Frick® LaZerWeld Heat Exchangers Advantage

Application Tip

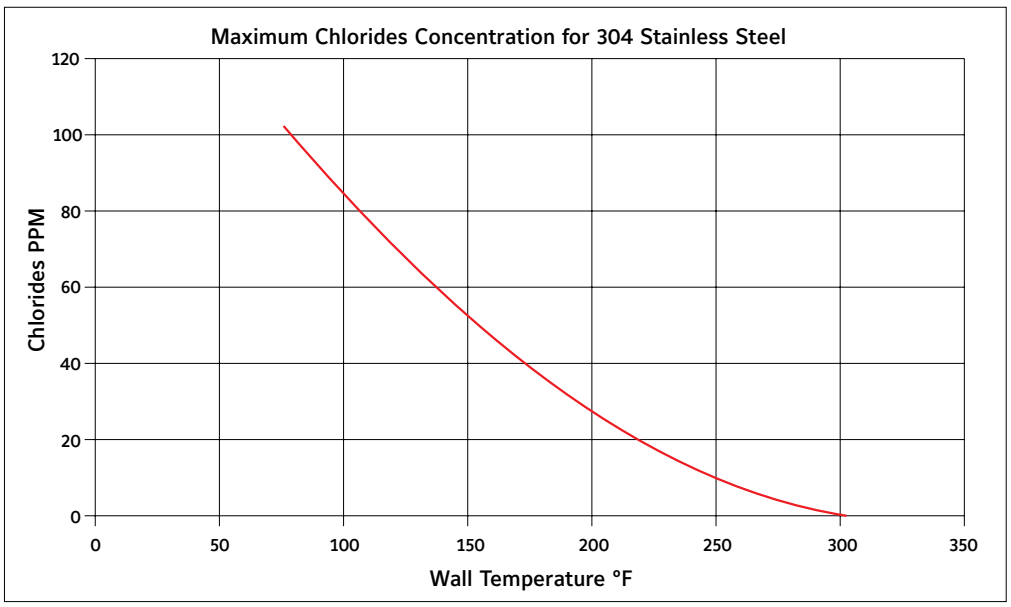
Protect Against Corrosive Effects of Chlorides

Frick® Lazerweld heat exchangers can be used across a wide range of cooling and heating applications. The Lazerweld product line offers a variety of sizes and material choices designed to meet the demands of your specific application. In many applications such as condensers, desuperheaters, and heat pumps, Lazerweld heat exchangers are an excellent choice for clean and efficient operation.

Many Lazerweld applications will operate at high temperatures which can expose the heat exchanger to the corrosive effects of chlorides. Chlorides are defined as any chemical compound that contains chlorine. Chlorides most commonly occur as chloride salts, including sodium chloride (common salt), potassium chloride, calcium chloride, and ammonium chloride and most chloride salts are readily soluble in water. In the industrial refrigeration food and beverage industry chlorine can be introduced into piping systems in many ways, but some of the more common applications are salt (sodium chloride) or seawater, chlorine-based sterilizing solutions such as bleach (sodium hypochlorite), and calcium chloride as low temperature brine.

Chlorides can corrode stainless steel particularly at high temperatures. Therefore, knowing the concentration of chlorides in the water or brine will help you make the correct choice of material for your Lazerweld heat exchanger. In order to assist you in making the correct material choice we have provided concentration charts for 304 stainless steel, 316 stainless steel, and titanium. The charts are intended to be a guideline in evaluating maximum allowable chloride concentrations for each material at various temperatures.

Making the correct choice of material will ensure that your Frick® Lazerweld heat exchanger will provide many years of safe and reliable operation.



NOTE: Charts for 316 Stainless Steel and Titanium are on the back page.

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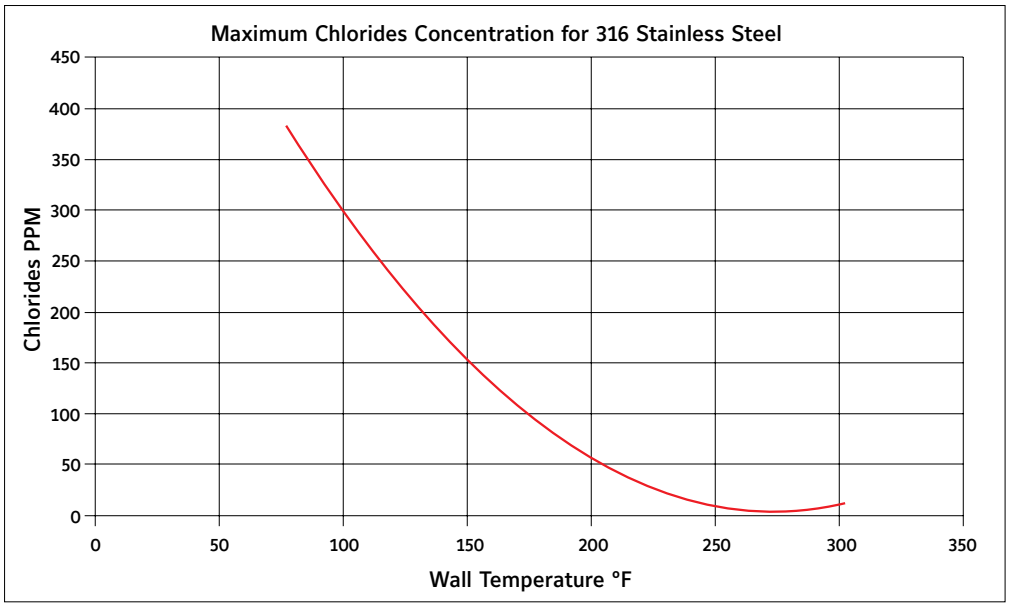
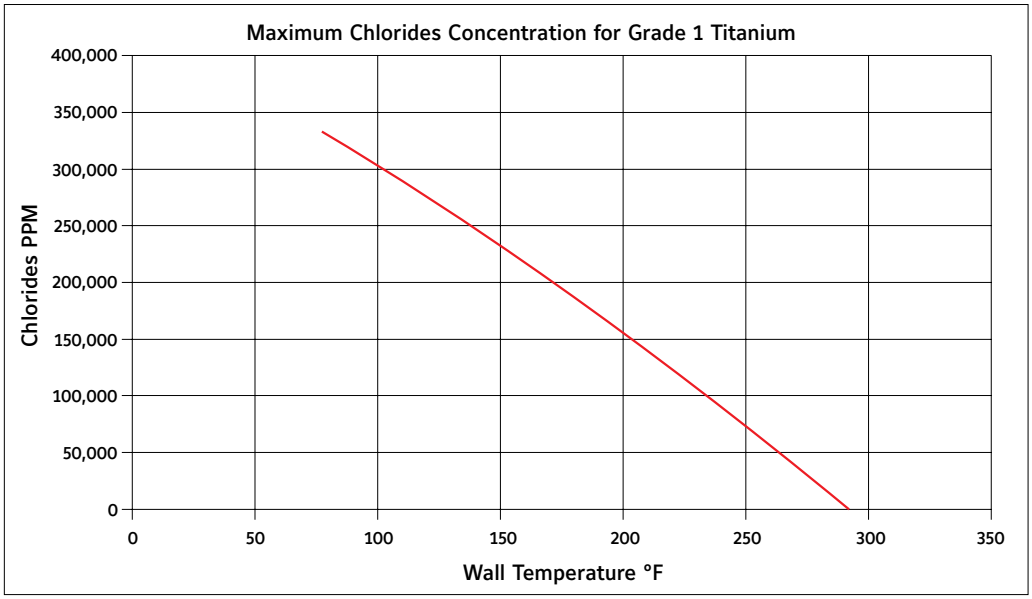
BY JOHNSON CONTROLS





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