

PHARMACEUTICAL MANUFACTURING PLANTS ARE THE MOST REGULATED AND INSPECTED FACILITIES IN THE WORLD.

Regular cleaning and disinfection of surfaces is a daily occurrence, and many different cleansers and methods are used. Whole room systems are becoming more common and can present new challenges to the protective finishes in these areas.

WHAT IS VHP AND HOW DOES IT WORK?

Vaporized Hydrogen Peroxide, VHP, is one of the most proven no-touch automated room disinfection technologies today. It creates a homogenous vapor throughout the area to be decontaminated and kills microbes by oxidizing amino acids and proteins. The two most common approaches to using vaporized hydrogen peroxide are extremely effective and very different. One common system generates a saturated hydrogen peroxide vapor that produces a condensate on all the surfaces in the area. This technology uses temperatures of approximately 130°C to vaporize a 30%-35% hydrogen peroxide solution and achieves about 150-750 ppm of active H₂O₂. The other prevalent system uses lower temperatures and converts liquid H₂O₂ into a gaseous vapor. The vapor then contacts all items in the area and after a set exposure time is vacuumed from the area and converted into water and oxygen. No condensate forms on surfaces in this process.

SO, WHAT DOES THIS MEAN FOR COATINGS?

Both processes can wreak havoc on coating systems that are insufficiently robust for the service. And even for appropriately specified coatings, special attention must be given to the application and surface preparation. If the dry film thickness is too thin, it may lift from the substrate. Any pinholes in the dry film are sure to blister as well. Because of the potential challenges to coatings in these environments, Sherwin-Williams contracted both Steris and Bioquell to run multiple coating systems through their specific VHP processes. Both steel and drywall panels were tested.

DOES SHERWIN-WILLIAMS HAVE ANY SYSTEM RECOMMENDATIONS?

Based on the Steris and Bioquell test results, we recommend the following coating systems to protect facility assets where VHP decontamination used:

1. Two coats of Resutile™ 4685W over appropriate primer for substrate
2. Two coats of Resutile™ Aqua 4410 over appropriate primer for substrate
3. Two coats of Elladur™ 4850 over appropriate primer for substrate
4. Two coats of Sher-Loxane® 800 direct to properly prepared steel or over appropriate primer for drywall

Each of these systems will perform very well in a VHP environment when applied according to datasheet recommendations.

THE SHERWIN-WILLIAMS DIFFERENCE

Sherwin-Williams Protective & Marine delivers world-class industry subject matter expertise, unparalleled technical and specification service, and unmatched regional commercial team support to our customers around the globe.