

# ***STATIC AND PACKAGING: INTRODUCTORY COMMENTS***

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## ***Packaging:***

- *to provide physical/mechanical containment*
- *marketing image and information*
- *electrostatically neutral and shielded conditions for microelectronics*

## ***Static relevance:***

- *attraction of airborne dust and debris:*
  - *reduced quality of printing*
  - *poor appearance affects sales prospects*
  - *dirty hands at unpacking goods*
- *charged material surfaces*
  - *handling problems in web processing*
  - *clamping (useful for label holding, bad for de-stacking sheet stacks)*
  - *risks of shocks (e.g. at rewinding webs)*
  - *risks of ignition (e.g. flammable solvents)*
  - *risk of damage to microelectronic devices and assemblies*

## **Relevant features for materials:**

- *static problems (and opportunities) relate to retained static charge.*

*Main influence is via surface voltage*

- *charge decay time vs time of generation*
- *speed and pressure of tribocharging*
- *shielding against electric field transients (re microelectronics)*
- *ability to support incendive electrostatic discharges (e.g. re FIBCs)*

*Within processing plant can try to control static by charge neutralising or adding charge.*

*Important, but will NOT help post-processing performance.*

## **In general:**

- *best to ensure materials are suitable*
  - *charge decay*
  - *capacitance loading*
  - *shielding*
  - *electrostatic discharge character*
- *where materials performance **not** optimum use additional control methods in processing*