

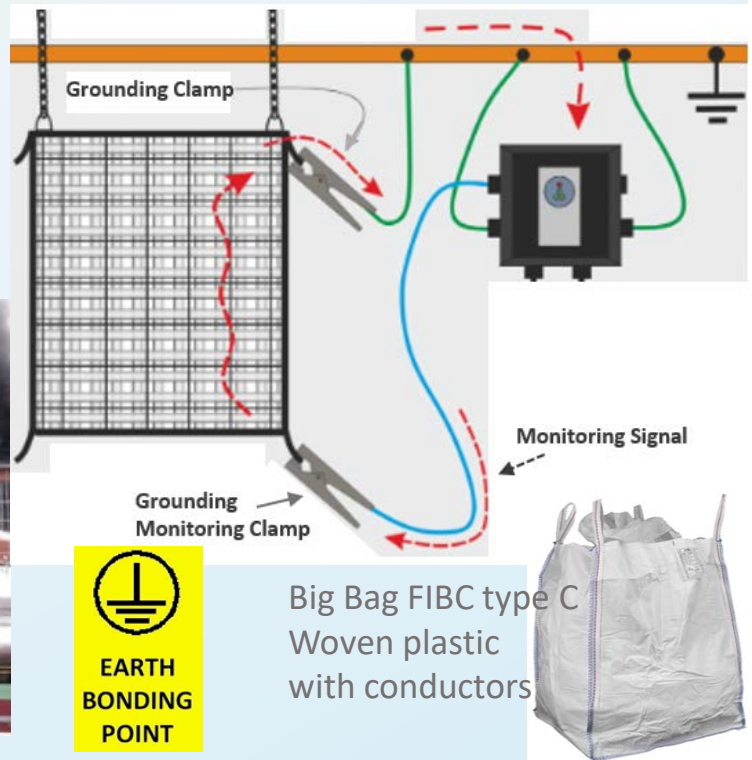
Unloading Powders

EPSC Learning Sheet November 2020



What Happened:

While unloading combustible powder from a FIBC type C Big Bag, a dust explosion occurred.



Aspects:

- If a type-C FIBC is not properly grounded it turns into a potential electrostatic ignition source (isolated conductor)
- Flowing of non-conductive powders will generate static charges that can accumulate and result in spark discharges
- Flammable volatiles (>0.5 w%) do increase ignition risk
- Validate that the grounding & bonding work well. The drawing shows how instruments can be used to assure this.
- Assure that bags including the inner-liner dissipate electricity well: the specs are defined in IEC 61340-4-4
- Avoid that operators get charged (shoes, clothing, earthing)
- Keep the unloading area dust free

Avoid sparks when unloading powders