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## Holiday / Spark Testing for Applied VersaFlex Incorporated Polyurea Elastomer Systems

For application of VersaFlex Incorporated polyurea spray elastomer lining systems, the use of Holiday / Spark testing may be employed to verify that a continuous, void-free lining system has been installed. Details of testing procedure can be found in the NACE International Standard Practice document **NACE SP0188**<sup>(1)</sup> "Discontinuity (Holiday) Testing of New Protective Coatings Applied to Conductive Substrates."

For the 100% solids fast-set applied systems (FSS 50DM, FSS 45DC, AquaVers 405, VF 380, etc), these systems are typically applied as a thick-film coating / lining system whereas > 20 mils (> 500  $\mu\text{m}$ ) is applied. For this, two ASTM International Standard Practices should be referenced. This includes **ASTM D 5162**<sup>(1)</sup> "Standard Practice for Discontinuity (Holiday) Testing of Non-conductive Protective Coating on Metallic Substrates, and **ASTM D 4787**<sup>(1)</sup> "Standard Practice for Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrates."

Generally, VersaFlex recommends a maximum of 100 volts / mil (4 kv / mm) of applied coating / lining system be used. Excessive voltage can and will damage the applied coating / lining system. Voltage requirements for specific applied thickness can be found in Table 1 of NACE SP0188, as well as Table 1 of D 4787 and D 5162 documents. These noted voltages would apply to the VersaFlex fast set, thick-film systems.

As the VersaFlex fast set, thick-film systems do set and develop an initial cure very rapidly and allow for "rapid return to service," Holiday / Spark testing can be employed within 1 hour of installation.

For thin-film applied VersaFlex systems (< 20 mils, < 500  $\mu\text{m}$ ), these systems are generally slower in reactivity / set and allow for a smooth aesthetic appearance. These systems may contain solvent introduction during installation. For these systems, low voltage (wet sponge) testing is used. Also, due to the nature of the chemistry of these systems, Holiday / Spark testing should not be employed for a minimum of 24 hours after installation work is complete.

**Cautionary Note:** Holiday / Spark tested **MUST NOT** be performed on any installed VersaFlex polyurea coating / lining system once that application has been put in service.

<sup>(1)</sup> Indicates latest revision