SULAPAC

TECHNICAL DATA SHEET

15.04.2025
Version 3.5

SULAPAC FLOW 1.7 – EX1013.0NC

Sulapac Flow 1.7 is a sustainable solution for extrusion, thermoforming and injection molding. With outstanding functional properties it's ideal for thin-walled extrusion such as straws and thermoformed items, and flexible injection molded items.

TYPICAL MATERIAL PROPERTIES	
	EX1013.0NC
PHYSICAL PROPERTIES	
Hardness (Shore D)	84
Material density (g/cm^3)	1,26
TENSILE PROPERTIES (ISO 527-1)	
Tensile strength at yield (MPa)	35
Tensile modulus (GPa)	2,1
Tensile strain at yield (%)	3
Tensile strain at break (%)	8
FLEXURAL PROPERTIES (ISO 178)	
Flexural strength at max load (MPa)	54
Flexural modulus (GPa)	2,4
Flexural strain at max load (%)	4,5
IMPACT PROPERTIES (Unnotched, ISO 179-1)	
Charpy impact strength (kJ/m^2)	33
RHEOLOGICAL PROPERTIES (ISO 1133) (190°C/2,16 kg)	
MFI (g/10min)	3
HEAT RESISTANCE	
HDT-B (°C)	55
BIOBASED CONTENT (ASTM D6866)	
Biobased content (%)	72
MATERIAL COLOR	
Due to the natural origin of wood, color variation is possible both between and within material batches.	

BARRIER PROPERTIES	
WVTR (23 °C/85%) (g/m²/day)	3,1
OTR (23 °C/0%) (cm³/m²/day)	11,2

WVTR = water vapor transmission rate (ASTM F1249)

OTR = oxygen transmission rate (ASTM D3985)

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 4-6 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.

EXTRUSION - PROCESSING CONDITIONS

GENERAL INSTRUCTIONS

- Typical settings may require optimization
- 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	
Feed zone	20 – 40 °C
Melting zone	165 – 185 °C
Mixing and convoying zone	170 – 190 °C
Die	180 – 190 °C

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INJECTION MOLDING - 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

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

PURGING INSTRUCTIONS

BEFORE PRODUCTION

- Purge the extruder or plasticization unit and 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 extruder or plasticization unit with fresh material

AFTER PRODUCTION

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

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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 Flow 1.7 – EX1013.0NC	24 months

kiwa certified ISO 9001 ISO 14001 Inspecta Sertifiointi Oy

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