A GUIDE TO NYLON 6,6 ALTERNATIVES
ARE YOU CAUGHT IN THE MARKET SQUEEZE ON NYLON 6,6? With experts predicting shortages through the year 2023, you may be feeling a bit under pressure to find alternate suppliers of the material. But have you considered a material switch? Did you know that with the right formulation, you can achieve properties that are as good or better than that of PA 6,6 using materials such as PA 6, PP, PBT/PET, polymer blends and even post-industrial recycled blends?

Knowing the benefits and drawbacks to such a switch can help you get started down the right path for your specific application needs.

HOW ALTERNATIVE POLYMERS COMPARE TO PA 6,6

**PA 6 | POSSIBLE APPLICATIONS:** Automotive, Industrial, Consumer & Sporting Goods

**BENEFITS VS. PA 6,6**
- Wider processing temperature range
- Better surface quality
- Better weathering resistance
- Shorter conditioning time—nearly half that of PA 6,6

**DRAWBACKS VS. PA 6,6**
- Lower temperature resistance
- Slightly lower chemical resistance
- Higher water absorption
- Lower stiffness/wear resistance

**PBT/PET | POSSIBLE APPLICATIONS:** Electrical & Electronics

**BENEFITS VS. PA 6,6**
- Lower water absorption
- Better dimensional stability
- Slightly higher rigidity/stiffness (for PBT)
- Better abrasion resistance
- Slightly better electric resistance

**DRAWBACKS VS. PA 6,6**
- Lower toughness properties
- Higher density
- Lower short- and long-term temperature resistance
- Lower hydrolysis resistance
PP | POSSIBLE APPLICATIONS: Automotive, Consumer Goods, Lightweighting Applications

BENEFITS VS. PA 6,6
Lower water absorption
Better dimensional stability
Slightly better chemical resistance
Lower density
Cost effective
Fiber reinforced PP can achieve similar or better mechanical properties to PA 6,6 GF30

DRAWBACKS VS. PA 6,6
Reduced rigidity/stiffness
Much lower abrasion resistance
Lower electric resistance
Reduced short- and long-term temperature resistance

PC/PBT & PC/PET BLENDS
POSSIBLE APPLICATIONS: Automotive Interiors, Consumer Goods, Household Appliances

BENEFITS VS. PA 6,6
Higher impact strength
Good scratch resistance
Good wear resistance

DRAWBACKS VS. PA 6,6
Lower mechanical properties
Higher brittleness
Narrow processing temperature range

PA 6,6/PET BLENDS | POSSIBLE APPLICATIONS: Automotive, Industrial, Appliance, Electrical & Electronics, Applications Where Low Water Absorption is Required

BENEFITS VS. PA 6,6
Reduced water absorption—up to 40%
Better dimensional stability
Slightly higher mechanical properties in the conditioned state

DRAWBACKS VS. PA 6,6
Slightly lower temperature resistance
Slightly lower chemical resistance
Narrow processing temperature range
PA/PP BLENDS | POSSIBLE APPLICATIONS:
Automotive Interiors, Electronics, Consumer & Sporting Goods

BENEFITS VS. PA 6,6
Good adhesion to polyolefin-based TPEs
Low permeability of water
Good processability
Lower density

DRAWBACKS VS. PA 6,6
Lower temperature resistance
Lower mechanical properties

POST-INDUSTRIAL RECYCLED SOLUTIONS (PA 6,6/PA 6/PP) | POSSIBLE APPLICATIONS: Automotive Accessories, Industrial, Consumer & Sporting Goods

BENEFITS VS. PA 6,6
Between 50-80% recycled content
Good processability
Cost effective

DRAWBACKS VS. PA 6,6
Reduced chemical resistance
Wider range of mechanical specifications
Slightly lower mechanical properties

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