

## Shikkui products - Carbon Footprint

### SHIKKUI

Baking		Decarbonation	Burning of coke	Total CO2/kg
	Tons of material	290,000	29,000	
	CO2 released	125,570	93,960	
	CO2/material ratio	0.433	3.24	
	CO2 per kg of material	0.433	0.324	
	CO2 per kg of material	0.433	0.324	<b>0.757</b>

Slaking	MJ	kWh*	Conversion coeff.	CO2 per kg
	0.40	0.111	0.37	<b>0.041</b>

Final production stage	MJ	kWh*	Conversion coeff.	CO2 per kg
<b>Limix production</b>	1.62	0.450	0.37	<b>0.167</b>
<b>Lumie Cube production</b>	1.62	0.450	0.37	<b>0.167</b>
<b>Plaster production</b>	0.38	0.106	0.37	<b>0.039</b>
<b>Ecopo assembly (manual)</b>	0.00	0.00	0.00	<b>0.00</b>

\* 1 MJ = 0.2778 kWh

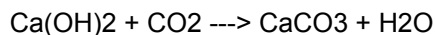
LIMIX		CO2 per kg
	TTL emissions in production	0.566
	<b>Carbonation</b>	<b>0.297</b>
	<b>Final</b>	<b>0.268</b>

LUMIE CUBE		CO2 per kg
	TTL emissions in production	0.566
	<b>Carbonation</b>	<b>0.297</b>
	<b>Final</b>	<b>0.268</b>

SHIKKUI PLASTER		CO2 per kg
	TTL emissions in production	0.438
	<b>Carbonation</b>	<b>0.297</b>
	<b>Final</b>	<b>0.141</b>

ECOPO		CO2 per kg
	TTL emissions in production	0.239
	<b>Carbonation</b>	<b>0.178</b>
	<b>Final</b>	<b>0.061</b>

**Carbonation** is the natural process of slaked lime (74g or 1mol) absorbing CO2 (44g) from the air:



As a result, slaked lime turns back into the original raw material - CaCO3 (limestone)

### CONVENTIONAL BAKED CERAMIC TILE

Kcal/kg	kWh*	Conversion coeff.	CO2 per kg
5,871	6.828	0.37	<b>2.526</b>

### Limix vs. baked ceramic tile

CO2 reduction, %
<b>89.38</b>

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### Carbon footprint in shipment (approximate emissions)

- Distance from Kitakyushu (Japanese sea port we are shipping from) to Los Angeles: 6040 miles (5250 nautical miles or 9725 km)
- CO2 emissions for 20 tons of cargo (from Kitakyushu to Los Angeles by sea): 1.33 ton of CO2 (or **66 gram of CO2 per 1 kg of cargo**)

which corresponds to CO2 emissions of

- 300 mile tracking of 20 tons of cargo by an articulated lorry (an efficient and eco-friendly track shipment method)
- For comparison, distance between Los Angeles and San Francisco: 380 miles

*Source: Business CO2 emissions calculator, ClimateCare program of JPMorgan Chase & Co.*  
<https://www.jpmorganclimatecare.com/business/business-co2-calculator/>

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