In an effort to maintain a competitive advantage, material engineers and plastic processors often consider alternative materials to meet performance objectives and manage costs. Very Long Fiber (VLF) reinforced polypropylene (PP) compounds provide a competitive advantage when compared to glass fiber reinforced nylon (PA) PA6 and PA6/6 compounds. In many applications, VLF reinforced polypropylene compounds can be used as drop-in replacements for nylon compounds because they can meet physical performance requirements, offer processing advantages and are routinely considered as a cost management alternative to higher density and higher cost reinforced compounds.

Due to lower price, lower specific gravity and comparable physical properties at 50% relative humidity, polypropylene (PP) VLF compounds provide a competitive advantage when compared to glass fiber reinforced nylon (PA) PA6 and PA6/6 compounds. In many applications, VLF reinforced polypropylene compounds can be used as drop-in replacements for nylon compounds because they can meet physical performance requirements, offer processing advantages and are routinely considered as a cost management alternative to higher density and higher cost reinforced compounds. In many applications, VLF reinforced polypropylene compounds can be used as drop-in replacements for nylon compounds because they can meet physical performance requirements, offer processing advantages and are routinely considered as a cost management alternative to higher density and higher cost reinforced compounds.
Very Long Fiber Polypropylene Trumps Glass Fiber Reinforced Nylons

Lower Specific Gravity

VLF PP compounds are approximately 15% lighter than comparable glass fiber reinforced nyons.

Advantages of VLF PP Compounds

- Dimensionally stable and warpage resistant
- High modulus and impact strength
- Excellent low temperature impact
- High strength to weight ratio

Improved Impact Strength

VLF PP compounds exhibit 200% greater impact strength than comparable glass fiber reinforced nyons.

Superior Chemical Resistance

- Polypropylene’s low permeability withstands attack better than nylon.
- Ideal for fluid handling, industrial equipment, and portable devices.

Comparable Shrinkage

VLF PP compounds exhibit shrinkage ranges similar to glass fiber reinforced nyons.

- Molded part predictions maintained
- Switch materials without modifying molds

Reduces Processing Expenses

VLF PP compounds save energy and reduce manufacturing costs versus glass fiber reinforced nyons due to:

- Lower processing temperatures
- Lower processing pressures
- Lower drying requirements
- Lower cycle times

Uniform Melt Flow

VLF PP compounds exhibit similar flow characteristics when compared to glass fiber reinforced nyons processed at suitable conditions.

- No mold or equipment changes required

VLF Polypropylene in Engineered Applications

A vehicle shift control guide uses a VLF PP compound to consolidate multiple metal parts into a unified composite assembly.

The VLF PP compound passed extensive long-term durability testing over the wide service temperature required in the automotive industry.

More case studies for VLF compounds:
www.rtpcompany.com

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VLF Polypropylene

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