

Surface Resistance & Charge Relaxation Test Data

EcoTile Interlocking Floor Tiles & Selstat Anti-static Floor Polish

T: +44 (0) 1707 800060
F: +44 (0) 1707 657282
E: info@versatileflooring.co.uk
www.versatileflooring.co.uk



As a lower cost alternative to the EcoTile ESD floor tile it is possible to achieve good test results using the standard EcoTile and applying two coats of Selstat anti-static floor polish. The major difference between the two options is that the EcoTile ESD tile is guaranteed to remain compliant with IEC-61340-4-1 for the life of the product. Coating the standard EcoTile will require regular and ongoing maintenance and re coating. The EcoTile / Selstat option can be considered a good alternative option for low risk areas where static charge is an issue but not necessarily a major health and safety hazard or there is a high risk of damaging components.



The following report was prepared by Gavin Rogers - Laboratory Supervisor at the Industrial Explosions Hazards Laboratory, Chilworth Technology Ltd. Beta House, Chilworth Science Park, Southampton, SO16 7NS, UK and has been reproduced with the permission of Selden Research Ltd.

Test Results: Selstat Anti-static Floor Polish applied to EcoTile Interlocking Floor Tiles

The Surface Resistance and Charge Relaxation data is now available for your flooring sample sent to Chilworth for analysis. I have also tested the tile that was not sealed to give you a comparison between the two. As you can see the static dissipative coating works very well and is slightly affected by humidity but not significantly. As you were probably aware the uncoated tile is highly insulating and decreasing the humidity does not really affect the Resistance or Relaxation Time, the test results are summarized below:

Test Results for the tile sealed with Selstat anti-static floor polish:

Pass criteria is resistance must be $< 1 \times 10^6$ (i.e. 1 million) ohms.

Surface Resistance @ Ambient RH: Minimum: 5.1×10^7 Ohms / Maximum: 5.2×10^7 Ohms / Average: 5.2×10^7 Ohms

The low humidity results are impressive; this reading was taken at 11oH, (low humidity's are harder to get results).

Surface Resistance @ Low RH: Minimum: 1.7×10^8 Ohms / Maximum: 1.9×10^8 Ohms / Average: 1.8×10^8 Ohms

Charge relaxation pass criteria require discharging static in less than 0.25 seconds.

Charge Relaxation Time @ Ambient RH = < 1 sec / Charge Relaxation Time @ Low RH = < 1 sec

Comparative results for an untreated tile. At ambient conditions the untreated tile had 10,000 times more resistance and greater than 6000 times slower discharge rate.

Surface Resistance @ Ambient RH: Minimum: 1.8×10^{12} Ohms / Maximum: 2.0×10^{12} Ohms / Average: 1.9×10^{12} Ohms

Surface Resistance @ Low RH: Minimum: 3.8×10^{12} Ohms / Maximum: 4.8×10^{12} Ohms / Average: 4.3×10^{12} Ohms

Charge Relaxation Time @ Ambient RH = 68 seconds / Charge Relaxation Time @ Ambient RH = 82 seconds

Conclusion: The coated tile is considered to be a Dissipative Flooring (DIF) as per IEC 61340-4-1.



The Versatile Flooring Company
1 Devonshire Business Centre
Cranborne Industrial Estate
Potters Bar Hertfordshire EN6 3JR
T: + 44 (0) 01707 800060
F + 44 (0) 1707 657282
www.versatileflooring.co.uk
info@versatileflooring.co.uk

