



LCA [Life-Cycle Assessment] Environmental Impact

Basalt Fiber vs Glass Fiber

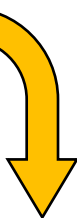
Scale: 1 - 10 (The lower the number, the less the impact.)



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Product	Human Toxicity	Photochemical Oxidant	Terrestrial Acidification	Freshwater Eutrophication	Marine Eutrophication	Terrestrial Ecotoxicity	Freshwater Ecotoxicity	Water Depletion	Metal Depletion	Average
BFRP	0.2	2.8	1.5	0.65	2.2	0.5	0.7	1.1	0.85	1.17
GFRP	9.85	9.7	9.7	9.7	9.8	9.75	9.8	9.65	9.7	9.74

Per Day 3.2 MM Tons of Steel Produced
Per Day 255 MM Tons of Wastewater from Steel Mining
Per Day 7.6 MM Tons of CO2 Emitted into the Atmosphere



Source: Grandview Research

The Production of Steel is the most energy consuming and CO₂ emitting industry in the world!

Steel requires about 20 gigajoules of energy per ton produced. Three quarters of the energy comes from burning coal (coke), which is extremely polluting. Steel production requires large inputs of coke which is extremely damaging to the environment. Coke ovens emit air pollution such as naphthalene that is highly toxic and can cause cancer. Wastewater from the coking process is also highly toxic and contains a number of carcinogenic organic compounds as well as cyanide, sulfides, ammonium and ammonia.

This process produces >7,708,629,850 Tons of wastewater from steel mining annually!

Additionally, and on average, 1.83 tons of CO₂ is emitted for every ton of steel produced, making steel production a major contributor to global warming; adding over 3.3 million tons annually to global emissions.

Main steel producing countries:

- China: 1002.3 million tons
- India: 114.5 million tons
- Japan: 112.3 million tons
- United States: 92.6 million tons
- South Korea: 77.5 million tons
- Russia: 76.7 million tons

Source: The World Counts