



RES Experience Includes

- Ion Exchange Resin
- Polyolefins - LDPE, LLDPE, PP, ICP
- Suspension & Emulsion Polymers - PVC, PVAc
- Ethylene-Vinyl Acetate, Alcohol
- Polystyrene - GPPS, SAN
- Engineering Plastics - PET, PBT, PC
- Super Absorbent Polymer
- "Green Polymers" – CO₂, biomass feedstock

 **RES Group**
www.resgroupinc.com

OVERCOME TOUGH PRODUCT QUALITY AND DESIGN CHALLENGES WITH RES' SERVICES IN POLYMER REACTION ENGINEERING

Breakthrough Improvements in Product Quality

- RES solves product quality problems for commercial polymer production by deploying first-principle polymer chemistry and reaction engineering
 - **Molecular structure properties:**
 - Control of gels
 - Composition distribution
 - Branching
 - **Morphological structure properties:**
 - Control particle size distribution
 - Porosity
 - Bulk density

Expert Advice to Enhance Project Feasibility

- Reliable reactor scale-up through efficient utilization of pilot data with first-principles reaction engineering, drawing upon RES' many years of commercial scale experience
- Identify optimal reactor conditions through simulation over a wide range of operating conditions
- Provide safety, controllability and emergency shut-down scenarios by simulating potential system perturbations and double-jeopardy scenarios