

Product Information

Selar® PA


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DuPont™ Selar® PA Processing Guide

Coextrusion Blow Molding

Description

Selar® PA is an amorphous polyamide, which provides excellent barrier to gases, water vapor, solvents and essential oils. Selar® PA can be processed by a variety of processes:

Process	Grade
Extrusion, Coextrusion	Selar® PA3426
Blow Molding	
Injection Molding, Injection Blow Molding	Selar® PA2072
	Selar® PA3426
Extrusion Coating	Selar® PA2072

In coextrusion blow molding, Selar® PA may be used as a barrier layer on the inside of the container or as a combined barrier and gloss layer on the outside of the container (especially for cosmetic applications).

Selar® PA may be processed in conventional extruders, without grooved barrels, using a screw which is designed for nylon or polyolefin. A Typical extruder barrel temperature profile would be:

- Feed, 190°C (375°F)
- Middle, 220°C (430°F)
- Screw Tip, 230°C (446°F)

To avoid polymer freeze-off in the extruder barrel or extrusion head, always process Selar® PA above 210° C (410°F). Typical parison melt temperature should be 225 - 235°C (435 - 460°F). During machine warmup, temperature settings should not be more than 15°C (25°F) higher than the desired temperature. A typical extrusion blow molding machine may require 1.5 - 2.0 hours for warmup.

Process Interruptions

Selar® PA resins have good thermal stability and will not degrade in the extruder during short process interruptions (<20 minutes). During interruption, the screw speed should be reduced to 5-10 rpm, but not stopped. If the interruption will exceed 20 minutes, consider purging to polyethylene or other heat stable polyolefin.

Drying

Selar® PA resins are shipped dry (<0.20 % moisture) in moisture-resistant bags and boxes and can be used as received. However, Selar® PA resin does absorb moisture and should be redried if the package has been opened, if the resin has been exposed to >50% relative humidity for 1/2 hour or more, or if the melt temperature will exceed 280°C (536°F). Wet resin causes bubbles to form in the melt. Moisture may also cause surface defects and reduced gloss in molded parts.

Screw Design

Selar® PA amorphous nylon resins can be processed using typical polyolefin screws with L/D ratios of 24:1 to 30:1, compression ratios of 3:1 to 4:1, and equal feed, transition and metering sections. A barrier screw or a screw with a moderate mixing section can also be used. Screws designed for nylon are acceptable, but not mandatory.

Regrind

Good quality, clean regrind (up to 30% by weight) may be mixed with virgin polyolefin and re-extruded to produce good quality containers. If not used immediately, regrind may have to be dried prior to reuse.

FDA Compliance

All grades of Selar® PA comply with FDA regulation 21 CFR 177.1500 (a)(12) regarding food contact. Selar® PA can be used with all types of food, except those with more than 8% alcohol. There is no FDA limitation on the temperature of the food or the thickness of the Selar® PA in contact with the food.

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