TESTING SYSTEM FOR ELECTRONIC TESTING OF WATERPROOFING MEMBRANES AS PER ASTM D7877-14

For exposed roofs

Controlit® GS (for Bitumen roof cover) and Controlit® GS Single Ply (for synthetic roof cover) underlays

Supply only (mechanical or fully torched installation, in conjunction with the laying of the waterproofing layer, by the Company performing the roofing system installation in order to highlight and monitor any damage to the waterproofing layers, thus avoiding the infiltration of liquids between the waterproofing layers and the insulation that could compromise the future impermeability of the system) of *Controlit® GS and Controlit® GS Single Ply*, woven and impregnated fiberglass fabrics, coated in nanotechnology with stainless steel particles and treated with flame retardants in order to allow its laying by torch (in Controlit® GS case), supplied in rolls of 50m and width of 1.65m.

Technical parameters

- **Yarn tex (DIN EN 12654)**
  Sized warp EC 9-68 Z 20
  Weft EC 9-68 Z 20
- **Coating** Stainless steel nanoparticles
- **Electrical resistance** < 1000 Ohm/sq
- **Surface Treatment** Plasma
- **Weight (DIN EN 12127)** 165 +/- 10 g/m2
- **Thickness (DIN EN ISO 5084)** 0.16 +/- 0.02 mm
- **Tensile strength not less than (EN ISO 13934 1)**
  Warp 2500 N/5cm
  Plot 2000 N/5cm
- **Fire resistance (EN13501-1:2007+A1:200-9)** A2-s1-d0
- **Tested and approved by manufacturers of electronic integrity control systems (ELD) bot low voltage EFVM sec. ASTM D7877-14 .7 and high voltage HVMT sec. ASTM D7877-14 .9**
- Installation with lateral & horizontal overlaps equal to 10 cm.

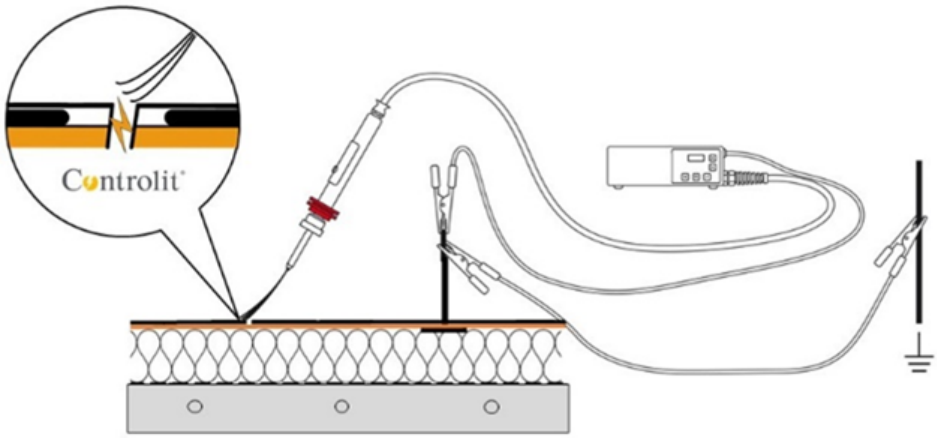
Controlit® Connection Contact

Supply only (installation by the Company performing the execution of the roofing system) of stainless-steel contact points type *Controlit ® connection contact*, including sealing material in bituminous, PVC or TPO sheet, heat shrinkable sheet and protective cap. Installation as per the specific instructions given in the manufacturer's user manual. Max distance between contact points 50m (100m in the case of verification done with Buckleys equipment).

Testing of the roof watertightness

The execution of final testing of the flat roof by means of electronic ELD system (Electronic Leak Detection), is made as per ASTM D7877-14, internationally recognized standard.
The control will be carried out with HVMT (High Voltage Membrane Testing) technology as per part. 9 of the same standard at the end of the laying of the waterproofing membrane for the verification of the integrity of the system before carrying out the subsequent processing.
At the end of the work, before final testing, all the covers must be tested by the selected company (the Company performing the execution of the roofing system).

HVMT – High Voltage Membrane Testing



On the surface on the roof system, which must be dry, a direct current voltage, calculated according to the thickness of the waterproofing material (Dielectric Strength), is applied with brush of determined width, connected to the central unit, which is also connected to Controlit® conductive underlay via the appropriate Controlit® Connection Contact points .
The detection of imperfections / damages is based on the detection of the passage of current, in the form of a high-voltage arc, between the surface of the waterproofing system and the conductive underlay Controlit®.
The location of the defect will be noticed both visually (high-voltage arc) and by sound (on the central unit).
With the same equipment it is also possible to check the details and vertical parts of the roof.