

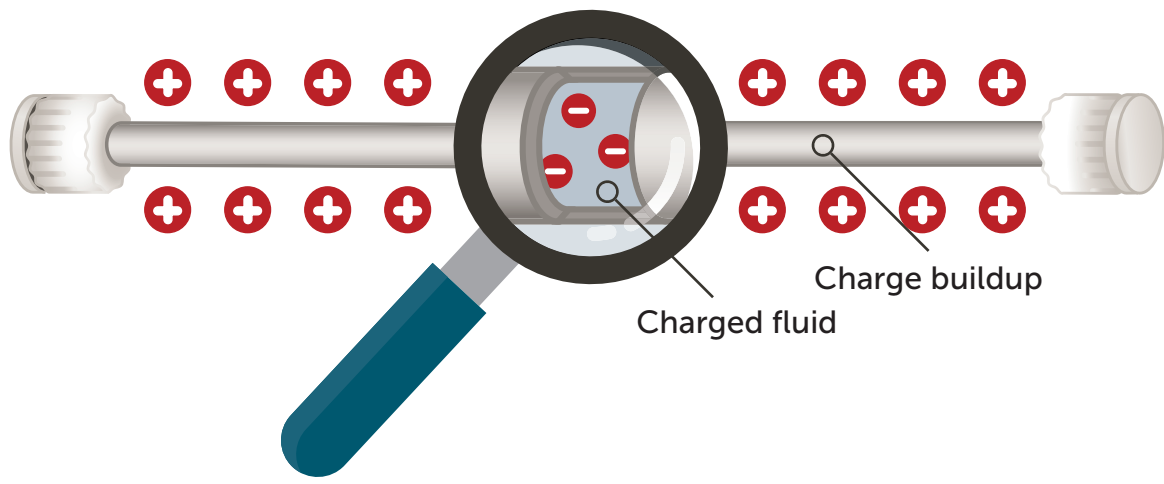
A Shock to the System

Defending Against Dangerous Electrostatic Discharge

Increasing requirements for material and chemical purity have encouraged semiconductor fabs to move away from stainless steel to PFA material for transporting process fluids. PFA delivers much higher purity than stainless steel, but it comes with increased safety risks – particularly due to the danger of static charge generation, accumulation, and harmful electrostatic discharge (ESD).

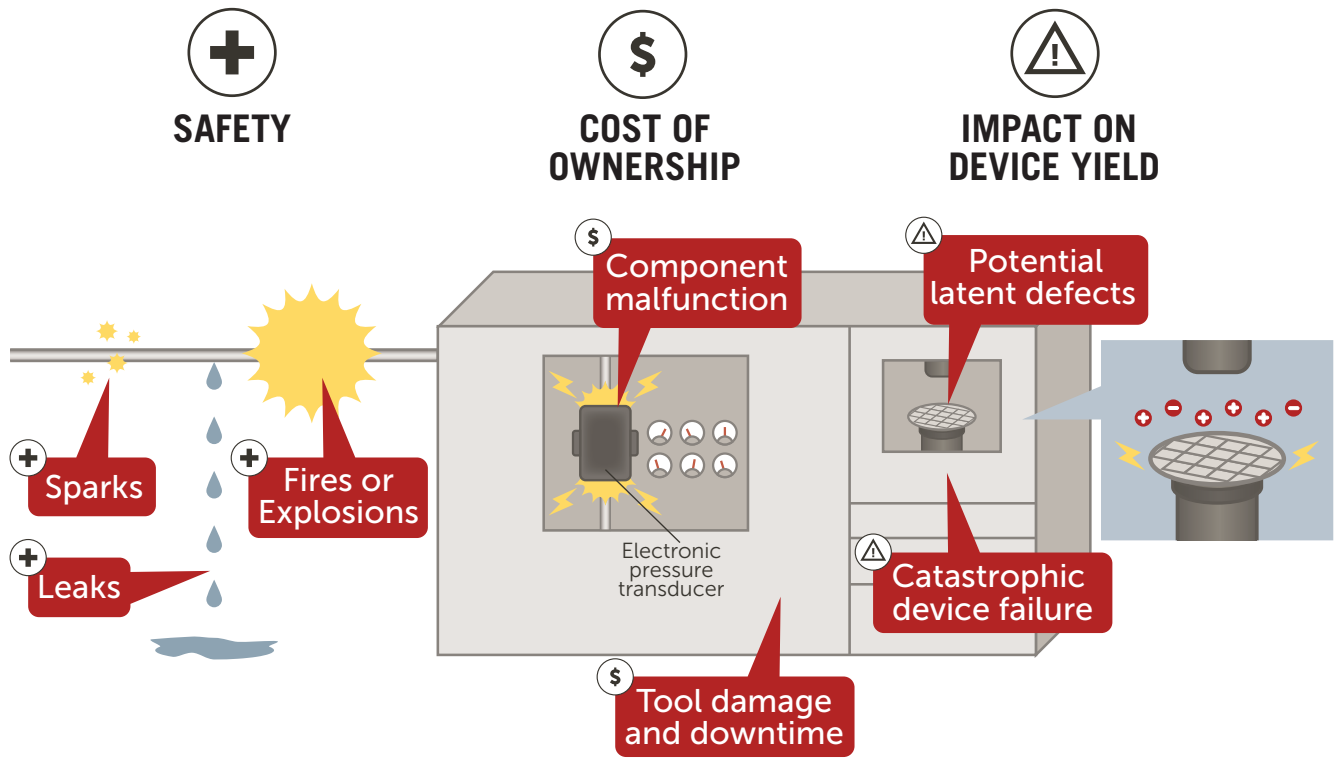
ELECTROSTATIC CHARGE BUILDUP

Because PFA is electrically nonconductive and fluids within PFA tubing and components are semiconductive, and in some cases, nonconductive, charge can build up within the fluid and on the surface of the PFA fluid system.



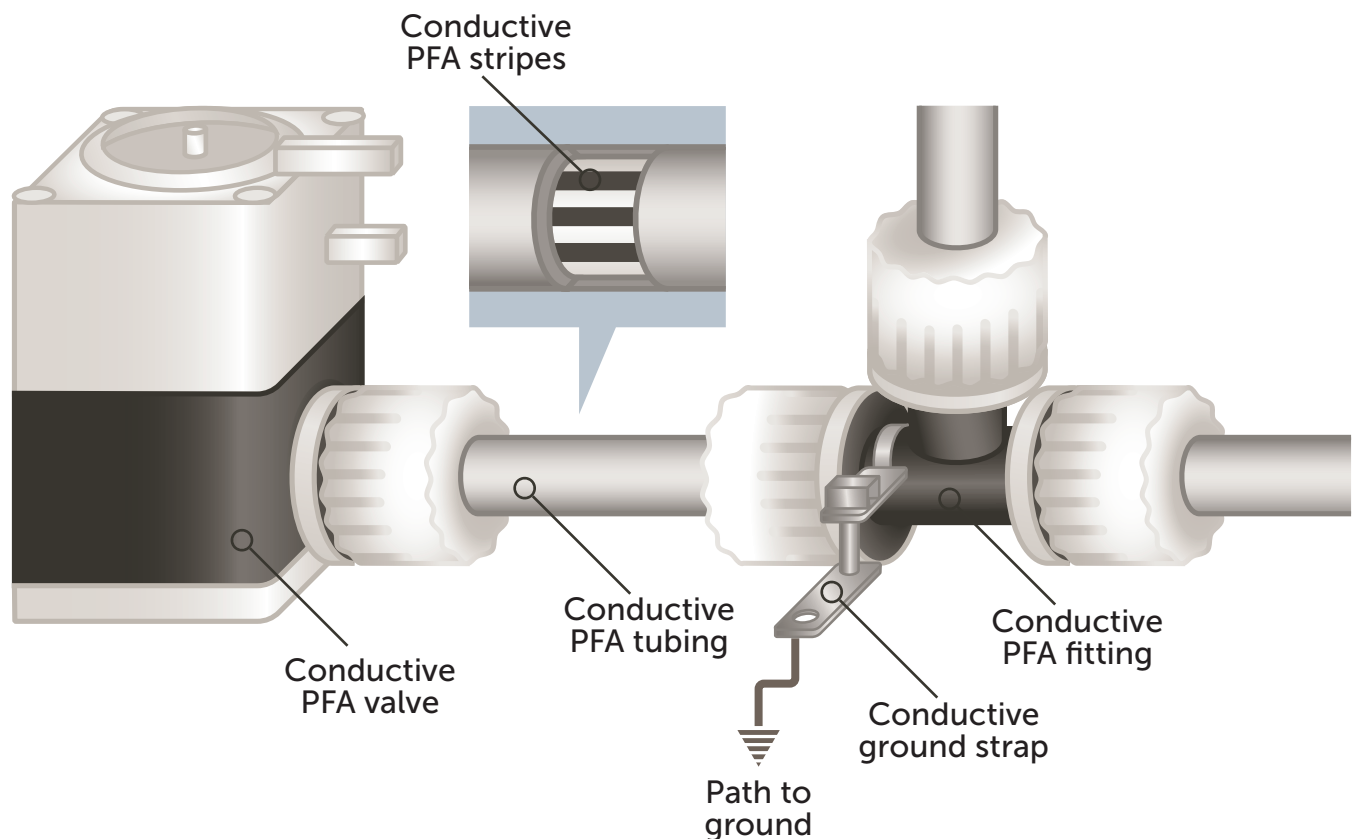
ESD CHALLENGES IN FLUID HANDLING SYSTEMS

Solvents have low conductivity, which enables them to generate and accumulate an electrical charge. When transported in standard PFA tubing, the contact occurring between flowing liquid and the nonconductive PFA surface increases the risk of electrostatic charge generation and accumulation, which can negatively impact safety, cost of ownership, and yield.



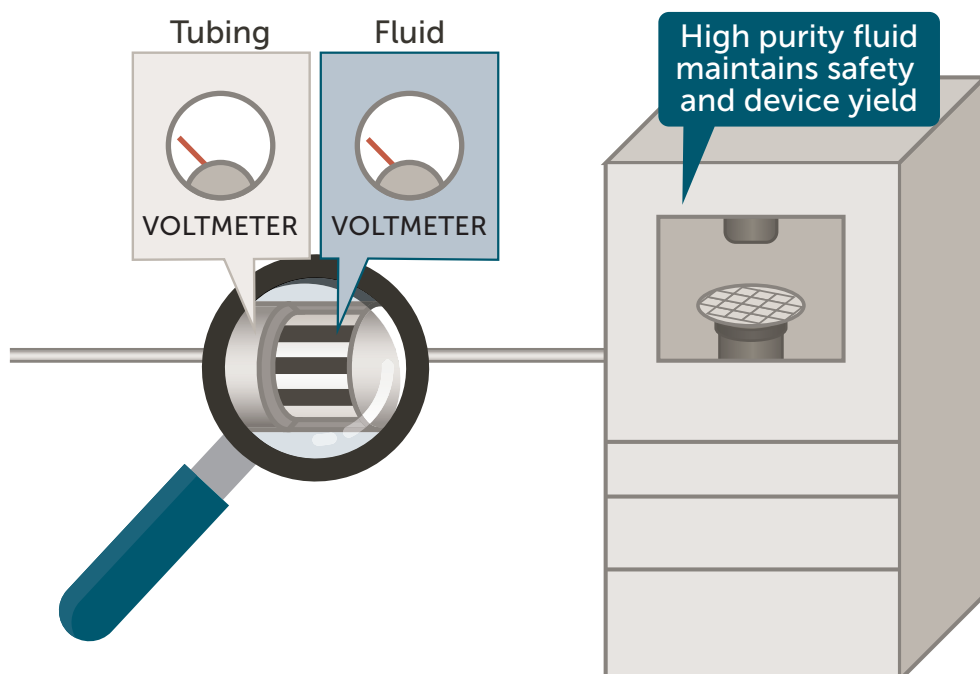
ENTEGRIS SOLUTION: CONTINUOUSLY CONDUCTIVE PFA SYSTEM

To mitigate the increased risks of ESD, Entegris is developing a continuously conductive PFA system that collects the charge buildup from the media and the fluid handling system and allows an uninterrupted dissipation path to ground. Each component in the system is made with conductive material, as shown.



RESULT

A best-of-both-worlds system that combines the high-purity material requirement of advanced node technology with the high safety standard of stainless steel, provides an end-to-end fluid handling system to overcome the many challenges presented by electrostatic hazards.



Learn More
www.entegris.com/ESD