

The Scrap Recycling Industry: Ferrous Scrap

Ferrous scrap is a **vital raw material** for the production of new steel and cast iron products. Currently, more than two out of three pounds of steel made in the U.S. are manufactured using ferrous scrap. Electric arc furnace (EAF) manufacturers **utilize nearly 100% ferrous scrap** as their feedstock material.

Ferrous scrap is iron and steel recovered from automobiles, farm equipment, household appliances, steel beams, bridges, railroad tracks, ships, and food. Nearly half of the ferrous scrap supply is **generated from industrial and manufacturing sources**. For example, when a piece of metal is cut or a hole is drilled, the metal that is left over is industrial scrap. Ferrous scrap recyclers purchase the scrap and process it into one of more than **100 globally recognized commercial grade specifications**. It is then sold to a steel mill, foundry, or other industrial consumer for manufacture into new products.



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Institute of
Scrap Recycling
Industries, Inc.



THE FERROUS SCRAP INDUSTRY

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On average, the U.S. processes enough ferrous scrap daily to build five Eiffel Towers every day of the year.

In 2007, the U.S. scrap industry recycled more than 81.6 million metric tons of ferrous metal.

Steel produced by predominantly scrap-fed electric arc furnaces account for 59% of the total raw steel produced in the United States last year—nearly 58 million metric tons.

The U.S. is the largest exporter of ferrous scrap in the world. In 2007, 15.6 million metric tons of ferrous scrap—valued at more than \$5 billion—were exported to 133 countries, including Turkey, China, Canada, Taiwan, South Korea, Malaysia, Mexico, Thailand, India, and Egypt.

Top exports include:

- 5,000,000 metric tons of shredded steel scrap
- 3,300,000 metric tons of #1 heavy melting steel
- 1,800,000 metric tons of alloyed non-stainless steel
- 1,100,000 metric tons of cast iron

Recycling steel requires 60% less energy than producing steel from iron ore.

The use of scrap vs. iron ore reduces mining wastes by 97%, air pollution efficient by 86%, and water pollution by 76%.

Recycled more than 17 million cars in 2006 through more than 200 shredders to supply an estimated 14 million tons of shredded scrap.

Recycling rate

- for cars: 102%
- for appliances: 90%
- for cans: 63%
- for plates and beams: 98%
- for rebar and other construction materials: 63%

Sources: AISI, USGS, USITC, ISRI, other industry sources