

Technical data sheet**PHACT™ a1000P**

PHACT™ a1000P is an environment-friendly amorphous bio polymer. It has excellent biodegradability (under anaerobic, aerobic, aquatic and compost conditions). PHACT™ a1000P is suitable for general compounding with other polymers and producing special products such as package, films, and sheets.

Table 1. PROPERTIES OF PHACT™ a1000P

Properties	ASTM No	Units	a1000P
Forms			Pellet
Specific Gravity	D792		1.23
Hardness			
- Max	D2240	Shore A	53
- 15s			41
Tensile Strength at Break ¹⁾	D638	MPa	2.2
Elongation at Break ¹⁾	D638	%	500 <
Glass Transition Temperature ²⁾	D3418	°C	-15
Melt Flow Rate			5
Temperature / 5kg	D1238	g/10mins	165
Haze ³⁾		%	8.9
Transmittance ³⁾		%	93

1) Injection specimens conform to ASTM D638. Crosshead speed 200 mm/min for tensile strength.

2) Differential Scanning Calorimeter (DSC), peak of endotherm. Heating rate 10 °C/min.

3) Film specimens conform to UV-vis spectrometer (Thickness 90 um)

General purpose processing condition

Dry Temperature	50 °C X 5 hrs	Compression Section	130 ~ 165 °C
Feed Temperature	40 °C	Nozzle	130 ~ 165 °C
Melt Temperature	135 ~ 175 °C	Screw Speed	80 ~ 150 rpm

This information and recommendations contained herein are comply to our best knowledge. Nothing herein is to be construed as to the warranty, accuracy, currency or completeness of this information. The content of this document is subject to change without previous notice.

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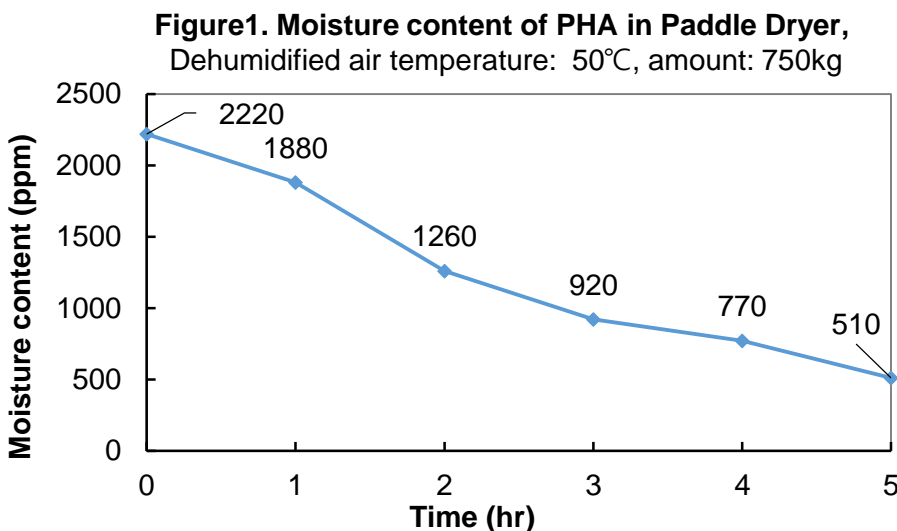
PHACT™ a1000P

General storage and drying processing condition

Storage condition: PHACT™ a1000P is amorphous bio polymer that might be aggregated together easily when exposure at 60°C with humidity condition. Avoid direct sunlight, heat or fire and store at a dry ventilated cool place.

Drying process condition: For drying the amorphous PHA, the paddle type dehumidifying drier are recommended for preventing PHA from aggregation during the drying process.

Figure 1 shows moisture content of PHA reached at 500 ppm after 5 hours in paddle type dryer at 50°C.



General compounding condition

PHACT™ a1000P is suitable for general compounding with PLA. However, due to the high heat sensitive properties of PHA, the extrusion temperature condition should be mild for reducing degradation of PHA during the process. Figure 2 shows some example of extrusion temperature profile for PHA/PLA compounding.

Figure 2. Extrusion temperature profile

Screw RPM	b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	DA	head
120-150	40	80	155	165	165	165	170	175	165	165	165	165	165
	Feeding zone	Heating zone			Melting zone			Mixing zone		Compression zone			

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