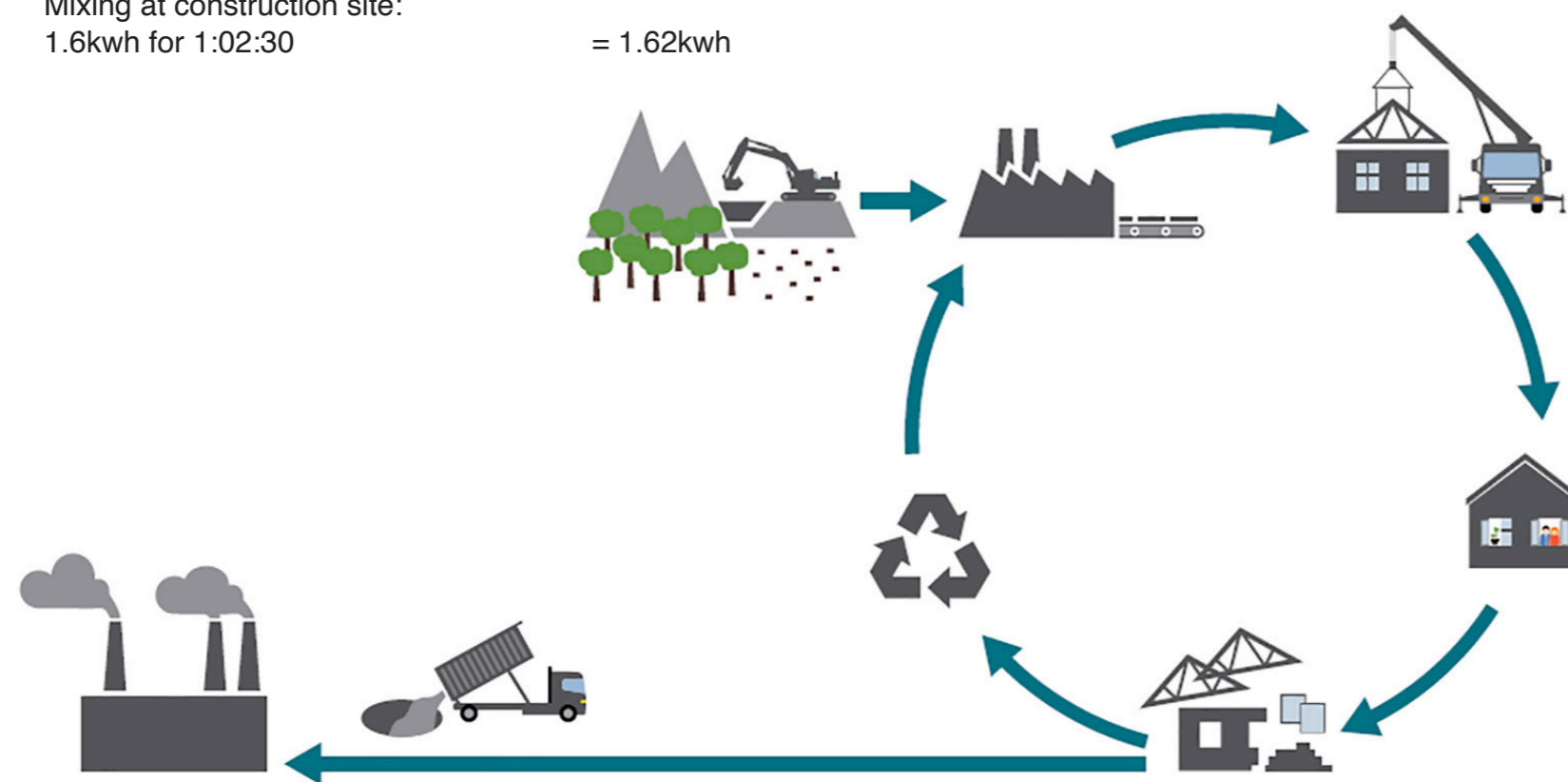
2 Construction process stage

A4 - transport to the construction site

Structural mix to site, three axle rigid lorry 15 ton
 0.489t over 83.85k = 40.83ktm
 Thermal mix to site, three axle rigid lorry 15 ton
 0.88t over 87.2k = 7.67ktm
 Hemp shiv to site, delivery van 2.4t
 0.01904t over 534.3k = 10.17ktm
 Formwork: timber = 0.082ktm
 Formwork: Steel mesh + M12 bar, fixings = 0.675ktm
 Timber: Tamping tool + placement tool = 0.0046ktm

A5 - installation into the building.

Formwork (Reused 25 times)
 Timber, local larch = -1.027kgCO₂e
 Steel mesh = 8.172kgCO₂e
 M12 threaded bar plus washers and nuts = 5.97kgCO₂e
 Electric tools on site:
 Battery drills = 0.18kwh
 Chop saw = 0.95kwh



5 Benefits and loads beyond the system boundary

Reuse, recovery and/or recycling

4 End-of-life stage

C1 - de-construction, demolition,
 C3 - waste processing for reuse,
 recovery and/or recycling and
 C4 - disposal.

3 Use stage

B2 - maintenance