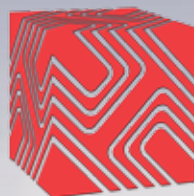
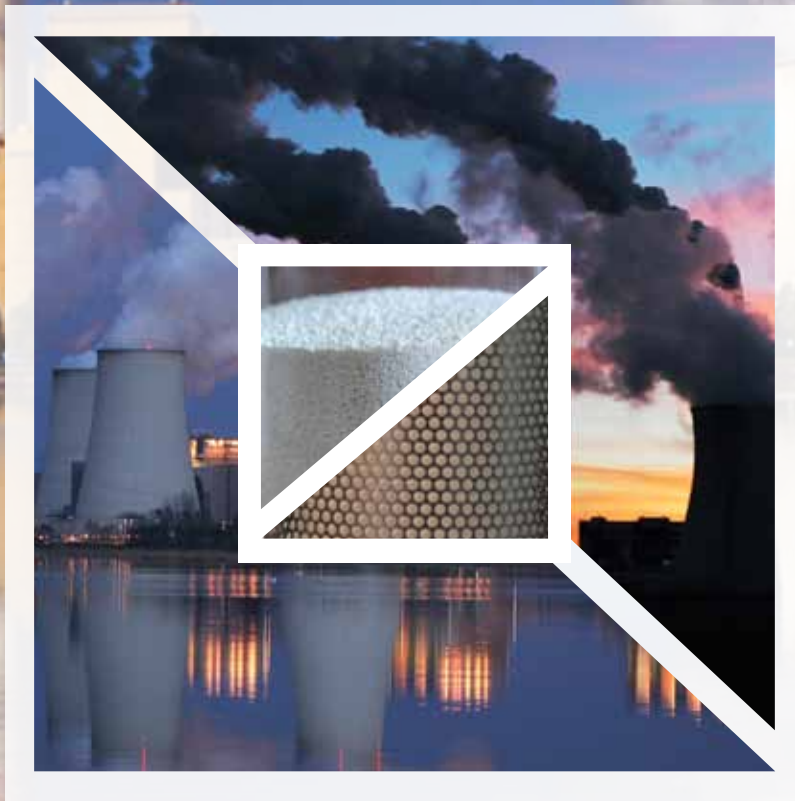


HILCO[®] Patented Dry Resin Ionic Exchange

for Varnish and Total Acid Number
(TAN) Reduction



HILCO[®]
A Division of THE HILLIARD CORPORATION

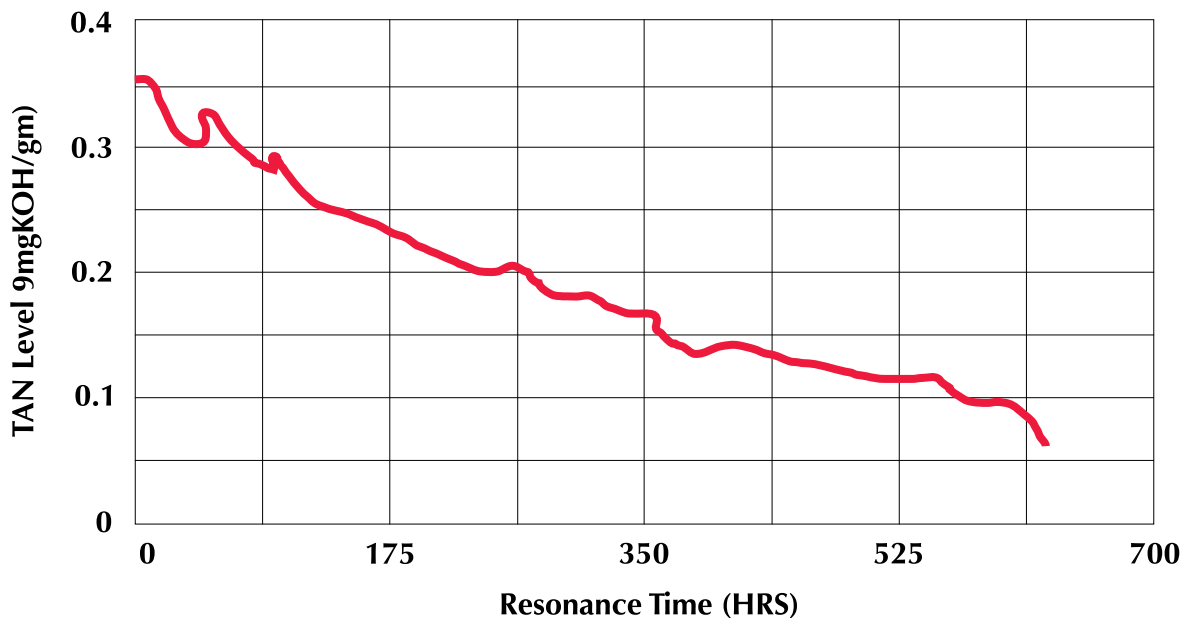
HILCO[®] Ionic Exchange for Acid Remediation

HILCO[®] ionic exchange cartridges are especially suited for reducing TAN levels in phosphate ester based hydraulic systems. The chart below illustrates how effectively ionic exchange reduces TAN levels in a short period of operating hours.



(HILCO[®] model 36118-53040100 installed on a customer's 2,800 GAL EHC Reservoir)

Fossil Fuel Plant
TAN Reduction Fyrquel 220N Utilizing HILCO[®] Ionic Exchange

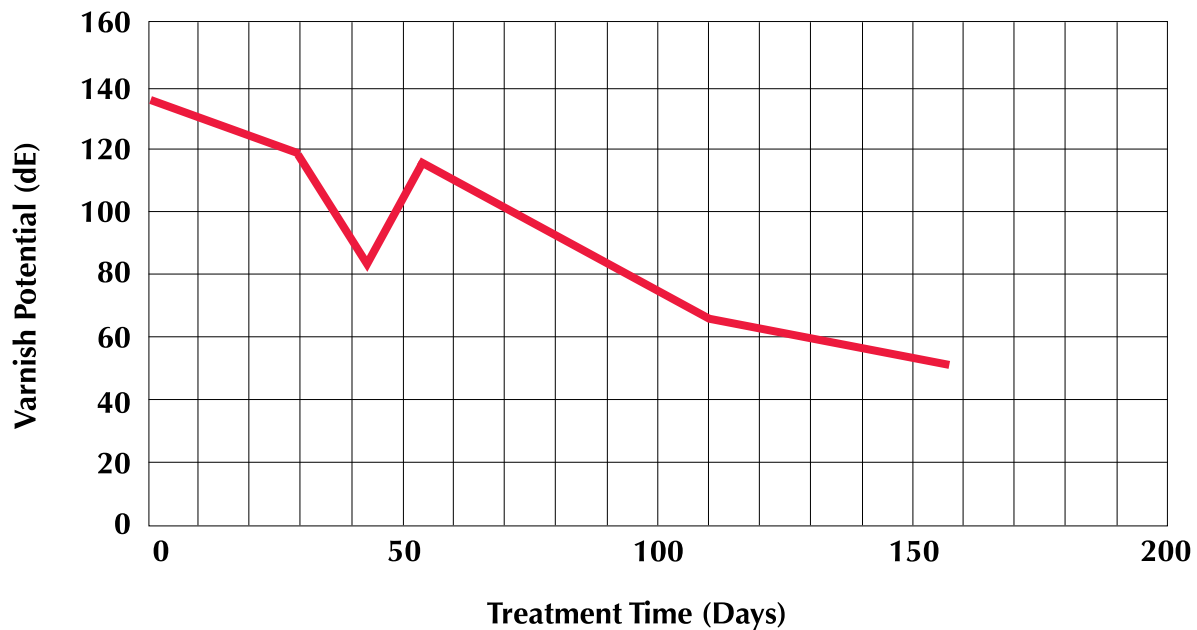


HILCO[®] Ionic Exchange for Varnish Remediation

Varnish formation is a common problem in the lube and hydraulic systems of today's turbomachinery. The severity of the varnish formation can be aggravated by the specific oil chemistry, hot spots in the lube oil system, and static discharge. HILCO's ionic exchange technology has proven to be an effective method in reducing varnish potential in a wide variety of applications in both mineral and synthetic fluids.



Main Hydraulic Tank



(The graph above illustrates the reduction of varnish potential in a severely contaminated phosphate ester hydraulic system after installation of HILCO's ionic exchange media)

Benefits of HILCO's Patented Dry Resin

Ionic Exchange Technology



- Cost effective treatment method
- Effective in a kidney loop arrangement
- Absorbs varnish and acids
- Adds nothing to the fluid



(Resin beads are clean and do not add dust or migrate into the fluid)

Recommended Dosage for Ionic Exchange

Media	Controls	Dosage	Target Level
DR Ion Exchange	TAN and Varnish	0.01 lbs/gal maintenance mode 0.04 lbs/gal remediation mode for TAN over 0.2	0.1-0.2 TAN is ideal

Cartridge Part Number	Lbs. of Ion Exchange
ET119-DR-03ZXC0	16.5
ET718-DR-03ZXC0	6.6
ET718-DR-CRN	4.0
ET718-DR-CN	4.0



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