PC-ABS V0

This polymer combines resistance to heat and the typical impact of polycarbonate (PC) with the ease of use of ABS. Flame retardants additives are added to the mixture to achieve the compliance with the regulation EN 45545 and UL94 V0.

Suggested use

Impact-resistant parts	
Railway application	

Compatibilities

Support compatibility	SSU00
Material compatibility	ABS, ABS FAST, ABS HD, ABS SPEED, ABS V0
	ASA
	PC-ABS

Easy profiles suggested

Layer	Ø 0.3 mm	Ø 0.4 mm	Ø 0.6mm	Ø 0.8 mm
0.10				
0.15		*		
0.20		**		
0.25		**		
0.30		*		
0.40				
0.50				

** : Recommended
* : Discrete quality

Before printing

Drying	Gentle drying (55 °C) before and during the job is recommended
Cleaning	It's suggested to clean the bed with IPA before print
Print directly on Veltra bed	Not recommended
Extruder	HI-TEMP
Nozzle	Standard
SPFU	Not Compatible

General advice

Due to the high tendency to deform under printing conditions, it is not recommended to print very large pieces and/or with very stressed parts. The required high chamber and plate temperatures can cause yellowing of the substrate and detachment from the plate.

An increase in skin thickness or high filling density can cause deformations of the parts; brim can help to reduce the effect.

*Physical properties**

Propriety	Symbol	Standard	Value
Density	ρ	ISO 1183	1.21 g/cm^3
Water absorption	$\%w_w$	ASTM D- 570	0.15 %

*Thermal properties**

Propriety	Symbol	Standard	Value
Melting flow index	M. F. I.	ISO 1133	12 cm^3/10min
Glass transition temperature	T_g	ISO 11357	--
Temperature deflection under load	T_f 1,8	ASTM D 648	105 °C
Vicat softening temperature	VST B50	ASTM D1525	125 °C
Coefficient of linear thermal expansion	α	ISO 11359	N/A
Flammability	@3.2 mm; 1.6mm; 0.8mm	UL94	V0
GWFI		IEC 60695 -2-12	850/2 °C/mm

*Electrical properties**

Propriety	Symbol	Standard	Value
Surface resistivity	σ_e	N/A	N/A
Electric strength	E_B	N/A	N/A

* values provided by polymer supplier

Mechanical properties

Properties related to injection molding specimens.

Tensile properties

Propriety	Symbol	Standard	Specimens build direction	Value
Tensile modulus	E_t	ISO 527-2	Flat	2600 MPa
			On edge	--
			Upright	--
Yield stress	σ_y		Flat	60 MPa
			On Edge	--
			Upright	--
Yield strain	ε_y		Flat	--
			On Edge	--
			Upright	--
Strength at break	σ_b		Flat	--
			On Edge	--
			Upright	--
Strain at break	ε_b		Flat	>50 %
			On Edge	--
			Upright	--

Flexural properties

Propriety	Symbol	Standard	Specimens build direction	Value
Flexural modulus	E_f	ISO 178	Flat	--
			On edge	--
			Upright	--
Flexural strength	σ_{fC}		Flat	--
			On Edge	--
			Upright	--

Impact properties

Propriety	Symbol	Standard	Specimens build direction	Value
IZOD notched impact strength		ISO 180 /A	Flat	6.5 kJ/m^2
			On edge	--
			Upright	--
Type of failure	ToF		Flat	
			On Edge	
			Upright	

The fine print

The information and values listed into this document are provided in good faith, based on specimens printed with 3ntr machines according to the latest version of SSI print parameters valid at the date of issuance.

3ntr provides you with this information for your guidance to select the correct polymer and setup but user is responsible for determining that 3ntr material is safe, technically correct and legal for the selected application.

The values listed in this documents are not meant for design specification or quality control guidelines: is it user responsibility to design parts with appropriate safety margins to comply with any material variation due part design, production, test conditions, use conditions.

The user has also the responsibility to assess the suitability of the product to the selected use, built with part(s) made with 3ntr materials and/or technologies.

3ntr is not responsible for any warranty about suitability, merchantability or fitness of any part manufactured with 3ntr materials and/or technologies.

3ntr is not responsible for any patent infringement from use of any part printed with 3ntr materials and/or technologies.

The user is responsible for proper use and disposal or recycling of the material(s) listed here according to local laws and regulations.