

Technical datasheet

PLA Re grind

colorFabb

Date of issue: December 12th, 2023
Version: v2.0

Description

colorFabb PLA Re grind is produced from 100% post-filament extrusion waste from colorFabb premium printing filament. The production team meticulously separates out-of-spec PLA filament waste, which is then recycled inhouse to create colorFabb PLA Re grind.

Please note: each production run will entail slight deviation in color due to the deviation in the filament that is used for recycling. Each batch of PLA Re grind therefor has a unique color.

Typical Properties

Mechanical Properties – 3D Printed

	Method	Value	Unit
Youngs Modulus	Tensile, ISO 527-1A	3150	MPa
Tensile Strength	Tensile, ISO 527-1A	53	MPa
Elongation at break	Tensile, ISO 527-1A	4,2	%
Flexural Modulus	Flexural, ISO 178	2900	MPa
Flexural Strength	Flexural, ISO 178	91	MPa
Impact Strength	Charpy Notch, ISO 179	2,9	kJ/m ²

Mechanical Properties – 3D Printed PLA Premium Printing Filament*

	Method	Value	Unit
Youngs Modulus	Tensile, ISO 527-1A	3300	MPa
Tensile Strength	Tensile, ISO 527-1A	70	MPa
Elongation at break	Tensile, ISO 527-1A	3,5	%
Flexural Modulus	Flexural, ISO 178	2400	MPa
Flexural Strength	Flexural, ISO 178	97	MPa
Impact Strength	Charpy Notch, ISO 179	4,0	kJ/m ²

Mechanical Properties – Injection Molded**

	Method	Value	Unit
Youngs Modulus	Tensile, ISO 527-1A	3500	MPa
Tensile Strength	Tensile, ISO 527-1A	45	MPa
Elongation at break	Tensile, ISO 527-1A	≤5.0	%
Flexural Strength	Flexural, ISO 178	N/A	MPa
Charpy Impact Strength	Charpy Notch, ISO 179	≤5.0	kJ/m ²
Density	ISO 1183	1,2	g/cm ³

Thermal Properties**

	Method	Value	Unit
Glass Transition Temp.	DSC, ISO 11357	55-60	°C
Melting Temp.	DSC, ISO 11357	150-160	°C
Decomposition Temp.	TGA, ISO 11358	N/A	°C
Heat Deflection Temp.	HDT-B, ISO 75	60	°C
Melt Flow Index	MFI, (210°C/2.16 kg), ISO 1133-A	6	g/10min
Melt Flow Index	MFI, (190°C/1.16 kg), ISO 1133-A	3	g/10 min

*This data is obtained from the PLA Premium Printing filament recycled by colorFabb

**These results are obtained from the information provided by the supplier of the raw material

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Filament Specifications

	<i>Unit</i>		
Diameter	mm	1.75	2.85
Max. roundness deviation	mm	± 0.05	± 0.1
Net. Filament weight	g	2200	2200

Guideline for print settings

	<i>Unit</i>	
Nozzle Temp.	°C	195-220
Bed Temp.	°C	50-60
Bed / surface modification	-	Tape, Glue Stick
Active cooling fan	%	100
Print Speed	mm/s	40-100

Notes

The reported properties are an average of a batch of 3D specimens.

The specimens have been printed in XY plane, using 0,15 mm layer height, 100% infill, 0,4 mm nozzle, 210°C nozzle temperature and 55°C bed temperature.

Disclaimer

The product- and technical information provided in this datasheet is correct to the best of our knowledge. The information given is provided as a guidance for good use, handling and processing, and is not to be considered as a quality specification. The information only relates to the specific product and the material properties.