Mar-Bal High Track Resistant Insulators - Supertrack MB4000

Mar-Bal has developed a new material suitable for low and medium voltage system applications where higher track resistance is required. The material, Supertrack MB4000, was originally developed for standoff insulators and as a replacement for porcelain type insulators in certain low and medium voltage (5KV up to 27KV) indoor applications. The insulators can also be used in outdoor enclosed applications.

The Supertrack MB4000 material has been subjected to inclined plane track resistance testing in accordance with ASTM D-2303, tracking less than 1 inch after 1500 minutes at 2500 volts. The insulators produced from the Supertrack MB4000 material have also undergone and have passed short circuit testing at the 5KV and 15KV level. This material is UL listed under file number E80533, dated October 29, 1999. The material has been used in standoff insulator applications since 1999 without report of any failures in bus bar support or standoff insulator use.

One of the main reasons why the Supertrack MB4000 material was originally developed was because of the high cost and long lead times of porcelain and other similar materials. The Supertrack MB4000 material is a relatively low cost thermoset glass reinforced polyester material with excellent electrical and mechanical properties. Mar-Bal recognized a need to replace porcelain in standoff insulator applications that would offer the higher track resistance, not normally available in glass reinforced polyester composition. The normal track resistance of glass reinforced polyester materials ranges from 600 minutes up to 1000 minutes at 2500 volts.

Another advantage of using the Supertrack MB4000 material is the fact that it is an off the shelf product and can be compression or transfer molded in a relatively short period of time. Porcelain insulators tend to have relatively long lead times and are in short supply to the customer because of the nature of how they are manufactured. Mar-Bal stocks 5KV and 15KV insulators and they can be shipped to the customer in less than 48 hours in most cases. The insulators are either compression molded or transfer molded depending on the KV rating and style.

In additional to the low cost and short lead times, the insulators produced from the Supertrack MB4000 material have very good mechanical properties and are very rigid in comparison to the more brittle porcelain insulators. Porcelain insulators can shatter upon impact if they are dropped, they will break apart. Thermoset glass reinforced polyester insulators are very rigid and do not shatter upon impact. Many customers in the low and medium voltage switchgear industry have said that this is one of the main advantages of using thermoset glass reinforced polyester insulators and it actually reduces overall scrap.

Technical Data Available Upon Request