Utilization of Latex Backings from Recycled Carpet

Introduction...

- POLAR MATERIALS
  --> recycles carpet backing

- VITRO MINERALS
  --> recycles glass
Some Numbers…

- Residential carpet is 50/50 +/- Face Fiber and Latex backing.
- Face Fiber is 60% Nylon with a growing % of PET.

Trends…

- Commercial carpet is trending towards Tile, which is backed by PVC or polyethylene.
- Residential carpet is trending towards PET face fiber.
Carpet shredders/shearers intake is >90% residential latex-backed broadloom...

- Driver is fiber recovery.
- Going forward, this will not change much

Carpet Shearing

- Number of machines will grow from 12 to 25 in 2011.
- Yield on flats is 20%.
- Yield on mixed intake is 12-13%.
- 25 machines take in 450-million pounds of carpet to recover 60-million pounds of Nylon.
- Carcasses need to be shredded.
**Carpet Tiles**

- Commercial carpet tile collected is not shredded or face fiber harvested.
- The tiles are sent back to the carpet manufacturer.

**Latex Carpet Sand**

- Given that every shredder, carcass processor, and CAAF plant does generate Latex carpet backing sand…
- Huge quantities are available.
- 300-400-million pounds could be generated.
Carpet Sand

- POLAR MATERIALS has developed processes and markets for the sand.
- But sand does not have the cost/performance of virgin fillers.

Sand is the Most Cost Effective Solution to...

- Recycle carpet back into new carpet.
- Drive the recycle numbers much higher for the new MOU.
- Proven technology with large scale facilities in place.
Obstacles for Use in Carpet…

• Cost more than virgin limestone.
• Minor rheology issues.
• Cannot be used in PVC/PE tile.
• Limited mandate from consumers/regulatory for use in residential.

Advantages for Use…

• Costs are getting lower due to preprocessing sand at the shredder facility.
• Crushing, grinding, and loading facilities are in place.
• Any latex-backed carpet can use the filler.
Other Outlets for Sand...

- Cement kilns.
- Concrete.
- Mastics & sealants.

Conclusions

- Huge quantities available.
- Could all be used as carpet filler.
- Will find other large applications.
- Will be the main driver for higher recycled carpet numbers.
Polar Materials will...

• Design equipment.
• Work on a regional basis.
• Develop markets.

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