

1. Description

Greemas® 90401 is a PLA (Poly lactide) based alloy and certified as a biodegradable resin with a biodegradability over 90% according to ASTM D6866. Greemas® 90401 is especially suitable for the production of general purpose items, such as packaging. Not only bio-sourced, but also biodegradable, Greemas® 90401 is definitely a cradle-to-cradle green material.

2. Properties

● General Properties

Item		Test Method	Unit	State	Data
Density	-	ISO 1183	g/cm ³	dry	1.22
Mass flow rate	(210°C, 2.16kg)	ISO 1133	g/10min	dry	2
Mold shrinkage	-	ISO 294	%	dry	0.2~0.35

● Mechanical Properties

Item		Test Method	Unit	State	Data
Tensile strength at break	(10mm/min)	ISO 527	MPa	cond.	49
Elongation at break	(10mm/min)	ISO 527	%	cond.	450
Flexural strength at break	(2mm/min)	ISO 178	MPa	cond.	56
Flexural modulus	(2mm/min)	ISO 178	MPa	cond.	2350
Izod notched impact strength	(4mm, 23°C)	ISO 179/1eA	KJ/m ²	cond.	11

● Thermal Properties

Item		Test Method	Unit	State	Data
Melting point	(DSC)	ISO 11357	°C	dry	165
Heat deflection temperature HDT	(0.45 MPa)	ISO 75	°C	dry	60
	(1.80 MPa)	ISO 75	°C	dry	56

* These property data are believed to be representative under specific test conditions and are not intended to serve as product specifications.

3. Applications

✓ Straw ✓ Packaging ✓ Toys

4. Drying Conditions

The drying temperature at 75 – 85°C with a duration 3 – 4 hrs is recommended.
 To obtain better product performance, a desiccant dryer is also recommended.

5. Recommended Processing Conditions

The following is the recommended injection molding conditions for the first trial:

Condition	Barrel Temp.	Nozzle Temp.	Mold Temp.	Screw Speed	Injection Pressure	Injection Rate	Holding Pressure
Value	190 – 210	200– 210	< 40	50 – 100	85 – 100	80 – 90	85 – 100
Unit	°C	°C	°C	rpm	kg/cm ²	%	kg/cm ²

*For extrusion sheeting process, the barrel temperature between 180 and 210°C is recommended, with configuring general purpose screws with L/D ratios from 24 to 30 and compression ratios between 2.5:1 and 3:1.

6. Recommended Storage Conditions

Store Greemas® 90401 in cool and dry place. Protect from direct sunlight, rain and violent temperature fluctuation. Fire is inhibited around storage area. No special restrictions on storage with other products. The recommended storage duration is five years.

7. Appearance and Packaging

Greemas® 90401 is in pellet form with a package of 25 Kg net weight per paper bag.