# KODAK 3D Printing Filament PLA Tough (Enhanced Polylactic Acid)

#### **Benefits:**

- High strength.
- Very low shrinkage.

#### Main application:

Prototypes and functional parts not used at high temperature.

#### **Description:**

KODAK PLA Tough is as easy to print as regular PLA with a 9 times higher impact resistance. It has been manufactured with the highest grade of Ingeo<sup>TM</sup> certified resins for industrial applications. It provides excellent 3D printing characteristics, such as precise detail, good adhesion to build plates and low warping, curling and odor. NatureWorks Ingeo filament has passed a defined set of tests to assure the highest quality and thus reliable and repeatable printing performance. Furthermore, this polymer is formulated to crystallize when annealed post-printing to improve its thermal performance and further enhance its impact properties. Do not use in direct contact with food.

## Recommended printer settings

Print temperature: 210-240°C. Print bed temperature: 50-70°C.

Fans: on (except first layer)

Closed environment: not required.

Tips: anneal at 110-120°C for 10-20 minutes to improve the material's thermal and impact resistance.

### Tolerance

Diameter	Diameter tolerance	Roundness accuracy	Moisture content
1.75 mm	+/- 0.02 mm	99%	< 0.02%
2.85 mm	+/- 0.03 mm		

## Physical properties

Description	Value	Test method
Density	1.22 g/cm <sup>3</sup>	ISO 1183/B
Melt Mass-Flow Rate (MFR) (200°C/21.6kg)	12 g/10 min	AMST 1238