

EMCOAT PAINT FOR RF SHIELDING ON CHALLENGING SURFACES

A FARADAY STRUCTURES SUCCESS STORY

PROBLEM

Shielding solutions are often required on challenging surfaces such as ceilings, floors, and non-typical wall surfaces like metal or concrete. Ceilings present unique challenges due to hangers, ducts, and piping - especially in typical drop ceiling construction, where many utilities are mounted above the tiles. Relying on metal pans means relying on a feature that is almost never designed or installed in a way that effectively provides RF protection. Shielding floors with foils or other products requires extra precautions to avoid damage which negates shielding effectiveness. Wall surfaces with rough or irregular finishes such as cinder block, corrugation, or other challenging contours usually require additional preparation or construction methods to box in or add layers of material to allow application of shielding materials, increasing material and installed cost. A significant portion of facilities and spaces would benefit greatly from a cost-effective, efficient solution for RF protection that can be installed on a wide range of challenging surfaces.

SOLUTION

EMCoat conductive paint is ideal for RF shielding on challenging surfaces because it does not require extra construction steps like foils. EMCaulk conductive caulks provide shielding for gaps and cracks that are too irregular for paints. Paint and caulk are easy to apply solutions that does not require specialized installation. The entire surface contour above drop ceilings can be coated, creating a solid layer of protection. Painting floors with EMCoat is a straight forward, durable solution that is compatible with standard floor finishes or carpet. Irregular wall surfaces are perfect for EMCoat and EMCaulk because gaps and cracks are easily filled and do not present a challenge for consistent surface shielding. In all these cases, EMCoat and EMCaulk are cost-effective, faster to apply, and are easier to install - significantly reducing installed costs and providing a higher performance solution.

“EMCoat was really the only practical option for us – the time and cost involved with applying foils to the ceiling were enormous and also caused other issues with how the space needed to be used. EMCoat was straightforward to install and provided the performance our customer needed.

- Bill Yeatts, Senior Superintendent, Clune Construction Company



USE CASE

A 30,000 ft² office space in Dulles, VA required installation of RF countermeasures in order to meet the requirements of the tenant. The ceiling of the space was pre-cast concrete with reinforcement ribs. Several options were considered by the building owner and general contractor, including standard metallic foil liner. A foil liner would have required the ceiling features to be boxed in with framing and drywall, adding significant time & expense to the project. Because of the installation and cost benefits, EMCoat paint and EMCaulk sealant were selected for the project. EMCoat is a water-based conductive architectural coating product that does not require special application or mixing equipment. By using EMCoat, the installer was able to simply spray all ceiling surfaces and ribs with standard commercial painting equipment. This eliminated the need for additional drywall work and foil, which saved a tremendous amount of labor and reduced installation time and cost. By simply coating surfaces and not boxing in features, a more functional drop ceiling area above the tiles was retained. After installation, the space was inspected and certified as meeting all requirements.