

Freeform Injection Molding (FIM) resin chart

Product group		General Purpose resin		Technical resin		Special resin	
Product code		GP1	GP2	TEC1	TEC2	S1	S2
Article number	Ordering infomation	4000001	4000006	4000002	4000004	4000005	4000007
Application area	T=Thermoplastics, S=Silicone, E=Epoxy, F=Foam.	T	T	T	T,S,E,F	T	T
Mold type	FIM= Freeform Injection Molding (single use) IM = traditional Injection Molding (reusable)	FIM	FIM	FIM	FIM, IM	FIM	FIM
Short product description		Good for most thermoplastic IM materials. Best with thinner layers and smaller parts.	Easy to use, wide application range, fast printing & demolding. Prints equally good with 50, 100 & 200µ layers. Can be used with both large and small molds	Wide application range, fast printing. Best for large parts.	Strong resin, for demanding applications. Ideal for high temperature & pressure IM, medical IM, and reaction curing materials.	Special resin for fragile parts. Features lower swelling than other resins. Designed for MIM/CIM & brittle materials.	Special resin for micro injection molding. Leaves a glossy/polished surface and can create incredibly small details.
Color <small>As seen in natural sun light</small>	Resin & 3D printed part	Yellow transparent	light yellow transparent	light blue transparent	dark blue transparent	light blue transparent	yellow transparent
	After Post UV curing	Yellow transparent	light yellow transparent	light blue transparent	dark blue transparent	light blue transparent	yellow transparent
	After Post Thermal curing (160°C)	na	na	na	blue - green translucent	na	amber
Shore D <small>Measured at 100µ layer thickness, thinner layers may cure harder. Outer FIM mold surface / Inner FIM mold cavity surface</small>	Printed without post curing	70	70	71	64	71	---
	After Post UV curing	81/70	83/70	83/71	78/64	81/71	---
	After Post Thermal curing	na	na	na	83/83	na	---
UV Post curing <small>Using a otolash G171-6 curing unit</small>	Amount of flashes on each side of the mold	2000	2000	2000	---	2000	2000
	Curing depth, Estimated	0.1-0.2mm	0.1-0.3mm	0.1-0.3mm	---	0.1-0.3mm	0.01-0.05mm
Thermal Post <small>Using an airforced and ventilated oven</small>	Temperature in [C°]	na	na	na	160	na	160
	Time (hours). Parts larger than 50mm on the thinnest cross section may require longer curing time.	na	na	na	6	na	6
Shrinkage <small>In percentage (%) at 24°C, 24 hours after post Curing. Measured on a Solid 30mm cube & a perforated 30mm cube</small>	After Post UV curing	<0.3%	<0.3%	<0.3%	<0.3%	<0.3%	---
	After Post thermal curing	na	na	na	0.17% / 3.43%	na	---
Fit to tooling frame [µm]	The gap between the FIM mold and the frame	50	50-100	100	25-50	50	25-50
Max injection temperature	Recommended max Temperature in [°C]	350	350	300	420	350	420
Layer thickness	10µm	▲	◆	◆	◆	◆	●
	20µm	▲	◆	◆	▲	▲	●
	50µm	●	●	●	●	●	▲
	100µm	▲	●	●	●	●	◆
	200µm	◆	●	●	●	▲	◆
	Recommended layer thickness [µm]	50	200	100	100	50	10
Viscosity [mPas]	Measured during production. Viscosity varies with temperatures and as the resin ages.	60-80	60	60	60 - 70	60	---
Curing wavelength <small>In [nm]</small>	3D printer	----- 365 -----					
	UV post curing	----- 320-420 -----					
Resin Shelf life	Years in an un-opens bottle at 8-25°C from production date	1	2	2	2	2	2
Bottle Size [kg]		----- 1 -----					
Recommended Cleaning Fluid <small>for removing un-cured resin</small>	For cleaning printed mold	----- IPA -----					
	For cleaning equipment	----- IPA or soap water -----					
Resin pot-life in vat	at 24°C, placed inside the printer, with the cover on.	----- 24hrs -----					
Recommended maximum waiting time before cleaning parts	At 24°C, placed inside the printer, with the light turned off.	----- 12 hrs -----					
Print speed [mm/hrs] <small>Using standard parameters. Making part specific parameters can speed up printing by 10-50%</small>	10µm	na	na	na	na	na	---
	20µm	7	7	na	6	na	---
	50µm	16	17	17	16	17	---
	100µm	32	32	32	32	31	na
	200µm	na	61	63	57	na	na
	Recommended layer thickness [µm]	50	200	100	100	50	10
Injection molding material compatability <small>Rating is based on Lab-tests, productions & experience</small>	2K Silicone	◆	◆	◆	●	◆	---
	2K Epoxy	◆	◆	◆	●	◆	---
	2K Urethane	◆	◆	◆	●	◆	---
	2K foam casting	◆	◆	◆	●	◆	---
	ABS	●	●	●	●	●	●
	ASA	---	---	---	---	---	---
	GPSS	●	●	●	●	●	●
	HDPE	●	●	●	●	●	●
	HIPS	---	---	---	---	---	---
	LDPE	●	●	●	●	●	●
	PA6/66	●	●	●	●	●	●
	PTB	▲	▲	▲	▲	▲	▲
	PC	◆	◆	◆	◆	◆	◆
	PC+ABS	▲	▲	▲	▲	▲	▲
	PE	●	●	●	●	●	●
	PEEK	▲	▲	▲	●	▲	●
	PLA *(demolding at 25°C)	◆	▲	◆	◆	▲	◆
	PMMA	●	●	●	●	●	●
	POM	●	●	●	●	●	●
	PP	●	●	●	●	●	●
	PPC	●	●	●	●	●	●
	PPE+HIPS	▲	▲	▲	▲	▲	▲
	PPE+TPE	●	●	●	●	●	●
	PPS	●	●	●	●	●	●
	PUR	▲	▲	▲	▲	▲	▲
	SAN	---	---	---	---	---	---
	SEPS	●	●	●	●	●	●
	TPE	●	●	●	●	●	●
	TPU	●	●	●	●	●	●
	TVP	●	●	●	●	●	●
	PVA	---	---	---	---	---	---
	316 Stainless steel with POM binder	▲	◆	◆	◆	●	◆
	316 Stainless steel with PEG binder	◆	◆	◆	◆	▲	◆
	17-4PH Stainless steel with POM binder	▲	◆	◆	◆	●	◆
AL203 with POM binder	▲	◆	◆	◆	●	◆	
AL203 withPA-wax binder	◆	◆	◆	◆	◆	◆	
Zr203 with POM binder	▲	◆	◆	◆	●	◆	
Recommended Features <small>*Based on experience ** estimated</small>	Fiber reinforced injection molding	▲	●	▲	●	●	---
	High Temperature Injection Molding	◆	▲	▲	●	▲	●
	High Pressure Injection molding	◆	▲	▲	●	▲	●
	Fragile Parts	▲	◆	◆	▲	●	---
	Small parts	▲	◆	◆	◆	◆	●
	Large Parts	▲	●	●	●	▲	◆
	Medical Injection Molding	◆	◆	◆	●	◆	---
	Sensitive reaction curing materials	◆	◆	◆	●	◆	---
	Vulcanication / heat treatment of parts inside the mould	▲	▲	▲	●	▲	---
	Applicable Printer	Printer type Code	AFU5	AFU5	AFU5	AFU5	AFU5
Production Status		Production will be discontinued 1/1 2021. Thereafter available until stock is depleted	Available from 15/11 2020	Production will be discontinued 1/1 2021. Thereafter available until stock is depleted	Available from 15/11 2020	Available from 15/11 2020	Available in Q1 2021.

Specific properties and guidance are included in the online Technical Data Sheets, Material Safety Data Sheets, Instructions for Use, FIM processing guide and FIM chemistry safety guide. For application tests and any question you might have regarding the use of AddiFab products, please do not hesitate to contact our support.

◆ = Poor --- = not determined
▲ = Fair na = not applicable
● = Good