Recycling Economics

The Challenge of Carpet
A Viable Raw Material

- Plentiful
- Consistent
- Economical
- Suitable for Existing Processes
Market Dynamics

• “Green” Does Not Sell
• Equal To or Better
• Ability to Compete
• Meet the Customers Needs
Raw Material Forms

- Separated Material
- 100% Carpet
Separated Material

- Target Component – High Value
- Other Components – Low Value
- Limited Market
- Life Cycle Analysis
- Landfill Issue
100% Carpet

- All Components Used
- Minimizes Required Processing
- Minimizes Cost
- Minimal Landfill Burden
Carpet Components

- Active Components
- Fillers
- Others
Typical PC Carpet

Polypropylene 10%
SBR 9%
Nylon Fiber 45%
Filler 36%
“One of the nicest evenings I’ve ever spent at the Wilson’s ... and then you had to go and do that on the rug!”
Component Properties

- Active Components
- Fibers
- High Melts
- Low Melts
- Fillers
Size Reduction

- Required By Most Processes
- Shredding
- Densification
- Maintain Integrity of Material
Shredding

- First Step for All Processing
- Acceptable for Some Processes
- The Sandpaper Factor
Shredded Carpet
Densification

- Easier to Store and Handle
- Minimize Heat History
- Minimize Cost
- Extrusion, Tub, Compression
Densified, 100% Carpet
Compressed Carpet Pellets

- Minimum Heat History
- Fiber Integrity Maintained
- Composition Maintained
- Material Consistency
- Property Flexibility
Carpet Pellet Process

- Carpet Bales In
- Carpet Pellets Out
Carpet Pellet Process

- Shredding/Grinding
- Accumulation
- Metering
- Pellet Formation
- Product
Compressed Carpet Pellets

- 100% PC Carpet
- 0.25-0.5 Inch Diameter
- 0.5-0.75 Inch Long
- 16 +/- 2 Pounds per Cubic Foot
- Adjustable Friability
Compressed Carpet Pellets
Carpet Pellets

- Cost Effective
- Easy to Handle
- Process Compatible
- Fiber Component
- Low/High Melts
- Low Heat History
Products

- Plastic Lumber
- Injection Molding
- Marine Profiles
- Sheeting
- Engineered Profiles
- Rail Ties
- Pallets
- Roofing