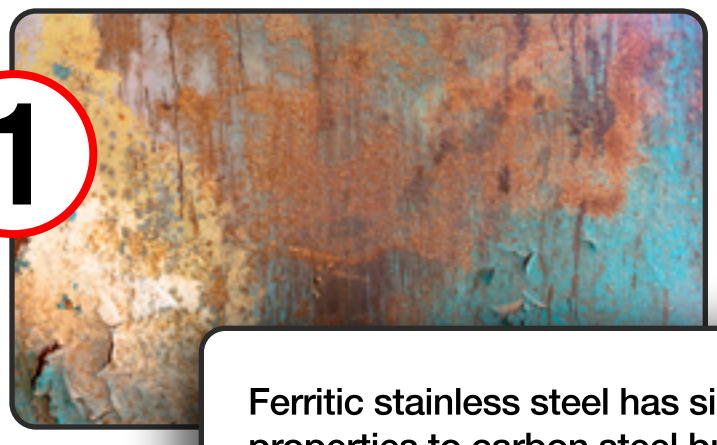
Stainless Steel Snapshot:

Ferritic Steel

Stainless steel is made primarily from iron and carbon in a two-step process, with the addition of chromium (Cr) and other alloying elements to create a corrosion-resistant product. Steel corrodes because when iron is artificially manipulated into a pure form to make steel, it becomes unstable and will readily recombine with oxygen. There are five main grades of stainless steel: austenitic, ferritic, martensitic, duplex, and precipitation hardening.

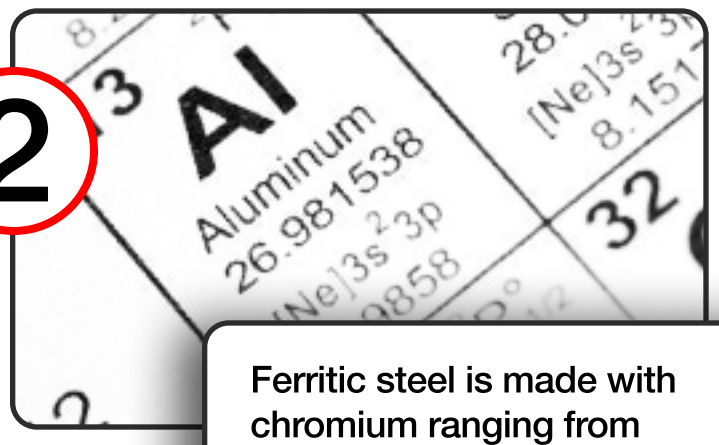
Ferritic steel is a type of steel that is composed of less than 0.10% carbon, usually composed of ferromagnetic compounds of ferric oxide with other oxides. Here are a few facts about ferritic stainless steels:

1



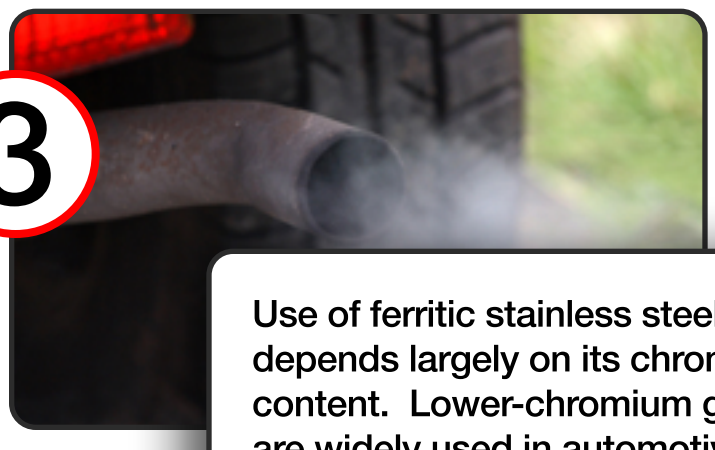
Ferritic stainless steel has similar properties to carbon steel but with better corrosion, heat, and cracking resistance, although it is not as corrosion resistant as the austenitic grades.

2



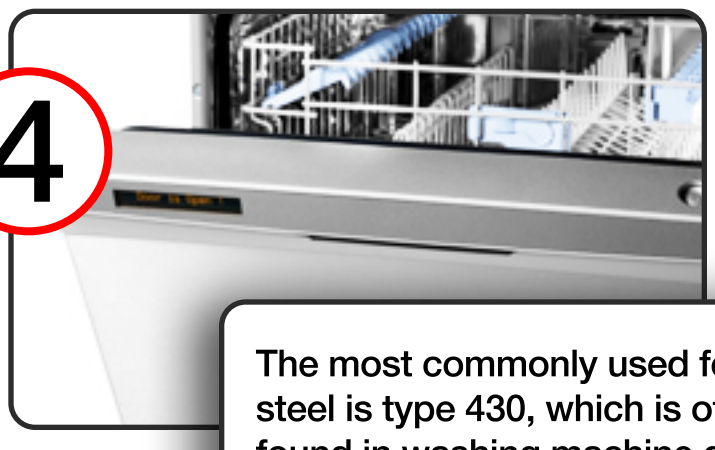
Ferritic steel is made with chromium ranging from approximately 12-30% and little or no nickel. Specialty grades often include molybdenum, aluminum, and titanium.

3



Use of ferritic stainless steel depends largely on its chromium content. Lower-chromium grades are widely used in automotive exhaust systems. Intermediate-chromium grades are extensively used in home appliances.

4

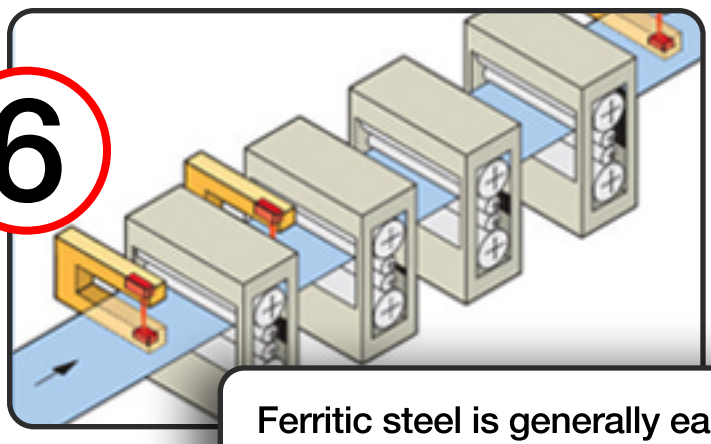


The most commonly used ferritic steel is type 430, which is often found in washing machine drums, kitchen sinks, cutlery, indoor panels, dishwashers and other cooking utensils.

5

Ferritic and austenitic steels can be combined to form Duplex stainless steel. Duplex steels offer the combined advantage of high mechanical strength and high corrosion resistance. They are used in the paper, pulp, shipbuilding, and petrochemical industries.

6



Ferritic steel is generally easy to form and machine for thinner gauges.

Get reliable elemental analysis for accurate steel grade identification and metal alloy verification for manufacturing quality assurance with a handheld X-ray fluorescence instrument.

© 2015 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific Inc. and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details.

Thermo SCIENTIFIC

A Thermo Fisher Scientific Brand