

Last update 13-09-2021

## Technical datasheet

### Prusament Tough Resin - all colors



## Identification

Name	Prusament Tough Resin - all colors
Manufacturer	Prusa Polymers a.s., Prague, Czech Republic
Usage	3D printing

## Recommended settings

Layer height [mm]	Printing time SL1 [s]	Printing time SL1S [s]
0,025	5 - 6	1,8 - 2,0
0,05	6 - 7	2,0 - 2,4
0,1	14	2,6 - 3,2
First layers	35 - 45	25

### Recommended curing after print:

Washing - 5 minutes in isopropyl alcohol (>90%)

Drying - 3 minutes at 45 °C

Curing - 3 minutes

## Mechanical properties

Property/print direction	Uncured XY	Cured XY	Method
Tensile strength [MPa]	24,3 ± 0,9	41,6 ± 3,7	ISO 527-1
Elongation [%]	8,0 ± 1,3	5,8 ± 1,2	ISO 527-1
Tensile modulus [GPa]	0,6 ± 0,04	1,6 ± 0,1	ISO 527-1
Impact strength Charpy [kJ/m <sup>2</sup> ]	25,0 ± 3,3	23,7 ± 4,9	ISO 179-1
Notched impact strength Charpy [kJ/m <sup>2</sup> ]	4,9+ ± 0,4	1,97 ± 0,26	ISO 179-1
Flexural strength [MPa]	21,6 ± 1,3	33,5 ± 2,3	ISO 178
Flexural modulus [GPa]	0,66 ± 0,05	1,11 ± 0,09	ISO 178
Deflection at flexural strength [mm]	12,6 ± 0,7	11,0 ± 1,5	ISO 178

Property/print direction	Uncured YZ	Cured YZ	Method
Tensile strength [MPa]	22,4 ± 1,2	28,5 ± 2,1	ISO 527-1
Elongation [%]	9,2 ± 0,8	4,6 ± 0,5	ISO 527-1
Tensile modulus [GPa]	0,7 ± 0,07	1,2 ± 0,07	ISO 527-1

## Basic material properties

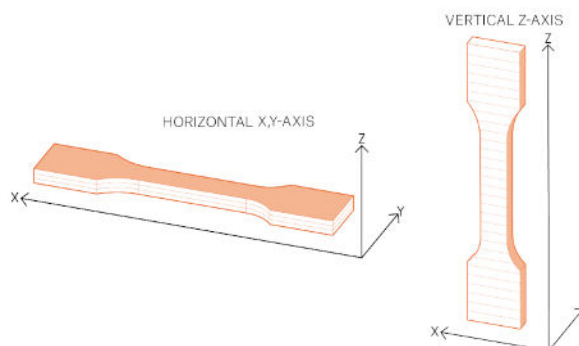
Property	Uncured XY	Cured XY	Method
Heat deflection temperature (0,45 MPa)	45	55	ISO 75
Heat deflection temperature (1,8 MPa)	40	42,5	ISO 75
Hardness (Shore D)	70,7 ± 0,8	75,7±1,2	ISO 164

Viscosity (25°C)	180-230 mPa.s	ISO 2431
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(1) Original Prusa SL1 and SL1S Speed 3D printers were used to make testing specimens. PrusaSlicer-2.3.3 was used to create G-codes with the following settings: Prusament Tough Resin; layer 0,05mm; faded layers: 3; exposure times: 5/35 (SL1), 1,8/25 (SL1S), without supports and pad; other parameters set default

(2) Impact resistance Charpy - Edgewise direction of blow according to ISO 179-1

(3) Notched impact resistance Charpy - Edgewise direction of blow according to ISO 179-1



## Basic safety information

This resin is not meant for contact with food, drinks, or medical use on or in a human body. Always read the material safety data sheet thoroughly. Resins are classified as dangerous chemicals and it is necessary to dispose of them properly in designated containers. Resin bottles (empty or full) must never be disposed of or poured into the general waste.

## Manipulation directions

Shake well before use.

Store at room temperature away from direct sunlight.

Use protective equipment for manipulation.

Do not pour the contents of the canister into general waste. Dispose of empty bottles and unused resin at designated places.

### **Disclaimer**

The results presented in this data sheet are just for your information and comparison. Values are significantly dependent on print settings, operator experiences, and surrounding conditions. Everyone has to consider suitability and possible consequences of printed parts usage. Prusa Polymers corp. can not carry any responsibility for injuries or any loss caused by using Prusament Tough Resin. Before the use of Prusament Tough Resin material read properly all the details in the available safety data sheet (SDS).

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