

# McKINNEY

To Whom It May Concern:

Re: McKinney Stainless Steel Hinges

Stainless steel is an alloy of iron and carbon steel with chromium and other elements. The addition of over 10% chromium makes these alloys less prone to stain (thus "stain less") or rust than other metals. The chromium content of the steel allows the formation of a rough, adherent, invisible, corrosion-resisting chromium oxide film on the steel surface. If damaged, mechanically or chemically, this film is self-healing, providing that oxygen, even in very small amounts, is present. The corrosion resistance and other useful properties of the steel are enhanced by increased chromium content and the addition of other elements such as molybdenum, nickel and nitrogen.

There are more than 60 grades of stainless steel. Stainless steel hinges produced by McKinney are manufactured from 300 series stainless steel. The microstructure of the 300 series provides high toughness, from elevated temperatures to far below freezing, making these steels particularly suited for any climate.

Field problems may be encountered when adjacent, ferrous structures (door and frame) become rusted and then cleaned with steel wool or a wire brush before painting. A good stainless steel cleaner, along with a Teflon pad should be used to "clean" stainless hinges. It is imperative that no type of steel wool or carbon steel brushes be used on stainless hinges, as they will result in contaminating the stainless material.

The fact that stainless steel has a great resistance to corrosion means that using stainless will result in a very long life compared to mild steel. So, although stainless steel hinges are more expensive to purchase in the beginning, when you consider the total life cycle costs, stainless is often the least expensive material option in terms of maintenance and replacement. And not only is stainless a very versatile material, it is 100% recyclable

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