

RUBBER MATERIAL SPECIFICATION SDFM

An electro-conductive polychloroprene rubber matting with in-built 3 tier protection system. A new design of rubber material to yield improved protection from the harmful effects of static electricity even after potentially damaging carbon structural changes have occurred. Wipe clean, non-slip surface derived from using specially impregnated "Hi-Tec" textiles during vulcanisation process. Minimal memory retention (excellent lay flat characteristics). A problem usually associated with cork filled products. Excellent resistance to solder drops.

1st Layer - Base Line Conductivity

Marked increases in conductivity levels can be achieved within relatively narrow concentration bands of even low structure carbon blacks. Variation of conductivity vs. filler level for HAF (high abrasion furnace), SRF (semi-reinforcing furnace) and MT (medium thermal) black in polychloroprene. A "safe" level of SRF has been chosen as the "base line" in Vitec's Triohmic Mat such that in the seemingly impossible event of complete failure of level 2 structural conductivity, the surface resistivity cannot rise above 10⁹ ohms per square.

2nd Layer - Structural Conductivity

A detailed study of the morphology of the new breed of very high structure carbon blacks indicates that the material consists of internal voids. This peculiar phenomenon explains the very high effective surface area (typically 1000m²/g at 30 millimicrons particle size and hence the bulk volume and electrical conductivity, even in comparison with so called super conductive furnace and acetylene blacks. This material is used at low concentrations (thus enabling retention of flexibility and lay flat characteristics) in Vitec's Triohmic Mat to enhance the base line conductivity in layer 1.

3rd Layer - Surface Conductivity

It is essential that proper electrical contact can be maintained with the vulcanizates Surface irrespective of any minor contamination that may result from prolonged use. This would also ensure a very low (or nil when used in conjunction with layers 1 and 2 above) propensity to accumulate surface static charge. A fatty alkylester of polyethylene glycol (non toxic and thermally stable) has been used in Vitec's Triohmic Mat to achieve this effect. Incorporation of this surface-active component