

Factors affecting the properties of Polyamides parts

Part Design

- Sharp Corners
- Section Thickness Uniformity

Materials Handling During Process

- Percent Moisture in the Resin
- Contamination
- Amount/quality of regrind

Molding Machine/Extruder Design

- Screw Design
- Hold up Spots

Processing Conditions

- Melt Temperature
- Mold Temperature
- Screw Forward Time
- Injection Pressure
- Cycle/Resin Hold up Time/Shot Size/Machine Size
- Orientation of Molecules

Post-Mold Treatment

- Moisture Conditioning
- Annealing
- Decoration-Painting/Flash Chrome
- Assembly-spin/ultrasonic/vibrational welding
- Coining

Nylon

- Type/Molecular Mass
- Modifiers/Blending/ Alloying
- Additives
- Stabilizers-UV, Heat, Hydrolysis
- Flame Retardants
- Plasticizers
- Nucleating Agents
- Pigments
- Glass/Mineral fibre orientation

End-use Conditions

- Relative Humidity/Time
- Temperature/Time
- UV/Time
- Solvent/Chemicals/Time
- Stress
- Type/Tension/Compression/Flexing/Shear/Electrical
- Constant/alternating
- Strain Rate
- Location of Stress versus part/mold design
- Time

