

## TECHNICAL DATA SHEET

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Version 1.3

### SULAPAC PREMIUM – IM1001.2NC

### SULAPAC PREMIUM FLEX 40 – IM1011.2NC

Sulapac's Premium materials are a sustainable solution for injection molding. With visible wood chips, both Sulapac Premium and Sulapac Premium Flex 40 are designed for thick-wall items such as cosmetic jars or small containers.

TYPICAL MATERIAL PROPERTIES		
	IM1001.2NC	IM1011.2NC
<b>PHYSICAL PROPERTIES</b>		
Hardness (Shore D)	87	82
Material density (g/cm <sup>3</sup> )	1,27	1,27
Shrinkage (%)	0,2	0,2
<b>TENSILE PROPERTIES (ISO 527-1)</b>		
Tensile strength at yield (MPa)	48	40
Tensile modulus (GPa)	4,9	4,4
Tensile strain at yield (%)	1,2	1,4
<b>FLEXURAL PROPERTIES (ISO 178)</b>		
Flexural strength at max load (MPa)	75	69
Flexural modulus (GPa)	4,8	4,6
Flexural strain at max load (%)	2	2,1
<b>IMPACT PROPERTIES (Unnotched, ISO 179-1)</b>		
Charpy impact strength (kJ/m <sup>2</sup> )	6	7,8
<b>HEAT RESISTANCE</b>		
HDT-B (°C)	56	56
<b>BIOBASED CONTENT (ASTM D6866)</b>		
Biobased content (%)	100	87
<b>MATERIAL COLOR</b>		
Due to the natural origin of wood, color variation is possible both between and within material batches.		

## 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
- If color masterbatch is added, the granules should be cooled down to 50°C in order to avoid the agglomeration of color masterbatch granules

## 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
- Both cold and hot runner systems are suitable for these materials
- Valve gate systems can be used
- Avoid using temperatures above 200°C in order to lower the risk of wood and polymer degradation
- The dwell time of the material shall be reduced to minimum in order to lower the risk of thermal degradation

### RECOMMENDED TEMPERATURES

<b>Throat</b>	40 – 60 °C
<b>Feed zone</b>	150 – 170 °C
<b>Compression zone</b>	160 – 180 °C
<b>Homogenizing zone</b>	175 – 190 °C
<b>Machine nozzle</b>	175 – 190 °C
<b>Back pressure</b>	5 – 10 bar
<b>Hot runner nozzle and bushing</b>	175 – 190 °C
<b>Tooling temperature</b>	20 – 40 °C

## 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 Premium – IM1001.2NC**

24 months

**Sulapac Premium Flex 40 – IM1011.2NC**

24 months

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