Application solutions

Envalior
Imagine the Future

E–Motors for Power Tools

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Benefits

- Current e–motor applications are packed tight with little to no room to gain additional power or improve efficiency. With Stanyl® PA46, you can mold thinner walls (i.e., lamina stack insulation) down to .25 mm or less, allowing more room for copper windings or thicker gauge to maximize torque potential and reduce resistance.
- At high loads, e–motors generate substantial heat. Temperatures can easily exceed 150°C (302°F), resulting in mechanical failures. Stanyl® PA46 offers excellent high temperature mechanical performance with a heat deflection temperature of 290°C (554°F) and a continuous use temperature of 170°C (338°F).
- The superior flow and high crystallinity of Stanyl® PA46 results in strong and flexible weld lines, improving manufacturing yield by eliminating process scrap in rotors and stators.

Details

Stanyl® is the first high–temperature polyamide and the only aliphatic polyamide in its class. With a melting temperature of 295°C, its high crystallinity and fast crystallization speeds provide excellent high–temperature mechanical performance, superior wear and friction properties and superior flow. Stanyl® PA46 has an excellent track record in high–performance parts due to its superior strength and fatigue resistance properties, especially at high temperatures. This material is uniquely positioned in that it can be used to achieve nearly transparent thin wall moldings. For applications such as e–motors, this can free up space for compact designs (i.e., allowing higher torque ratios to maximize the performance of e–motors).

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Products

Stanyl® 46HF5040 PA46–GF40 FR(17)	Stanyl® HFX31S PA46–GF20 FR(40)	Stanyl® HFX61S PA46–GF35 FR(40)
Stanyl® HFX33S PA46–GF20 FR(40)	Stanyl® TW241F12 PA46–GF60	Stanyl® 46HF4530 PA46–GF30
Stanyl® 46HF4540 PA46–GF40	Stanyl® 46HF4550 PA46–GF50	Stanyl® HFX63S PA46–GF35 FR(40)

Speciality products

Stanyl®