

Description

The material

Datasheet only intended for use with the Eco-Audit tool, not for general information.

General properties

Price	* 2.05e4	-	2.26e4	USD/lb
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Geo-economic data for principal component

Annual world production	166	-	184	ton/yr
Reserves	6.99e4			l. ton

Primary material production: energy, CO2 and water

Embodied energy, primary production	* 2.78e7	-	3.08e7	kcal/lb
CO2 footprint, primary production	* 1.4e4	-	1.55e4	lb/lb
Water usage	* 2.23e4	-	2.47e4	gal(US)/lb
Eco-indicator 95	7e6			millipoints/kg

Material processing: energy

Casting energy	* 750	-	829	kcal/lb
Extrusion, foil rolling energy	* 148	-	164	kcal/lb
Rough rolling, forging energy	* 89.6	-	99	kcal/lb
Wire drawing energy	* 471	-	521	kcal/lb
Metal powder forming energy	* 3.19e3	-	3.52e3	kcal/lb
Vaporization energy	* 4.89e5	-	5.4e5	kcal/lb
Coarse machining energy (per unit wt removed)	* 60.2	-	66.6	kcal/lb
Fine machining energy (per unit wt removed)	* 140	-	154	kcal/lb
Grinding energy (per unit wt removed)	* 228	-	251	kcal/lb
Non-conventional machining energy (per unit wt removed)	4.89e3	-	5.4e3	kcal/lb

Material processing: CO2 footprint

Casting CO2	* 0.519	-	0.574	lb/lb
Extrusion, foil rolling CO2	* 0.103	-	0.113	lb/lb
Rough rolling, forging CO2	* 0.062	-	0.0685	lb/lb
Wire drawing CO2	* 0.326	-	0.36	lb/lb
Metal powder forming CO2	* 2.35	-	2.6	lb/lb
Vaporization CO2	* 338	-	374	lb/lb
Coarse machining CO2 (per unit wt removed)	* 0.0417	-	0.0461	lb/lb
Fine machining CO2 (per unit wt removed)	* 0.0966	-	0.107	lb/lb
Grinding CO2 (per unit wt removed)	* 0.158	-	0.174	lb/lb
Non-conventional machining CO2 (per unit wt removed)	3.38	-	3.74	lb/lb

Material recycling: energy, CO2 and recycle fraction

Recycle	✓			
Embodied energy, recycling	* 8.41e5	-	9.28e5	kcal/lb
CO2 footprint, recycling	* 610	-	674	lb/lb
Recycle fraction in current supply	2.81	-	3.11	%
Downcycle	✓			
Combust for energy recovery	✗			
Landfill	✓			
Biodegrade	✗			
A renewable resource?	✗			

Environmental notes

The recycling energy and CO2 values refer to objects made from the precious metal, not the precious metal when used as a alloying agent or finely-dispersed catalyst (for which the recycling energy and CO2 is much higher).

Links

Producers