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ShipBuilding

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DREDGING VESSELS & EQUIPMENT

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SHIP DESIGN, CONSTRUCTION & INNOVATION



Natural gas and crude oil accumulations are understandably at risk of corrosion due to the harshness of the elements flowing through them.

PREVENTING CORROSION ONE MOLECULE AT A TIME

Cortec Additives

ANTI-CORROSION FORMULATORS ARE COMING UNDER INCREASING PRESSURE TO PROVIDE BETTER PERFORMANCE WHILE SIMULTANEOUSLY REDUCING environmental impact. As the traditionally used corrosion inhibitors are being phased out due to health and environmental concerns, the market is looking for solutions that work.

ALL PHOTOS COURTESY OF CORTEC

For the last 40 years, Cortec Corporation has delivered cost-effective, user-friendly, integrated solutions for corrosion problems in various industries. Today, Cortec is a global leader in innovative, environmentally responsible VpCI corrosion control technologies. Its additives line focuses on corrosion inhibitors that manufacturers or industrial users can add directly to their own products or systems for enhanced metal protection. Cortec additives provide excellent contact protection with additional vapor phase protection for metals in void spaces. When introduced to a void space, VpCI molecules in these additives vaporise and diffuse throughout the enclosure and adsorb onto metal surfaces. This thin, molecular, hydrophobic layer protects the metal against corrosive elements such as oxygen, moisture, and chlorides. Cortec additives integrate new technology and proprietary VpCI chemistry in order to

eliminate corrosion caused by corrosive fluids, chlorides, or humid environments. When implemented, these additives ultimately reduce the expenditure associated with expensive alloys, corrosion claims and labour. Cortec VpCI additives are used in various applications, as described below.

Coatings & Paints (Plus Inks)

These additives for water-borne and solvent-based coatings provide corrosion protection for ferrous and non-ferrous metals. They offer a whole new scope of protection possibilities as VpCI technology offers protection at very low dry-film thicknesses. VpCI coating additives show excellent performance with low viscosity and can be easily blended into the product at any stage of manufacturing. They cover systems including acrylics, urethanes, epoxies, alkyds, and more.

Lubricants & Greases

Cortec's full line of additives offers versatile, corrosion-inhibitor packages for both solvent- and oil-based lube and grease systems. A common misconception is that oil-based products are naturally strong rust preventatives. While oil itself can help displace moisture, a good corrosion inhibiting additive can significantly increase the protection of lube and grease systems.

Water Treatments

Protecting other water systems is an important step for in-process maintenance and protection during seasonal layup. Rather than using more hazardous treatments, Cortec's additives include several 'greener' or lower-toxicity alternatives to effectively protect and maintain equipment. They prevent both corrosion and scale buildup in process water. These additives for boilers, heat exchangers, cooling towers and condensate lines can be instrumental in lengthening the life of a system and reducing maintenance. Additionally, they make great building blocks for full water-treatment formulations.

Fuels, Crude Oil & Natural Gas

Industries often require the use of both large and small fuel storage tanks and systems. However, this raises concerns about fuel separation and the corrosion of new fuel tanks during shipping and storage. Natural gas and crude oil accumulations are



There are a variety of additives for use with oil, water-based, and synthetic metalworking.

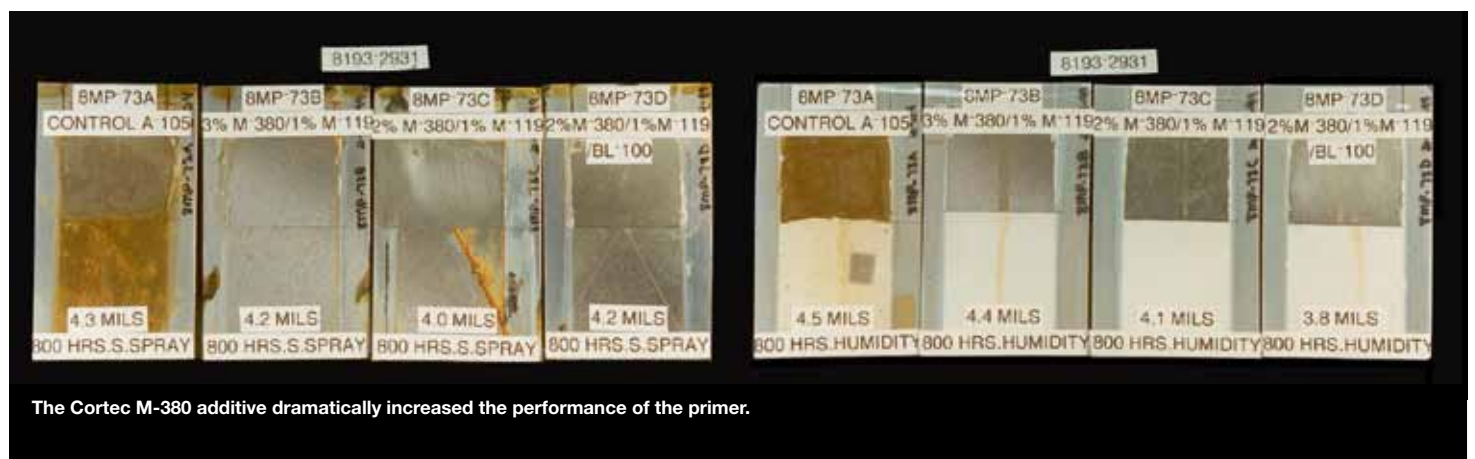
also understandably at risk of corrosion due to the harshness of the elements flowing through them. Cortec's fuel additives help alleviate these problems with a variety of additives, which provide corrosion protection and stability. Vapour-phase protection is especially valuable when fuel runs low in tanks or needs to be kept to a minimum for simpler, more cost-effective storage and shipment.

enhances corrosion protection and streamlines the process, avoiding significant economic losses from corrosion damage. There are a variety of additives for use with oil, water-based, and synthetic metalworking, while hydraulic fluids protect metal pieces from flash corrosion during the metalworking process, at the same time also providing protection for the cutting and machining equipment.

Metalworking & Hydraulic Fluid

Incorporating corrosion inhibitors directly into metalworking and hydraulic fluids

www.cortecvci.com



The Cortec M-380 additive dramatically increased the performance of the primer.

Demonstrating Additive Effectiveness

A major coatings manufacturer was not satisfied with its stabilising primer for roof preparation. The primer was used as a stabiliser for rust and paint on metal roofs prior to the installation of an elastomeric roofing system. The manufacturer needed a solution to its corrosion problems while also meeting VOC regulations and not detracting from the superior adhesion properties, flexibility and other important properties present in the primer. Because of

the elastomeric nature and high adhesion of the primer, the manufacturer chose Cortec M-380 Additive. The properties of the additive suggested the possibility of carboxylic functionality along the resin's backbone, which meant M-380 would bond easily with the primer. As a result, the Cortec additive increased the performance of the primer dramatically.