

# Polymer 101

## Carpet America Recovery Effort

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# A rose by any other name

- Plastics
- Resins
- Poly
- Pellets
- Pleather
- Vinyl
- EPS

# Main Polymer families

- Polypropylene (PP)
- Polyethylene (PE)
- Polystyrene (PS)
- Polyvinyl Chlorine (PVC)
- Engineering polymers-  
Polyamide(Nylon), Polycarbonate, Acrylic,  
value added polymers from compounders

# Properties

- Melt flow, viscosity, melt Index
- Impact strength- Izod, gardner
- Stiffness- tensile, flex modulus
- Weight-specific gravity

Additives are made to alter these properties and are an industry unto themselves.

FR, Impact modifiers, fillers, colorants , UV

# Processing Methods

- Injection molding- various parts
- Extrusion- pipe, fibers, sheet , compounders
- Blow mold- bottles
- Roto Mold – larger parts such as tanks
- Compression mold- pallets, RR Ties

Capital investment and commitment more serious-personnel, testing equipment, etc.

# CHALLENGES

- Capital
- People
- Quality/Appearance
- Volume
- Consistency
- Logistics
- Conversion cost
- Global landscape

# Resources

- Society of Plastics Engineers website
- American Chemistry Council- website
- Packaging Council- website
- Flexible packaging Association- website

To name a few.....