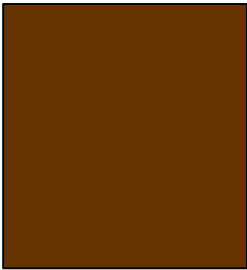




# Carbon Footprint Analysis (Recently completed by Bell Labs)

## Static Intercept (LDPE)



Static Intercept:

- Copper / Polymer (Polyethylene)

Manufacturing Processes:

Copper: extraction and refining

Compounding: Extrusion operation

- reacts (exothermically) Cu into LDPE
- temperatures of equipment < 420oF

Extrusion:

- Intercept compound is converted into film
- Extrusion Temperatures < 380oF

**At this stage**

**32% Reduction in Carbon Footprint**

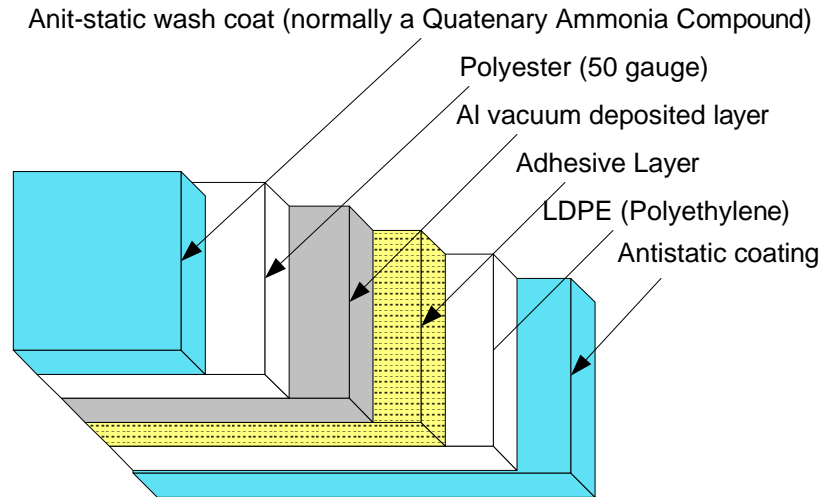
Static Intercept

ESD Properties do not degrade with time / humidity / temperature  
Re-Usable - Recyclable

**At this stage (Recycling)**

**>50% Reduction in Carbon Footprint**

## Shielding Bags / Metalized Bags



Shielding Bags / Metallized Polyester Bags / MVTR Bags

Processes:

Aluminum Refining - high electricity demand

Polyester Extrusion (PET) - Compounding and Extrusion

- High Temperature Extrusion > 620oF

Vacuum Metalization:

- High level electricity vaporizing Al block depositing Al vapors on PET film under high vacuum

Wash Coat Manufacturing:

- Chemical processing with Quaternary Ammonia

Extrusion of PE Film (Low Density Polyethylene - LDPE):

- Extrusion temperatures > 380oF

Lamination:

- Manufacturing of adhesive
- VOC issues with adhesives / laminate PE film to PET

Coating Operation:

- Application of coating to the both side of the laminate

Shielding Bags

ESD properties are not long term / degrade with use / humidity / temperature / storage  
Not Designed for Re-Use - Non-Recyclable

Bell Labs calculated that since Static Intercept provides corrosion protection (eliminate s or reduces EOS as well as preserves solderability) that a minimum of 1.5% increase in reliability can be achieved with the use of Static Intercept

**WITH 1.5% Increase in Reliability CARBON FOOTPRINT REDUCTION is >99.9%**