

## Tough PLA

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### Description

TOUGH PLA is engineered for its high impact and strength like ABS and the stiffness of PLA. The material shows excellent results in layer adhesion and is the perfect match for tooling or manufacturing aids where a high impact is needed. TOUGH PLA is a plug & play material and printable on a wide range of temperatures

### Properties

- High impact and stiffness
- Prints like regular PLA (easy to print)
- No warpage & no shrinkage
- Printable with various print temperatures
- Suitable for applications which needs to be strong
- Industrial touch and feel

## Tough PLA - *Technical information including:*

Filament specs.		
Size	Ø tolerance	Roundness
2,85mm	± 0,10mm	≥ 95%

Mechanical Properties		
Description	Testmethod	Typical value
Specific gravity	ISO 1183	1,21 g/cc
MFR 210°C/2,16 kg	ISO 1133	8,75 gr/10 min
Tensile strength at yield	ISO 527	46 MPa
Tensile strength at break	ISO 527	19 MPa
Elongation Strain at Yield	ISO 527	2%
Elongation Strain at Break	ISO 527	27%
Tensile (E) modulus	ISO 527	2750 MPa
Impact strength - Charpy method 23 ° C	ISO 179	29,8 kJ/m <sup>2</sup>
Charpy Impact (Kj/m2)	ISO 179	Injection Moulded: 29,8 3DP X-Y: 22,9 3DP Z: 2,2
Vicat softening temperature B	ISO 306	57 ° C