



CUSTOM IRON

strength in creative metals

METAL BASICS



metal basics

Iron is in our name. Steel, stainless steel, aluminum, brass, copper, and iron are in our products. Pure iron metal is not often used in commercial applications, but is usually alloyed with carbon or other metals. The pure metal is very reactive chemically and rapidly corrodes, especially in moist air or at elevated temperatures. The most common metal we use at Custom Iron is a carbon steel alloy.

Steel

Carbon steel is a non-magnetic alloy of iron with small amounts of Manganese, Sulfur, Phosphorus, and Silicon. The foundry process for steel varies widely and many different steel products are available. Custom Iron uses American furniture grade steel and other plain carbon steels for the majority of our products.

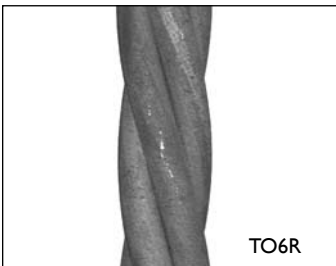
Many of Custom Iron's forged balusters and newels begin with a basic square steel bar from 1/2 to 1". Other interesting alternative materials in steel are available such as these steel profiles (TO4CH, TO6R, TO8A), available in 20' lengths.

Stainless Steel

Stainless steels are corrosion resistant iron alloys. Stainless steel resists ordinary rusting in most architectural applications. The corrosion resistance of stainless steel arises from a "passive," chromium-rich, oxide film that forms naturally on the surface of the steel. Special care must be taken during the fabrication process to maintain corrosion resistant properties.



TO4CH



TO6R



TO8A



Aluminum

Aluminum is a light weight non-ferrous metal. Custom Iron uses high grade aluminum alloys for our aluminum products. We recommend aluminum for exterior installations.

Brass

Brass is a relatively soft alloy of copper and other metals. Brass alloys vary greatly and are sometimes referred to as a type of bronze. Custom Iron uses brass and bronze alloys that are highly similar in color to each other. We refer to all yellow-tinted copper alloys in the brass or bronze family as "brass". The price and availability of the alloys Custom Iron uses for our products might vary. If the specifications for these alloys are critical to your application, please inquire at the time you place your order.

Copper

Custom Iron uses copper in ornamentation such as embossed copper handrails or copper baskets on a steel baluster.

Cast Products

Cast metal products are special alloys that are liquefied and then poured into a mold or "cast." Cast products direct from the foundry exhibit imperfect surface texture and visible casting lines. Many Custom Iron baluster ornaments (such as

collars and medallions) and bases are a cast metal material.

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