

# Prevent Static Fires in Solvent Coating and Printing

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**Abstract—** Preventing static fires is one of the greatest static control challenges in solvent coating and printing operations. In normal operation, solvent coaters and printers may run reliably for thousands of hours. Most static fires occur when operation is abnormal; when something goes wrong. I will review how a splice break, a pump failure, and the failure of a static bar to operate have caused static fires. These fires may be prevented using a fault tolerant static control system. In a fault tolerant system, any single failure or fault is insufficient to cause an incendive spark. A fault tolerant static control system has two layers of protection. “Inner circle” static dissipators are installed to protect specific risk such as areas with flammable solvent vapors. “Outer layer” static dissipators are installed to dissipate static at sources of charging. With all outer layer dissipators functioning properly, a neutral web enters specific risk areas. Inner circle dissipators prevent static sparks should an outer circle dissipator fail. Examples of these two layer, fault tolerant strategy for typical gravure coaters and flexo presses are presented