Fluoropolymer HEAT EXCHANGERS

www.nichefpp.com info@nichefpp.com

Niche FLUOROPOLYMER PRODUCTS

Customer Service: +1 570-645-6917

Toll Free: 1 800-441-7777

APPLICATION GUIDE: METAL PICKING

Application:

The Pickling Process cleans and prepares the surface of steel and other metal products for subsequent operations such as cold rolling, plating and galvanizing. Scale, rust, stains, and other impurities are removed through the use of acidic solutions, including Sulfuric, Hydrochloric, Nitric and Hydrofluoric Acids.

The Problem:

The highly corrosive solutions, wide thermal swings and mechanical shocks cause heat exchangers to fail prematurely and foul often. Metal heat exchangers are susceptible to corrosion and will experience a reduction in heat transfer capabilities due to scaling and fouling. Graphite heat exchangers exhibit poor resistance to both fouling and thermal/mechanical shock.

The Solution:

Niche Fluoropolymer Heat Exchangers provide the ideal solution for heat exchange needs for Metal Pickling operations. Our Heat Exchangers provide unmatched resistance to corrosion, thermal/mechanical shock, and differential expansion. The original heat transfer efficiency of the exchanger is preserved by minimizing external fouling and internal scaling without surface passivation.

The Fluoropolymer Advantage:

Niche has been the original and the leading manufacturer of Fluoropolymer Heat Exchangers for over 50 years. Our extensive, global experience in the Pickling Industry allows us to provide customers with experience and expertise needed to meet the ever-changing challenges in this competitive market. Niche Fluoropolymer Heat Exchangers also offer increased productivity, efficiency, contamination reduction, value-in-use through savings in plant maintenance, and improved heat exchanger service life. All units feature our proven, unique honeycomb structure, which is inert to virtually all types of chemicals and provides a lightweight, compact bundle design. Fluoropolymer Heat exchangers are backed by Niche's excellent quality, service, and support.

The Competitive Summary:

Our Fluoropolymer material solves the typical problems which plague heat exchange equipment used in the Metal Pickling Industry. In demanding pickling applications, operational performance and overall life expectancy of Niche's heat exchangers are not compromised by these problems. Niche's superior performance and lead time advantage are summarized below.

	No Fouling	No Scaling	No Thermal Shock	No Differential Expansion	No Corrosion	Typical Availability
Fluoropolymer	✔	✔	✔	✔	✔	6-8 weeks
Titanium	✖	✖	✔	✔	✖	18-20 wks
Zirconium	✖	✖	✔	✔	✖	22-24 wks
Tantalum	✖	✖	✔	✔	✖	30-32 wks
Hastalloy	✖	✖	✔	✔	✖	18-20 wks
Graphite	✖	✖	✖	✖	✔	12-14 wks
Glass	✖	✖	✖	✖	✔	14-16 wks

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