



# PCABS

TDS - Technical Data Sheet

## Material specification

Commercial name: 3ntr PCABS

Raw material: PC-ABS (poly carbonate + acrylonitrile butadiene styrene )

Designation: 3d printing material

Supplier: Jdeal-Form srl

## Mechanical properties (GRANULE – printed part tests value available ASAP)\*

Type	Test Method	Metric
Tensile Modulus	ASTM D638	2006 Mpa
Yeld Point	ASTM D638	38 Mpa
Tensile Elongation at Yeld	ASTM D638	3.3%
Tensile Strenght Ultimate	ASTM D638	38 MPa
Tensile Elongation at Break	ASTM D638	8,4%

## Thermal properties (GRANULE – printed part tests value available ASAP)

Type	Test Method	Metric
VICAT Softening	ISO 306B50	120°C
Glass Transition (TG)		105°C
Degradation Temperature		340°C

## Physical characteristics

Type	Metric
Density	1,13gr/cm3
Diameter	2,85mm +/- 0,05
Roundness Deviation	Max 3%

3ntr (tm) Jdeal-Form srl

Jdeal-form srl – Via Montegiudeo 9 – 28047 Oleggio (No) – Italy – www.3ntr.net

## Colors available

	<b>Black</b>	<b>White</b>	<b>Red</b>	<b>Green</b>	<b>Blue</b>	<b>Yellow</b>		
<b>Shrink**</b>		<b>TBA%</b>						

## Plating procedure

Total processing time: 180 -210 min

Total plating thickness: 40 – 50 um

Process	Time (mins)	Temperature (°C)	Solution	Remarks
De-greasing	8 – 10	72 +/- 1	Neutral detergent	
Etching	8 – 10	72 +/- 1	Cr=3 + H2SO4	Surface rubber oxidation
Neutralization	0.1	72 +/- 1	36% HCl	CrO3 removal
Activation 1	3 - 5	Room	Pd, SnCl12, HCl, etc	Pd surface extraction
Activation 2	1 – 2	Room	HCl, NaOH, H2SO4, etc	Surface polishing
Chemical plating	3 – 5	Room	NiSO4, H3PO4, NH4OH, etc	Plastic conductivity
Copper sulfate etching	4 – 6	Room	CaSO4-5H2O / H2SO4, 1A/dm2	
Copper sulfate plating	30	Room	CaSO4-5H2O / H2SO4, 3A/dm2	
Ni Plating	Depending on requested plating thickness	50 – 55	NiSO4, NiCl2, H3PO4, brightener, etc	
Hard Ni Plating	Depending on requested plating thickness	50 – 55	Conductive powder	
Cr plating	2 - 3	Room	CrO3/H2SO4, 7+/- 3 A/dm2	
Drying	Depending on part geometry	45 – 50		Hot air drying

\*test parts have been printed according to XZ orientation, using 100% infill, 0.2mm layer thickness, 0.4mm nozzle on a production A2v2 printer.

\*\*150x150x15 test part, 25% infill, 0.2mm layers

The information supplied is supplied as informative: user should use it as material selection tool and/or comparison with available materials.

Printed part performance may differ from published value, depending on part orientation, printing parameters, environmental conditions.

User must validate suitability of the printed part and its lawful to be used as desired: no warranty can be made (express or implied) to any use of 3ntr materials.

We reserve the right to improve our polymer formulations and/or revise our technical data.

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