

## kg Aluminium extruded

Aluminium is a ductile non-ferrous metal. It is a lightweight metal with an average density of 2.7 t/m<sup>3</sup>. It is durable, corrosion resistant, a good reflector of both visible and infrared radiation, and highly recyclable. Aluminium alloys are used in the construction industry as raw aluminium typically lacks the strength required for most of its applications.

Aluminium is extracted from bauxite, its common ore, through an extensive process. Bauxite is converted to aluminium oxide through the Bayer process. Aluminium oxide (or Alumina) is then converted to aluminium billets by the electricity-intensive Hall-Héroult process, made of 99% aluminium, which can be further purified if needed. Aluminium billets are then thermoformed into the relevant shape. Powdercoating provides additional durability, custom colour and improved performance.

Aluminium is commonly used as a construction material, notably as cladding, structural and window framing, and as a thermal reflector. Extruded aluminium is commonly used for window frames, profiles for tracks, frames and rails, and mullions.

<b>Category</b>	Metals
<b>Type</b>	Aluminium
<b>Functional unit</b>	kg
<b>Specific heat</b>	910 J/(kg·K)
<b>Density</b>	2 712 kg/m <sup>3</sup>

**Common uses**  
Window frames, profiles

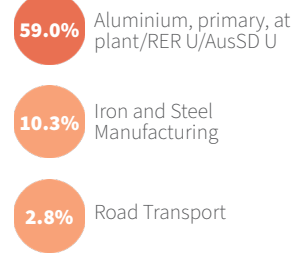
**Process name**  
Aluminium extruded (custom)

**Input-output sector**  
Structural Metal Product Manufacturing

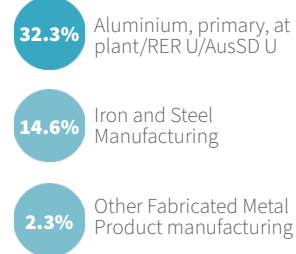
**Further information**  
[doi.org/10.26188/5da551b3248d5](https://doi.org/10.26188/5da551b3248d5)

Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO <sub>2</sub> e/unit)
Aluminium extruded	kg	358	182	29.4
Aluminium round tube - 25 mm dia., 3.2 mm thick	m	114	57.9	9.4
Aluminium round tube - 60 mm dia., 10 mm thick	m	871	442	71.5
Aluminium round tube - 80 mm dia., 6 mm thick	m	705	357	57.8
Aluminium square tube - 20 mm, 1.6 mm thick	m	59.7	30.3	4.9
Aluminium square tube - 40 mm, 2 mm thick	m	152	76.8	12.4
Aluminium square tube - 100 mm, 3 mm thick	m	574	291	47.1
Aluminium extruded powdercoated	kg	415	251	33.6
Aluminium angle extruded	kg	383	244	32.7

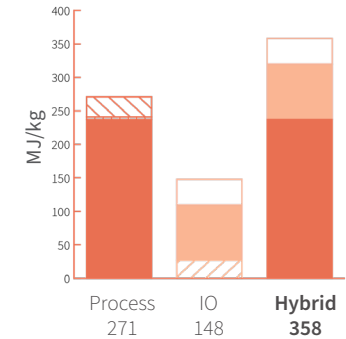
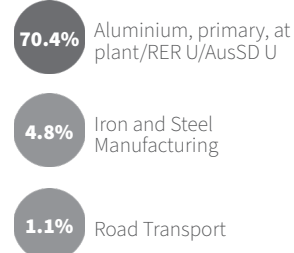
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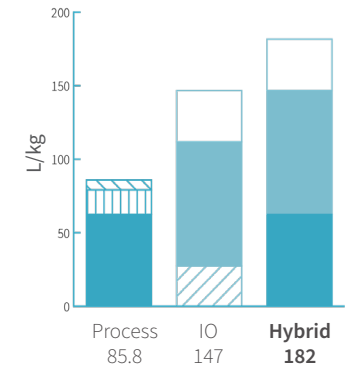
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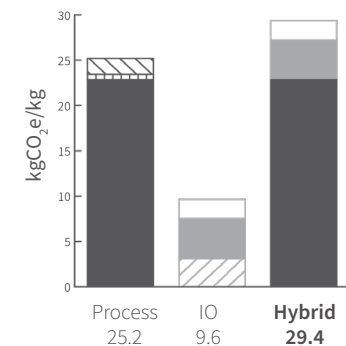
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### ENERGY



### WATER



### GREENHOUSE GAS EMISSIONS

