

kg Stainless steel wire

Steel is a ferrous metal and is an alloy of iron and carbon, as well as potential other elements. It has a very high tensile strength. Steel has been used in the construction industry for over a century. Stainless steel is extremely resistant to corrosion.

The core material for making steel is iron, which is found in iron ore. Iron is extracted from iron ore in blast furnaces through the smelting process, while controlling for the content of carbon. To render the steel stainless, chromium is needed and is typically added as stainless steel scraps. The molten steel is usually further processed before being thermoformed into its final shape.

Steel is commonly used in the construction industry, mainly as a structural material. Stainless steel wires are typically used as ropes and cables in multiple applications, including bridges, suspending structures, lighting and others.

Category Metals
Type Stainless steel
Functional unit kg
Specific heat 456 J/(kg·K)
Density 7 740 kg/m³

Common uses
Cables, ropes, structure, lighting

Process name
Stainless steel, wire (custom)

Input-output sector
Other Fabricated Metal Product manufacturing

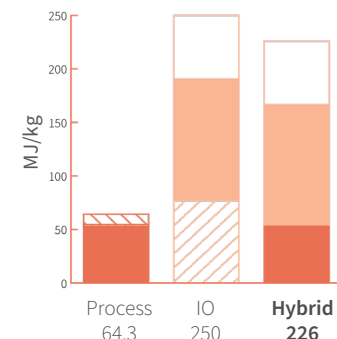
Further information
doi.org/10.26188/5da5580349dda

Material variations

	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions (kgCO ₂ e/unit)
Stainless steel wire	kg	226	253	13.9
Bare wire - 2 mm dia.	m	5.5	6.2	0.3
Bare wire - 3.2 mm dia.	m	14.1	15.8	0.9
Wire Rope - 1.6 mm dia.	m	2.4	2.7	0.2
Wire Rope - 4 mm dia.	m	14.2	15.9	0.9
Wire Rope - 8 mm dia.	m	57.8	64.9	3.6
Wire Rope - 12 mm dia.	m	127	143	7.8

TOP THREE INPUTS

- 25.9% Basic Non-Ferrous Metal Manufacturing
- 22.3% Steel, converter, chromium steel 18/8, at plant/RER U/AusSD U
- 5.0% Road Transport

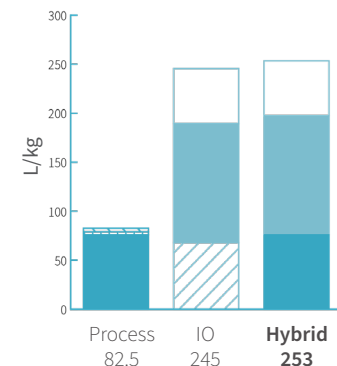


ENERGY



TOP THREE INPUTS

- 15.3% Steel, converter, chromium steel 18/8, at plant/RER U/AusSD U
- 14.6% Wire drawing, steel/RER U/AusSD U
- 12.4% Basic Non-Ferrous Metal Manufacturing

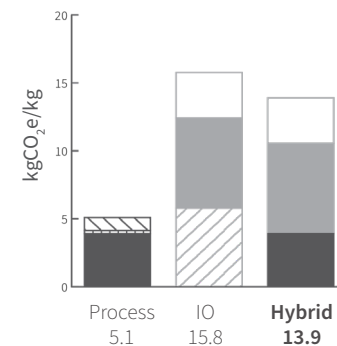


WATER



TOP THREE INPUTS

- 26.9% Steel, converter, chromium steel 18/8, at plant/RER U/AusSD U
- 20.6% Basic Non-Ferrous Metal Manufacturing
- 3.5% Other Fabricated Metal Product manufacturing



GREENHOUSE GAS EMISSIONS

