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Attention: Editor

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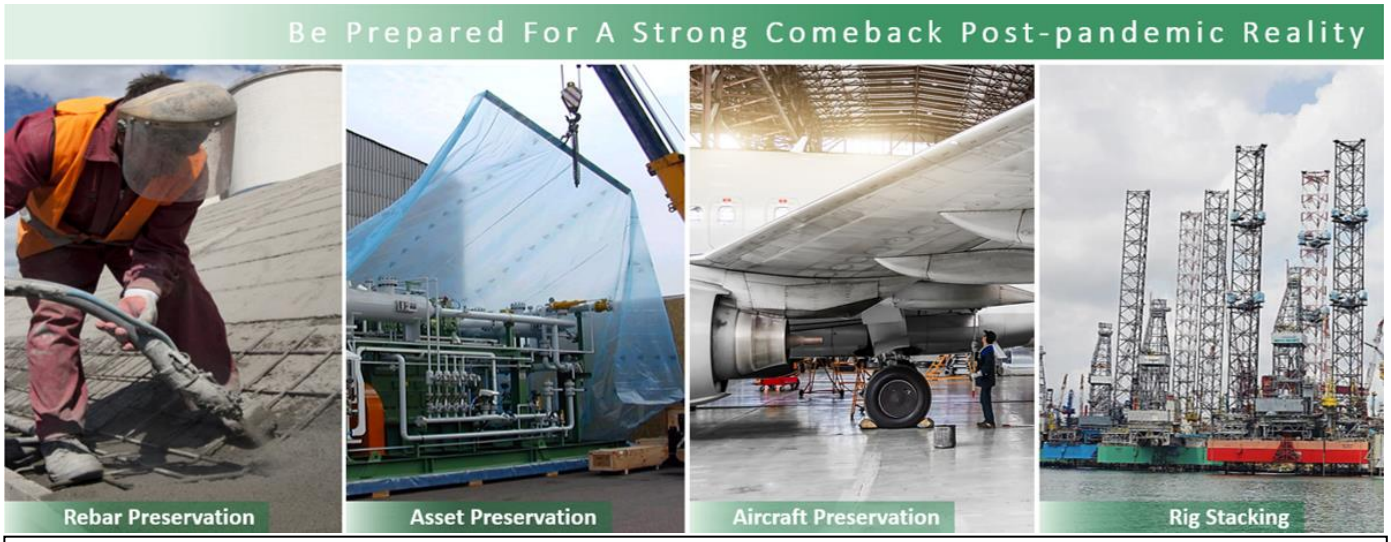
PRODUCT RELEASE

Be prepared for a Strong Comeback Post-pandemic Reality:

Achieving Effective Equipment Preservation, Layup, and Mothballing in the Current Crisis

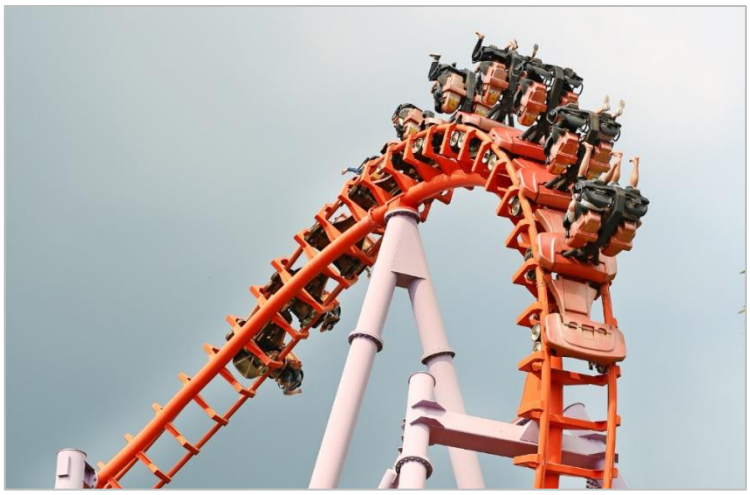
Now, more than ever, companies need to protect their capital assets and WIP-cycle components in this time of uncertainty and unplanned shutdowns. Due to the impact of COVID-19, society must embrace the adage, “Hope for the best. Plan for the worst.” Even after this is over, it will take time for the supply and demand sides of the market to synchronize.



Keeping assets corrosion free during this crisis is essential to ensuring they can be reinstated and operational as quickly and cost-effectively as possible.

To ease the process, equipment needs to be protected in such a manner that it can be put back into commission with minimal effort to meet market demand. As manufacturing facilities, aircraft, ships, and many other assets are shutting down and going into a state of forced layup for an indefinite period, keeping these assets corrosion free is essential to ensuring they can be reinstated and operational as quickly and cost-effectively as possible. Cortec® Corp. is working hard during this crisis to offer help and support across all industry sectors, putting its technical expertise at the disposal of its customers to assist them in the following areas:

- Mechanical and Electrical Equipment
- Offshore and onshore rig stacking
- Equipment and rebar preservation for stalled construction projects
- Preservation/storage of industrial equipment
- Preservation of grounded aircraft
- Preservation of raw material in production facilities



Corrosion is a major problem for idle equipment and assets, especially in the presence of moist, salt laden air or fluctuating humidity that forms condensation on electrical systems, rotating equipment, hydraulics, bolts, valves, and motors, to name a few components. Corrosion results in:

- Premature equipment failure
- Unnecessary and non-budgeted repair and replacement costs
- Costly delays in reinstatement of vehicles, plants, and equipment

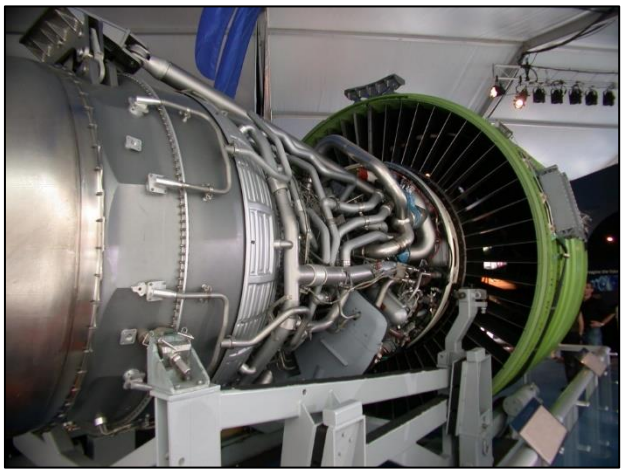
How Can We Combat This?

Vapor phase Corrosion Inhibitor Technology is designed to protect assets and equipment during shutdown and storage. It is based on the formation of a molecular barrier that protects ferrous and non-ferrous metal surfaces from oxygen and electrolytes, thus breaking the corrosion cycle. Cortec® VpCI® materials provide total corrosion protection to equipment of all types, from small electronic components to large oil and gas module piping internals. As a thought and technology leader in the area of corrosion protection, Cortec® has pioneered industry transforming approaches to the preservation of equipment and systems around the globe. In conjunction with its partners, Cortec® has facilitated the preservation and mothballing of hundreds of oil rigs, platforms, refineries, ships, military assets, aircrafts, power plants, manufacturing plants, mines, electric and electronic equipment, boilers, cooling towers, and much more.

Cortec's expertise is reflected in its *Cortec® Preservation, Lay-up & Mothballing Handbook* (www.cortecmothballing.com), distributed through NACE International. Cortec's products and processes

have also been widely approved by many large OEMs and government entities around the world. The following are examples of the many types of layup options available and only scratch the surface of VpCI® preservation and mothballing capabilities.

Preservation of Naval Aircraft Engines



A South Asian navy was able to save significant time, cut costs (60-70% savings), and reduce worker hazards by switching to a clean, convenient preservation system using Cortec® materials. Accessible surfaces were cleaned with VpCI®-416 and wiped with VpCI®-377. VpCI®-132 Foam pads were placed outside and within various cavities, voids, and chambers of each engine. Finally, the entire engine was wrapped and sealed with VpCI®-146 Paper, then wrapped and sealed with VpCI®-126 Film. It can take only two hours to apply this system and only 15 minutes to remove it every two years, providing a vast improvement for long-term storage.

Outdoor Storage of Oil Rig Components

A major engineering company needed a tried and tested solution to preserve one annular and two BOP double bodies in an outdoor coastal storage yard in the UAE, where conditions regularly reach 122 °F (50 °C) and extreme humidity in summer. After equipment cleaning, VpCI® coatings were applied to painted and metal surfaces. Internal cavities were protected by inserting VpCI®-308 pouches. MilCorr® VpCI® Shrink Film was wrapped around the equipment for extra corrosion protection and to keep dust out. The preservation system was efficient, and the durability of MilCorr® VpCI® Shrink Film kept it from ripping during the sensitive transit time to the new storage location.

Preservation of Mining Equipment

Mining equipment in Chile had been stored in plastic vacuum-sealed bags for one year when the client opened the packages for inspection and found that the components had already started to corrode. The company needed to store the equipment for one more year and wanted to make sure no corrosion affected them this time. The solution was an easy way to apply effective corrosion protection for the remainder of the preservation period.

VpCI®-111 Emitters were placed inside the equipment for void space protection. Then the components were shrink-wrapped in VpCI®-126 HP UV.

Mothballing of a Natural Gas Plant

When a leading natural gas processing company in the UAE needed to shut down its plant for an indefinite period, one of Cortec's distributors provided a turnkey mothballing solution to preserve the assets from corrosion long-term. An estimated 95,679 square yards (80,000 m^3) of plant area needed to be mothballed, of which a significant portion included insulated pipes and columns. These insulated surfaces were protected against CUI (corrosion under insulation) by injecting VpCI®-658 at intervals through holes drilled in the insulation. Fin fans were coated with VpCI® coatings and covered with MilCorr® VpCI® Shrink Film. Compressors, pumps, and many other pieces of equipment were also shrink-wrapped in MilCorr® VpCI®. A variety of other Cortec® preservation and maintenance materials were used for corrosion protection in other aspects of the layup. The project was completed ahead of schedule for the satisfied customer.

Cortec® remains responsive and ready to offer technical advice and customer support for delivery of preservation materials around the world, even in these uncertain times. Contact Cortec® today for assistance: https://www.cortecvci.com/contact-us/

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