

Data Sheet

28.03.2022

Product **Fil-H11-F**

Batch No. Fil-H11-F-210727-02

Product description Filament for 3D Printing
Type alloying powder

Material H11

USA H11

Germany 1.2343

Sizing	standard(S)	fine(F)	extra fine(XF)
		x	

Composition of starting powder amounts in weight %

Fe	Cr	Ni	Mo	Mn	Si	P	S	C	V	rest		
bal.	5,37	0,00	1,32	0,26	0,82	0,00	0,00	0,35	0,41			

Composition DIN 17440 amounts in weight %

	Fe	Cr	Ni	Mo	Mn	Si	P	S	C	V	rest		
min	bal.	4,8	0,0	1,1	0,25	0,8	0	0,0	0,33	0,3			
max		5,5	0,0	1,5	0,5	1,2	0	0,00	0,41	0,5			

Debindig

solvent acetone

debinding time depending on wall thickness of regarding part, default around 12h at 42 - 45°C

weight loss	%	4,7520	min	5,4648	max

Sintering

temperature 1290 - 1320°C

atmosphere Nitrogen, Forming Gas

schedule thermal debinding within the sintering between 280°C - 650°C

the applicable time and temperature schedule depends on the mass of the part; furnace and furnace loading and are liable to the customer responsibility

density (sintered) g/ccm ~7,6

Properties

general	UTS	Yield strength	Elongation	Hardness
	[MPa]	[MPa]	[%] at 20°C	[HB/HRC]
as sintered	770			229
heat treated	1900			54

Heat treatment

Oversize	98,0%	1,1760
	96,0%	1,1679
	99,0%	1,1800

Nozle size ≥0,4 mm (recomended)

Print temperature 120 - 150°C (recomended)

Printing speed 30 - 80mm/s (recomended)

Comments

a printer with direct drive is recommended.

please note that the filament has a high content of metal powder which leads to brittleness. you may preheat the filament to around 35-40°C for spooling.

keep in a dry place.