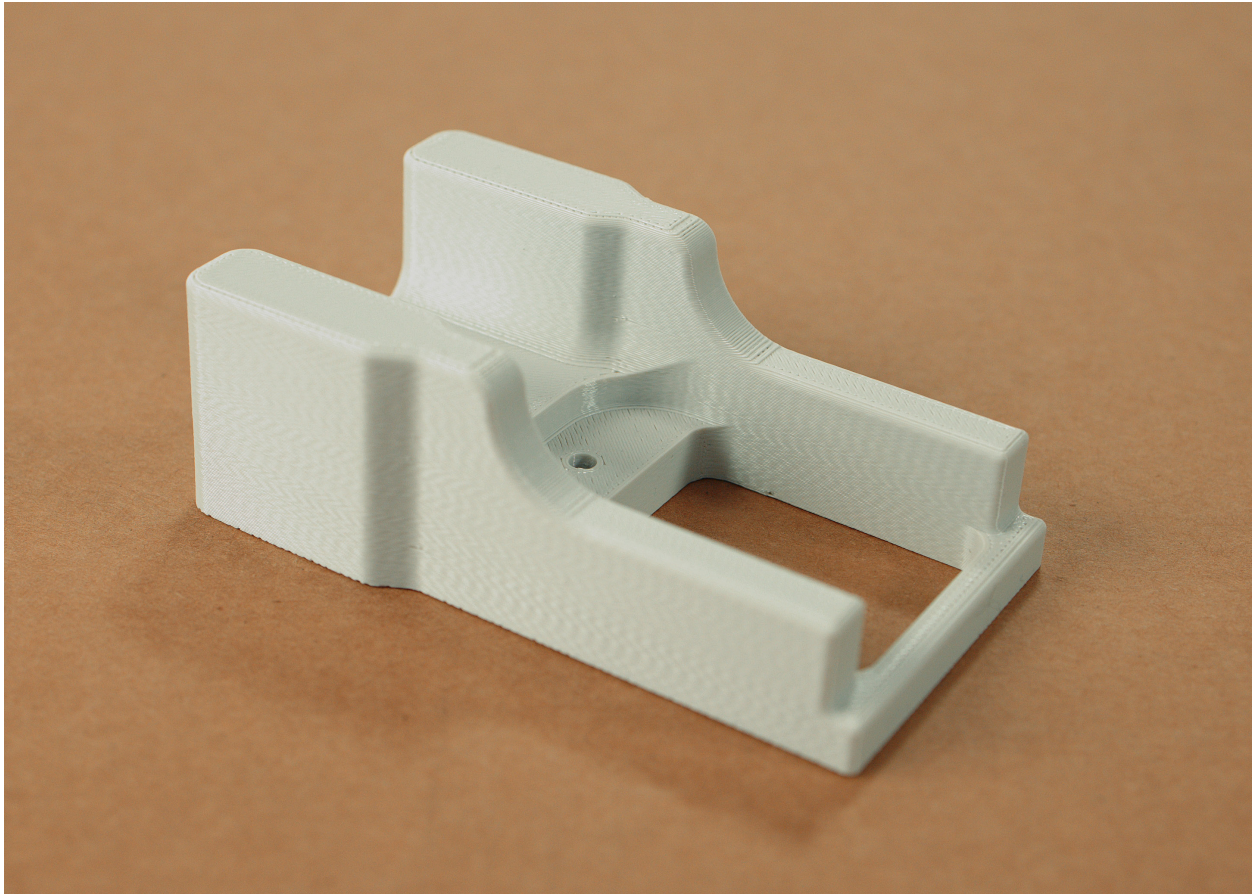
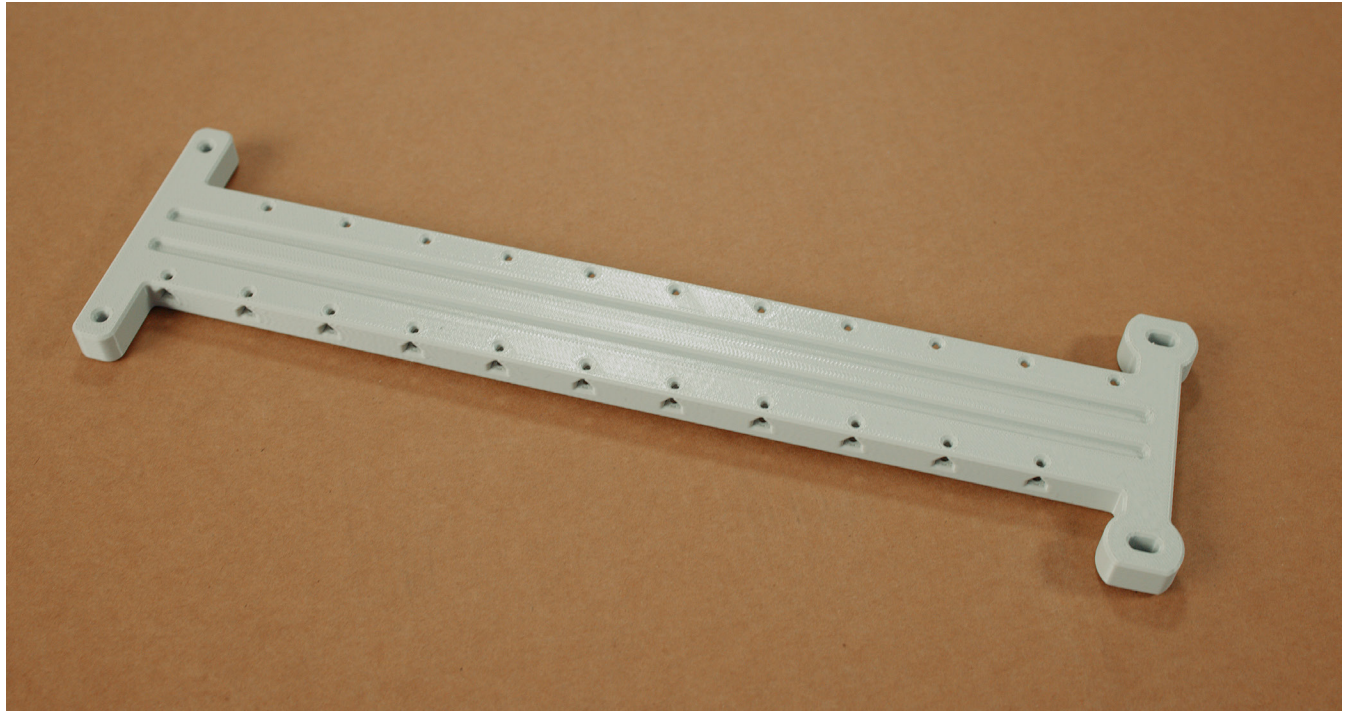


Kimya PC-FR



FDM Thermoplastic Filament

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes.



Overview

Kimya PC-FR is a polycarbonate FDM® 3D printing filament with flame-retardant properties developed specifically for additive manufacturing. It retains the beneficial characteristics of standard polycarbonate such as dimensional stability, high glass transition temperature and high impact resistance but also meets European railway fire safety standard EN 45545-2 and the R1-HL3 hazard level.

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Ordering Information

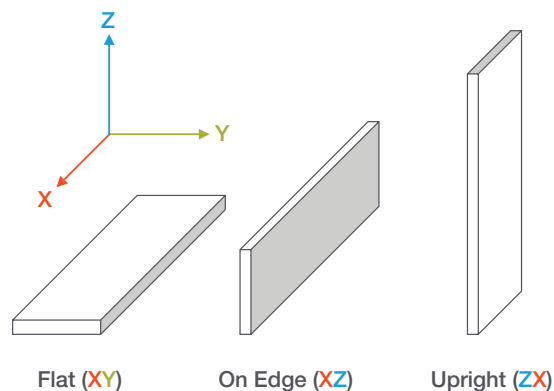
Part Number	Description
Filament Canisters	
355-70010	PC-FR, 92 cu in. - Plus
355-03120	SR-100 Soluble Support, 92 cu in. - Plus
Printer Consumables	
511-10401	T16 tip
511-10100	T12SR100 tip
325-00100	Low temperature build sheet, 0.02 x 16 x 18.5 in. (0.51 x 406 x 470 mm)

Mechanical Properties

Samples were printed with 0.010 in. (0.524 mm) layer height on the Fortus 450mc. For the full test procedure please see the [Stratasys Materials Test Procedure](http://www.stratasys.com) on www.stratasys.com.

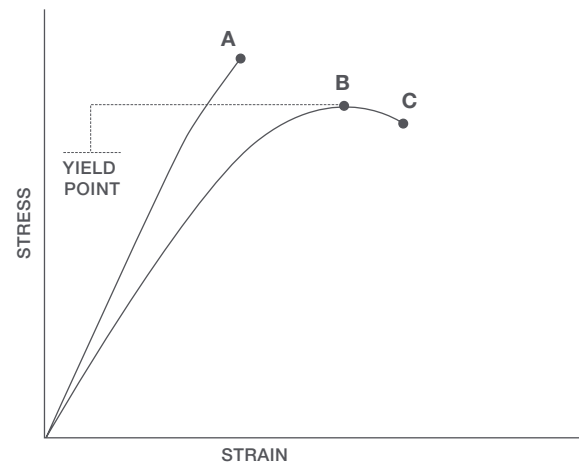
Print Orientation

Parts created using FDM are anisotropic as a result of the printing process. Below is a reference of the different orientations used to characterize the material.



Tensile Curves

Due to the anisotropic nature of FDM, tensile curves look different depending on orientation. Below is a guide of the two types of curves seen when printing tensile samples and what reported values mean.



- A = Tensile at break, elongation at break (no yield point)
- B = Tensile at yield, elongation at yield
- C = Tensile at break, elongation at break

		XZ Orientation ¹	ZX Orientation ¹
Tensile Properties: ASTM D638			
Yield Strength	MPa	72.2 (3.0)	33.1 (5.5)
	psi	10500 (440)	4800 (800)
Elongation @ Yield	%	5.4 (0.50)	1.6 (0.31)
Strength @ Break	MPa	67.3 (2.8)	32.9 (5.5)
	psi	9770 (400)	4770 (790)
Elongation @ Break	%	6.7 (0.98)	1.6 (0.30)
Modulus (Elastic)	GPa	2.21 (0.029)	2.18 (0.059)
	ksi	321 (4.2)	316 (8.5)
Flexural Properties: ASTM D790, Procedure A			
Peak Stress	MPa	107 (3.0)	72.8 (10.)
	psi	15500 (440)	10600 (1500)
Modulus	GPa	2.53 (0.062)	2.01 (0.026)
	ksi	367 (9.0)	292 (3.8)
Impact Properties: ASTM D256, ASTM D4812			
Notched	J/m	87.5 (9.6)	26.4 (5.9)
	ft*lb/in.	1.64 (0.18)	0.514 (0.11)
Unnotched	J/m	2170 (530)	39.0 (6.4)
	ft*lb/in.	40.6 (10)	0.731 (0.12)

¹ Values in parenthesis are standard deviations.

Stratasys Headquarters

7665 Commerce Way,
Eden Prairie, MN 55344
+1 800 801 6491 (US Toll Free)
+1 952 937-3000 (Intl)
+1 952 937-0070 (Fax)

stratasys.com

ISO 9001:2015 Certified

1 Holtzman St., Science Park,
PO Box 2496
Rehovot 76124, Israel
+972 74 745 4000
+972 74 745 5000 (Fax)

