**Advantages of Permanent Antistatic Additives**

The buildup of static electric charge can present serious problems. In addition to causing sporadic malfunctions of electrical equipment, static discharge can actually destroy sensitive electronic components and even cause catastrophic explosions in flammable environments. These problems are especially serious for thermoplastic compounds which are often inherently insulative.

Fortunately there are many antistatic additives available to the thermoplastic compounder. When choosing an antistatic additive, it is important to recognize the difference between common migrating low-molecular-weight ionic additives and a true permanent polymeric antistatic additive such as PELECTRON. Migrating antistatic additives function by migrating to the exposed surface of a thermoplastic component. At the surface, they attract and absorb water from the atmosphere to create a thin layer on the surface. This water layer is what actually dissipates the static electric charge. A shortcoming of this type of antistat is the dependence upon atmospheric humidity. As you would expect, their effectiveness is poor under very dry conditions (low relative humidity). Also, this antistatic surface layer can be easily rubbed off or washed off, thus eliminating the antistatic action. Furthermore, this surface layer can transfer to adjacent surfaces – a serious problem when sensitive electronic devices are involved.

By contrast, permanent polymeric antistatic additives such as PELECTRON do not migrate. These materials function at and just below the surface. They are inherently antistatic – their effectiveness does not depend on absorbed atmospheric moisture. Permanent polymeric antistats function at all levels of relative humidity – even at extremely dry levels below 5% relative humidity. Also, they cannot be rubbed off or washed off. They effectiveness does not change even after repeated washings. Lastly, because these additives are not rubbed off, they do not contaminate adjacent surfaces and are thus safe for use with sensitive electronic devices.

More information can be found at: <http://www.sanamcorp.com/product/pelestat-pelectron/>

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