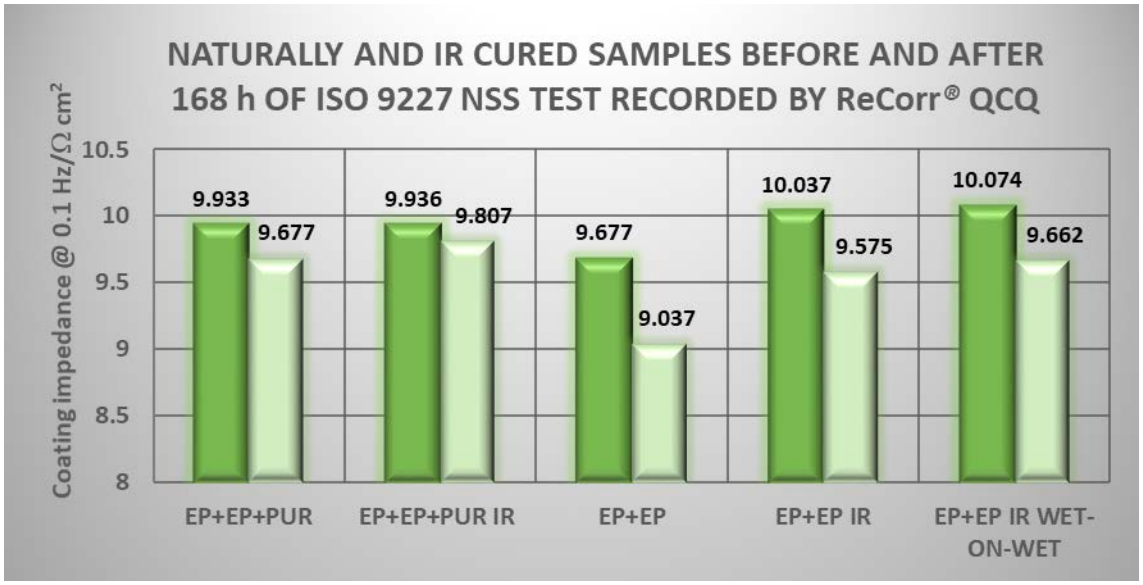
Probing of IR Dried/Cured Industrial Coatings by ReCorr® QCQ

The impedance of solvent based industrial coating systems that were laboratory ambient dried/cured and those dried/cured by IR were tested before and after exposure to neutral salt spray (NSS) in the ISO 9227 salt cabinet experiment that lasted for 168 h. EIS probing of IR dried/cured coatings has been done by employing a two-electrode setup that has enabled measurement of the coating electrical characteristics without the influence of the liquid electrolyte. The coating impedance was measured on dry samples that have been conditioned in a laboratory environment (T=23±2 °C and 35±5% RH), therefore, showing an irreversible loss of the barrier action incurred by the NSS test. The EIS analysis concludes that the IR drying/curing improves barrier properties of common industrial coating systems (EP+EP+PUR, EP+EP, EP+EP WET-ON-WET) with respect to the laboratory ambient dried/cured referent systems, or at least introduces no harmful influence. Samples of each system positioned at increasing distances (40 -100 cm) from the IR source show similar impedance characteristics. However, a clear distinction is observed between the laboratory ambient and IR dried/cured coatings, the latter being characterized by the higher impedances. **It has been demonstrated that the ReCorr® QCQ Test may be used for reaching a quick, informed decision on a coating practice alteration that may speed up the production process.**



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