

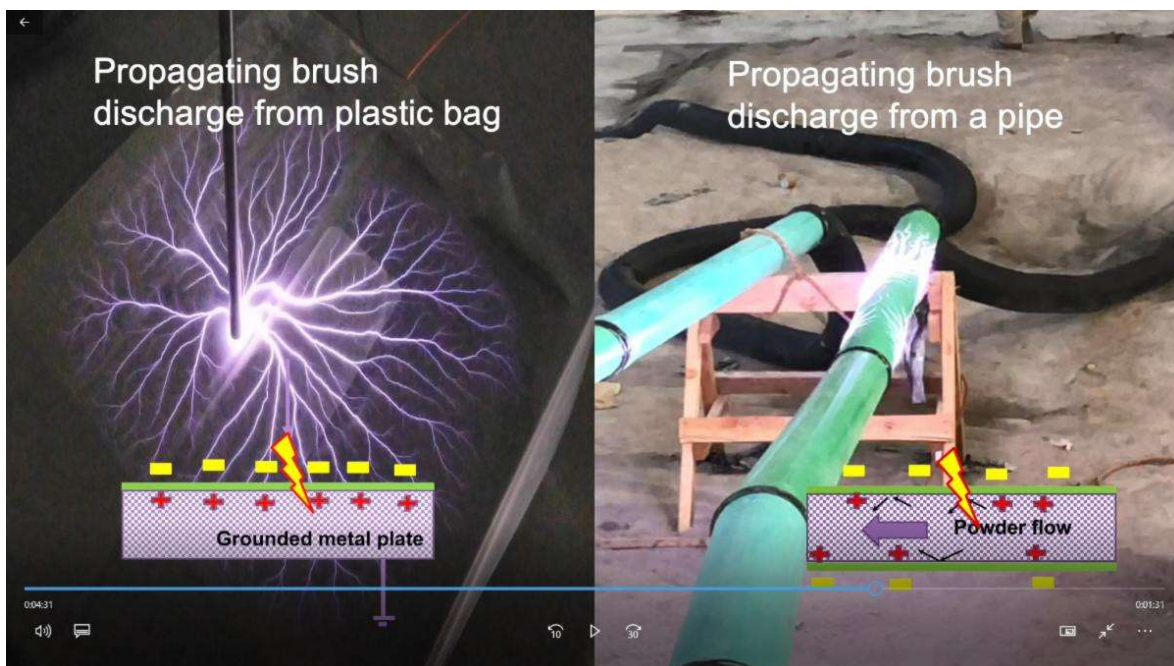
We are



Hello,

February 2022

Video: Danger "Monster" Static Sparks



You hear that near-silent 'crackle' of multiple static discharges when you brush your hair? Or maybe feel a tiny-little 'twinge' of a spark when you stroke your pet cat, or sometimes when you get out of your car? These static discharges are small enough for us to handle. However, these various types of electrostatic discharge can sometimes have enough spatial extent and energy density to ignite a sensitive flammable atmosphere on chemical plant, for example, and should not be taken as being trivial!

In this issue of Process Safety Dispatch, we set out to explain how a particular type of electrostatic discharge can arise **in normal plant operations**. These discharges, known properly as **propagating brush discharges**, can contain up to about one Joule (1,000mJ) of energy and can therefore not only ignite flammable gas, vapor, and dust cloud atmospheres, but can also **cause injury to anyone** who happens to encounter them. As one surviving operator termed them – ‘Monster sparks’.

In the short **video** we made that follows, **we show some real ‘footage’ from an industrial incident** involving propagating brush discharges and with the aid of our own Electrostatics Laboratory, we show how propagating brush discharges are created. It’s not for those of a nervous disposition!

Enjoy!

[Watch Video Here](#)



DUST COMBUSTIBILITY
- Why Accurate Results Really Matter

Dust Combustibility - why accurate results matter

You know you need to check out your powders for their combustibility. Maybe you need to comply with NFPA 652 (Standard on the Fundamentals of Combustible dusts) – or perhaps your DHA (Dust Hazards Analysis) is missing a K_{st} value here or minimum ignition energy (MIE) value there. So, you go on-line and find the cheapest lab that can test your powders, right?

Think again.

*You **must be able to rely** on your dust combustibility test data. Decisions you take on explosion prevention and protection measures will use that data and getting it wrong can **put lives at risk**. But relying on wrong data can also mean you **over-do the prevention and protection measures, increasing costs**. So, if you are going to go to all that process and expense of obtaining combustibility data on your powders, it really does need to be accurate.*

Think again.

When getting it wrong really does matter

Milk Powder: A company had data on its milk powder that indicated a tendency to self-heat at

165°C. The company dried the powder in a spray dryer at a lower temperature. So no problem there then..... or was there? For some batches, small black speckles of powder were being discovered in the final product. Quality Control was not happy about that, of course, but the process safety engineers were even less happy. Black specks suggest decomposition with risk of combustion and even explosion!

[Read More](#)



Expert Consulting

- Dust Explosion Prevention & Mitigation
- Control of Static Electricity
- Hazardous (Electrical) Area Classification
- Process Hazard Analysis
- Process Safety Management
- Fire and Explosion Hazard Assessment
- Incident Investigation
- Organizational Process Safety Competency Assessment

Specialist Laboratory Testing

- Combustible Dust Testing
- Electrostatic Testing
- Self-Heating / Thermal Instability Testing
- Flammability Testing of Gases & Vapors



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