SULAPAC

TECHNICAL DATA SHEET

15.04.2025
Version 4.5

SULAPAC BARRIER – BA2002.0NC

Sulapac Barrier is a sustainable solution for injection molding. Designed to be used as the inner layer of a cosmetic jar, Sulapac Barrier provides excellent barrier properties against water evaporation making it ideal for water-based cosmetics. It can be use in both bi-injection (2K jars) or 4 part molds.

TYPICAL MATERIAL PROPERTIES	
	BA2002.0NC
PHYSICAL PROPERTIES	
Hardness (Shore D)	85
Material density (g/cm^3)	1,49
Shrinkage (%)	1
TENSILE PROPERTIES (ISO 527-1)	
Tensile strength at yield (MPa)	44
Tensile modulus (GPa)	8,7
Tensile strain at yield (%)	1,1
FLEXURAL PROPERTIES (ISO 178)	
Flexural strength at max load (MPa)	65
Flexural modulus (GPa)	8,2
Flexural strain at max load (%)	1,1
IMPACT PROPERTIES (Unnotched, ISO 179-1)	
Charpy impact strength (kJ/m^2)	9
RHEOLOGICAL PROPERTIES (ISO 1133) (190°C/2,16 kg)	
MFI (g/10min)	12
HEAT RESISTANCE	
HDT-B (°C)	150
BIOBASED CONTENT (ASTM D6866)	
Biobased content (%)	98
BARRIER PROPERTIES	
WVTR (23 °C/85%) (g/m^2/day)	0,01
OTR (23 °C/0%) (cm^3/m^2/day)	2,3

WVTR = water vapor transmission rate (ASTM F1249)
OTR = oxygen transmission rate (ASTM D3985)

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DRYING INSTRUCTIONS

DRYING

- Before processing, the granules should be dried using a dehumidifying dryer or a vacuum dryer
  - Dehumidifying dryer: the granules should be dried for at least 5-6 hours at 80 °C
  - Vacuum dryer: the granules should be first dried for at least 20 minutes at 80 °C
- The best end result will be achieved if the residual moisture of the granules is < 0,2 %
- After drying, avoid exposing the material to ambient conditions
- Moisture content can lead to hydrolysis

USE OF MASTERBATCH

- Sulapac materials can be colored in the same way as conventional plastics. With Sulapac materials use color masterbatches with biodegradable carriers; PLA, PHA, PBAT, PBS. For further information, please see Sulapac color masterbatch guide.

PROCESSING CONDITIONS

GENERAL INSTRUCTIONS

- Typical settings may require optimization
- Material has a relatively narrow processing window (sensitive to temperature adjustments), thus correct processing parameters must be ensured
- Both cold and hot runner systems are suitable for these materials
- Valve gate systems can be used
- Tool temperature must be kept at given temperature range to secure barrier properties and easy ejection of the final part

RECOMMENDED TEMPERATURES

Throat	40 - 60 °C
Feed zone	165 °C
Compression zone	175 °C
Homogenizing zone	180 °C
Machine nozzle	180 °C
Back pressure	5 - 10 bar
Hot runner nozzle and bushing	180 - 183 °C
Tooling temperature	60 - 70 °C

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PURGING INSTRUCTIONS

BEFORE PRODUCTION

- Purge the plasticization unit and the hot runner with PP or PE

DURING PRODUCTION

- The material is heat sensitive. Avoid high processing temperatures and long dwell times
- If an extensive amount of burned material or fumes starts to appear in the products, try lowering processing temperature
- In case of production break flush the plasticization unit with fresh material

AFTER PRODUCTION

- Purge the plasticization unit and the hot runner with PP or PE
- Clean up the mold after production

STORAGE, TRANSPORTATION AND SHELF-LIFE

STORAGE

- In original unopened packaging at temperatures below 45 °C
- Once opened, reseal the package after each use
- In dry conditions and avoid exposure to high humidity and rain
- Away from direct sunlight

TRANSPORTATION

- Temperatures during transportation may not exceed 60 °C

SHELF-LIFE

- Shelf-life is from the date of manufacture, for unopened bags at room temperature (23 °C)
- Date of manufacture can be found on the label attached to the original packaging

Sulapac Barrier – BA2002.0NC	18 months

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Sulapac is proud to be an ISO 9001 and ISO 14001 certified company.