TECHNICAL BULLETIN

Understanding Static Electricity and Decking Comfort

All materials tend to give up electrons and become positive in charge or negative in charge.

Static electricity is the collection of electrically charged particles on the surface of a material generated when a positively charged material encounters a negatively charged material. When mixed with other materials, some materials cause or produce more static electricity than others.

We understand static electricity as the result of walking on a wool carpet in our nylon socks.

The Triboelectric Series is a list of materials based on how well they create static electricity when rubbed with another material and what charge the material will possess.

Very few materials do not tend to readily attract or give up electrons when brought into contact or rubbed with other materials. These are called…

Relatively Neutral:

Cotton, steel, rubber, and natural wood.

Materials that tend to attract electrons are called…

Negatively Charged:

Wood treated with preservatives containing nickel, copper, brass, silver, gold, platinum, polyester, styrene (Styrofoam), polyurethane, polyethylene (used in composite decking), polypropylene (used in composite and recycled plastic decking), vinyl/PVC (used in PVC decking), silicon, and Teflon™.

Materials that tend to give up electrons are called…

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Positively Charged:

Human skin, leather, fur, glass, hair, nylon, wool, lead, and silk.

Why is this important in the selection of decking materials?

The combination of either a positively or negatively charged material with a neutral material like natural wood provides no opportunity for static discharge.

The combination of any negatively charged composite, plastic, or PVC decking product with a positively charged material like your skin can result in static electrical discharge or shock.

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