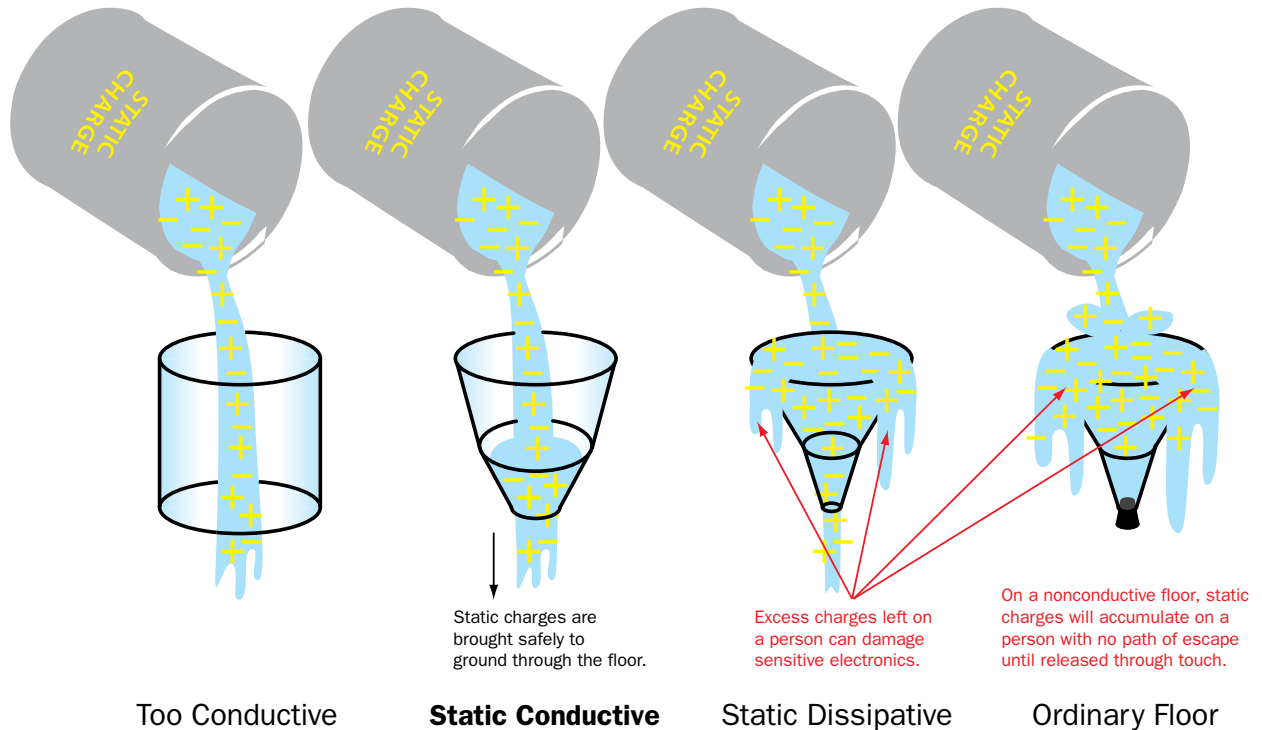


staticworx® Reference

Understanding Conductivity



moving persons' body = storage area of funnel • resistance of static control floor = orifice of funnel • static generated by walking = volume water poured into funnel

Pretend for a moment that, instead of controlling the flow of static electricity, you are controlling the flow of water, using a funnel. The funnel works by accumulating water in its cone, and conducting it through a narrow tube with a small opening at the apex. The size of the opening (small or large) controls the amount of water conducted by or "discharged" from the funnel.

Like water, the rate of static electricity discharge can be controlled. If funnels were used to conduct static electricity, a funnel with a tiny opening that restricted 90% of the water flow would be "static dissipative." A funnel with a large opening that restricted only 10% of the water flow would be "static conductive."

To work properly—like the funnel—the static control floor must be able to drain static as quickly as a person generates it; otherwise, static charges will accumulate and overflow—or discharge from the person to electronic equipment instead of to the floor. If water is poured steadily (or frequently) into a funnel with a very tiny opening that restricts water flow by 90%, the cone will quickly fill and the funnel will overflow. This is essentially what happens when a person walks on a high resistance static dissipative floor. The static dissipative floor discharges static so slowly that, with nowhere to go, static continues to accumulate on the body, eventually discharging to whatever object the person touches.

Like a funnel with a properly sized opening, a static conductive floor discharges static quickly and steadily. As the person walks across the static conductive floor, static electricity is conducted from the person through the floor and discharged safely to ground.