

# stainless steel

## technical information

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### GENERAL DESCRIPTION

Many characteristics of stainless steel make it a powerful material selection. However, stainless steel is often overlooked because it is viewed as having a higher initial cost. The fact is, over the total life of a product, stainless steel is often the best value option.

### STAINLESS STEEL

Stainless steel is a generic term that describes more than 60 different grades of low carbon steel which contain at least 10% chromium. It is the addition of chromium that gives the stainless its corrosion resistance.

Stainless steels are rust-resistant alloys because the chromium combines with oxygen to form an invisible layer of chromium-oxide that is self-protective and resists corrosion. If the surface becomes damaged, the chromium-oxide layer reforms within minutes and heals itself.

### FINISHES

The bright, easily maintained surface of stainless steel provides a modern and attractive appearance. Stainless steel can be processed with a variety of mill or abrasive finishes ranging from a dull low-sheen to a highly polished mirror finish.

### CARE AND MAINTENANCE

The easy cleaning ability of stainless steel makes it the first choice for strict hygiene conditions, such as hospitals and kitchens. In outdoor applications, optimum performance of stainless steel is best where it can be regularly rinsed by rain water. Rain water will rinse atmospheric pollution deposits, accumulated environmental contaminants, and de-icing salts.

Manual cleaning of stainless steel should be done with appropriate non-abrasive cloth and clean, warm water with or without a gentle detergent. If more aggressive cleaning is required, the type of contaminant needs to be determined and an appropriate cleaner chosen that is safe for stainless steel. Cleaners containing chlorine should never be used on stainless steel. Brushes or wool made of carbon steel should never be used because iron particles will contaminate the surface of the stainless steel.

Please refer to the following link for a more comprehensive listing of cleaning agents and methods:

[www.ssina.com/download\\_a\\_file/cleaning.pdf](http://www.ssina.com/download_a_file/cleaning.pdf)

### ENVIRONMENTAL

Stainless steel is 100% recyclable. In fact, over 60% of new stainless steel comes from old re-melted scrap.

Stainless steel is also good for the environment because it does not need additional finishing to achieve corrosion resistance nor does it need harsh cleaners to keep it clean.

### DURABILITY

Stainless steel work hardens during fabrication so the finished product is actually tougher than before it was manufactured into site furniture. This is true from elevated temperatures to far below freezing. The naturally forming, self-healing chromium-oxide surface layer protects the material from corrosion. For this reason, stainless steel panels have been used on the exterior of sky scrapers for decades, and with proper maintenance they look as good today as the day they were built.

For outdoor site furniture applications, stainless steel offers durability and weatherability. With proper care, maintenance and placement, stainless steel is an excellent choice.