

kg Cellulose insulation

Cellulose is an organic compound that constitutes the primary cell wall of green plants and is the most abundant polymer on Earth. Cellulose insulation has good thermal insulation properties (heat conductivity = 0.04 W/(m·K)). It also acts as sound insulation.

Cellulose insulation is made from recycled newspaper (75-85%) and from natural fire retardants and anti-fungal agents such as boric acid (15-25%). Newspapers are shredded and mixed with boric acid before being turned into small fibres. These are packaged for installation on site.

Cellulose insulation is mostly used in roofs and walls and is typically blown.

Category *Insulation*

Type *Cellulose*

Functional unit *kg*

Specific heat *1 400 J/(kg·K)*

Density *50 kg/m³*

Common uses
Insulation

Process name
Cellulose fibre, inclusive blowing in, at plant/CH U/AusSD U

Input-output sector
Other Wood Product Manufacturing

Further information
doi.org/10.26188/5da5528023cab

Material variations

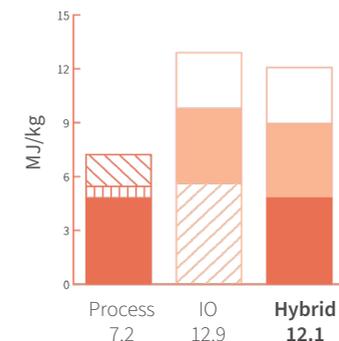
	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO ₂ e/unit)
Cellulose insulation	kg	12.1	20.5	0.8
Cellulose insulation - 80 mm (R2)	m ²	48.3	82.1	3.1
Cellulose insulation - 100 mm (R2.5)	m ²	60.3	103	3.9

TOP THREE INPUTS

17.3% Road Transport

4.5% Boric acid, anhydrous, powder, at plant/RER U/AusSD U

2.8% Kraft paper, unbleached, at plant/RER U/AusSD U



ENERGY

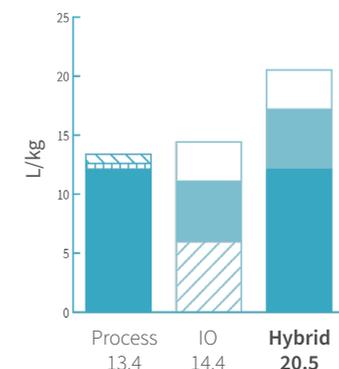
12.1 MJ/kg

TOP THREE INPUTS

34.3% Boric acid, anhydrous, powder, at plant/RER U/AusSD U

22.9% Kraft paper, unbleached, at plant/RER U/AusSD U

1.2% Wholesale Trade



WATER

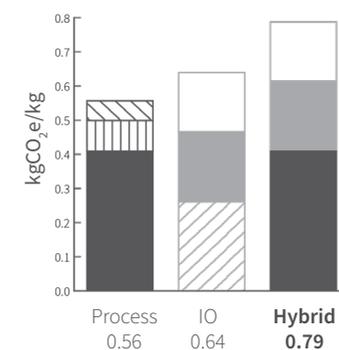
20.5 L/kg

TOP THREE INPUTS

8.4% Road Transport

7.0% Boric acid, anhydrous, powder, at plant/RER U/AusSD U

5.4% Kraft paper, unbleached, at plant/RER U/AusSD U



GREENHOUSE GAS EMISSIONS

0.79 kgCO₂e/kg