TDS updated 3/2025

PHACT™ CB0400A

This product is designed for extrusion (drinking straws) and sheet/thermoforming applications. It is based on PHA (PHACT™ S1000P and A1000P) and minerals. All ingredients used in this product are certified (TÜV and BPI, where applicable) to be industrially compostable, home compostable, soil biodegradable and marine biodegradable (S1000P;390um, A1000P;250um). Please consult your sales/technical representatives for details.

PROPERTIES OF PHACT™ CB0400A

Properties	Units	ASTM No	CB0400A
Forms	-		**Pellet**
Specific Gravity	-	D792	**1.52**
Hardness - Max	Shore D	D2240	**50**
Secant Modulus (1mm)	MPa	D638	**1700**
Elongation at Break[1)]	%	D638	**5**
Ultimate Tensile Strength[1)]	MPa	D638	**30**
Heat Deflection Temperature /0.455 MPa	℃	D648	**140**
Melting Point[2)]	℃	D3418	**165**
Glass Transition Temperature[2)]	℃	D3418	**-5**
Melt Flow Rate (190 ℃, 2.16 kg)	g/10 min	D1238	**5**

1) Injection specimens conforms to ASTM D638. Crosshead speed 50 mm/min for tensile strength.

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

PROCESSING CONDITION EXTRUSION

Dry Temperature	75 ℃ x 4 hours	**Compression/Melting**	165 ~ 175 ℃
Feed Temperature	25~40 ℃	**Metering**	165 ℃
Solid Conveying	165 ~ 175 ℃	**All Die Zones**	165 ~ 175 ℃

The water bath must be set to 70-75 °C to enable fast crystallization of the product

Drying & Moisture Management

PHA CB0400A will be supplied in pellet form in aluminum foil-lined packaging with a moisture content of 400 ppm or less when packed. A moisture content of less than 0.04% (400ppm) is highly recommended to prevent viscosity degradation during processing. Typical drying conditions are 4 hours at 75 °C (167 °F) with a dew point of -40 °C (-40 °F). The resin should not be exposed to atmospheric conditions after drying. Keep the package sealed until ready to use and promptly reseal any unused material.

Preparation for Processing

A. **Purging:**

- Utilize a purging compound specifically designed for the current material. If unavailable, purge with LDPE until the resin is clear of any residual material.
- Subsequently, introduce 3-5 kg of CB0400A into the barrel.

B. **Barrel Clearing:**

- Operate the machine until the barrel is empty.
- Discard the existing screen mesh and replace it with a new one.

C. **Material Introduction and Initial Processing:**

- Fill the barrel with CB0400A.
- Initiate operation at a motor speed of 300-400 rpm until the material forms a consistent string.
- Gradually increase the motor speed while synchronizing the cutting and pulling speeds to maintain optimal processing conditions. Normally its pulling speed would be slower than that of motor rpm.

Safety Precautions

PHA CB0400A must be handled and processed with adequate ventilation and proper personal protective equipment. Temperatures above 190°C (374°F) can result in considerable polymer degradation. Therefore, adequate ventilation should be provided where hot polymer may reside for long periods such as when multiple shots are being held in the barrel.