



# Detec Systems

## TECHNICAL BULLETIN

October 24, 2017

### GENERAL:

Detec Systems has successfully developed an Electronic Leak Detection (ELD) testing method for black EPDM single-ply membranes. This testing method uses the same low voltage horizontal membrane scanning platform described in ASTM D7877 with a circuit modification to account for the conductivity of black EPDM which contains carbon black for UV stabilization. This carbon black adds electrical conductivity to black EPDM membranes causing other ELD testing methods to produce false positives which provides invalid test results.

The new EPDM IntegriScan+ testing method uses a circuit that can tune out the  $10^7$  ohms per square surface resistance typical of black EPDM membranes. The substrate **directly** under the EPDM membrane must have a surface resistivity of  $10^4$  ohms per square or less to get proper test results. For more information about surface ohm resistance, please refer to ASTM D4496-13. TruGround conductive primer has a surface resistance of  $10^3$  ohms per square and when placed directly under the EPDM membrane will permit ELD testing. Using Detec's proprietary IntegriScan+, the difference between the electrical resistance of black EPDM and the resistance of the conductive substrate allows the dual sweep scanning method to test for breaches, holes, and seam voids in EPDM membranes.

Water based EPDM adhesives alter the electrical properties of the conductive primer which impairs testing. Other types of adhesives including low rise foam, low VOC bonding adhesive, and normal bonding adhesive will not alter the electrical properties of the primer and allows for valid testing.