EnViramid® Processing Guide

Post-Consumer Recycled Polyamide 66

Ravago Manufacturing Americas

EnViramid®

Processing Guidelines

Typical Processing Conditions†

Drying Conditions

EnViramid® nylon resins are shipped at moistures levels below 0.20%. When drying is required (due to hopper residence times in excess of one hour, exposure to air or when adding regrind) desiccant air dehumidifying hopper dryers are necessary. Hot air dryers without desiccant should never be used. The temperature of the drying air should not exceed 165°F for natural colored resins** in order to prevent excessive resin discoloration. The required drying time is dependent on the length of time the resin is exposed to the atmosphere and the level of humidity. The following drying times are commonly recommended.

Exposure Time (Hours)	Drying Time @ 165°F (Hours)
0 – 4	2
4 – 24	4
24 – 120	24
> 120	48

Optimum moisture levels range from 0.08% to 0.18%. Moisture levels less than 0.06% can result in reduced flow characteristics and/or poor surface aesthetics. Dew point of circulating air to be less than -20°F (-28°C). Air throughput minimum of 1 CFM/Lb resin/Hr.

**180°F drying temperature for black materials.

Injection Molding Conditions

In order to obtain high quality molded parts, the processing setup must be aligned with the specific material, molding machine, throughput rate, and part-runner configurations. Screw designs and heat transfer characteristics vary between machines of different manufacturers, making it difficult to specify cylinder temperature profiles that can be universally applied to all injection units without some modifications. The following molding conditions are recommended starting points.

Parameter	Set Point
Rear Temperature (°F)	480 – 510
Middle Temperature (°F)	490 – 530
Front Temperature (°F)	500 – 540
Nozzle Temperature (°F)	500 – 540
Melt Temperature (°F)	490 – 520
Mold Temperature (°F)	160 – 180
Injection Pressure (psi)*	1,000 – 2,000
Hold Pressure (psi)*	800 – 1,200
Back Pressure (psi)*	25 – 75
Screw Speed (RPM)	60 – 120
Shot to Cylinder Size (%)	40 – 70

*Pressures given are in the hydraulic circuit

†The data listed here fall within the normal range of product properties, but they should not be used to establish specification limits or used alone as a basis for design. This information is not intended as a warranty of any kind. Buyers must make their own representative test and assume all risks of use, whether used alone or in combination with other products. Ravago Manufacturing Americas, LLC assumes no obligation or liability of any advice furnished by it or results obtained with respect to these products.

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*This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

‡ Shrinkage data are general guidelines and are only intended to allow comparison to other materials. They should not be used as the sole source of information for generating core and cavity mold dimensions.

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