

Steel



Steel is used to make food cans, paint and aerosol containers, appliances, bicycles, cars, buses, ships, railroad engines, cranes, bulldozers, tractors, bridges and building structures. All of these products contain recycled steel.

Steel provides strength, durability and affordable products, which are 100% recyclable.

How are steel cans made?

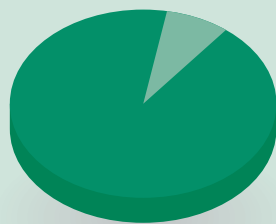
- Steel is produced in either a Basic Oxygen Furnace or Electric Arc Furnace.
- Steel cans are made with a minimum of 25% recycled steel.
- A thin layer of tin or chromium is applied to the steel to prevent rust and to protect the contents of the can.
- Finished tin-plate steel is purchased by can manufacturers that make the cans and sell them to brand owners that fill them with their products.
- Canned food contains no preservatives.
(Source: Dofasco, Canada's only producer of tin-plated steel)

How are steel products recycled?

- Automobiles are collected by scrap processors.
- Appliances (i.e., stoves, refrigerators and hot water heaters) are collected in municipal programs or by scrap processors.
- Steel food cans are collected in the blue box or at depots. Some municipalities also collect empty aerosols and paint cans.
- Electromagnets are used to separate steel from other materials.
- Obsolete steel products are processed to separate steel from other materials and made compact by shearing, shredding or baling.
- Bridges and building structures are demolished and the steel is sent to scrap processors.
- Steel scrap is used as raw material to produce new steel.

Fast Facts

- Steel is the most recycled material in Canada. (Source: Dofasco)
- The Canadian steel industry recycled over 8.0 million tonnes of steel in 1998. (Source: Statistics Canada 41-001)
- Average recycled content of steel produced in Canada: 51% (Source: Based on Environment Canada Data)
- The Canadian recycling rate for steel is 65%. (Source: Dofasco)
- Steel recycling has taken place in Canada for over 100 years. (Source: Dofasco)
- It would take 100 years for a littered steel can to break down by natural processes. (Source: San Francisco Recycling Program, www.sfr-cycle.org/v2/sch/decompose.html)



In 1997, 90% of Ontario's population had access to steel can recycling. (Source: Ontario Material Recovery System: Selected Programs, CSR, 1998)

How much steel do Ontario households recycle?

- Average number of steel cans made per tonne of steel manufactured: Approximately 25,000
- Amount of steel that was sold for recycling by Ontario municipalities in 1998: 30,297 tonnes (Source: Municipal 3Rs 1998 Database, 3Rs Information Partnership)
- Number of steel cans that could be made using Ontario's recyclable steel from 1998: More than 786 million



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Material Fact Sheet Series
A Waste Reduction Week '99 Initiative

This fact sheet has been prepared with support from:

DOFASCO
Our products to steel. Our strength is people.

Why do we recycle steel?

- The environmental benefits of using recycled steel instead of virgin ore to make steel are: 74% savings in energy, 90% savings in virgin resources use, 86% reduction in air pollution, 40% savings in water use, 76% reduction in water pollution, 97% reduction in mining waste, 105% reduction in consumer waste generated. (Source: ISRI, www.isri.org)

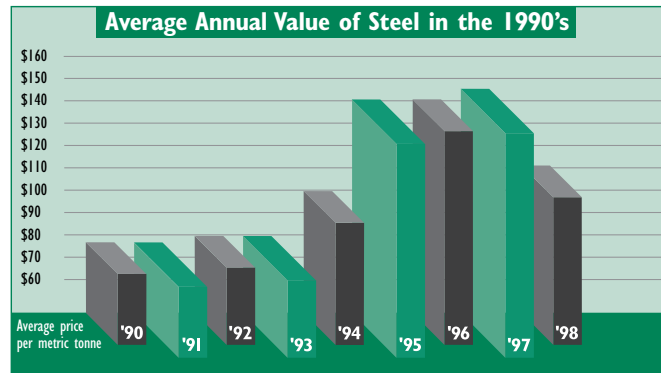
How much are steel cans worth?

- Since 1990, steel has sold for as much as \$146 per metric tonne and for as little as \$77 per metric tonne on the spot market. (Source: CSR Sheet, 1999)

What about the first R?

- Steel cans are 34% lighter in weight than in 1972 and their thickness has been reduced by 30% (from 0.2 mm to 0.14 mm) over the past 25 years.

(Source: Waste Age Magazine, May '99, pg. 67)



For more information....

- Dofasco
www.dofasco.ca
- Steel Recycling Institute
www.recycle-steel.org/index2.html
- The Metal Institute
www.icme.com
- Recycling Council of Ontario
www.rco.on.ca