



## Zetamix H13 steel datasheet

### PRODUCT DESCRIPTION

**Zetamix H13 steel** is a filament used for 3D printing. The binders mixed with H13 powder enables to have a flexible and resistant filament usable with classical FFF printers (Fused Filament Fabrication). Printed parts need to be debinded and sintered.

Diameter available: 1.75 mm and 2.85 mm  
Post-process: thermal debinding and sintering

### IDENTIFICATION

|                                     |                   |
|-------------------------------------|-------------------|
| Trade name                          | Zetamix H13 steel |
| Other designation                   | X40CrMoV5-1       |
| Binder system proportion $_{vol}\%$ | 48                |
| Binder system proportion $_{wt}\%$  | 10                |
| H13 steel proportion $_{vol}\%$     | 52                |
| H13 steel proportion $_{wt}\%$      | 90                |

## PRINTING AND SINTERING RECOMMANDATION

|                       |                                               |
|-----------------------|-----------------------------------------------|
| Printing temperature  | 180°C                                         |
| No chemical debinding | -                                             |
| Sintering temprature  | 1400°C under Ar/H <sub>2</sub> (97.5/2.5) gas |
| Shrinkage             | 16-17%                                        |
| Density               | 90-91%                                        |

## TYPICAL PROPERTIES OF FILAMENTS

|                                                                           |       |
|---------------------------------------------------------------------------|-------|
| Specific Gravity [g.cm <sup>-3</sup> ]                                    | 4.5   |
| Melt Flow Rate [g/10(min)]<br>(180°C - 875g – half die)                   | 3,5   |
| Melt Volume Rate [cm <sup>3</sup> /10(min)]<br>( 180°C - 875g – half die) | 0,8   |
| Moisture Absorption 24 hours [%]                                          | <0,1% |
| Moisture Absorption 7 days [%]                                            | <0,3% |
| Shore D hardness                                                          | 50    |

Disclaimer : The results presented above are for information and do not constitute a legally binding Material Safety Data sheet (MSDS). Moreover, values are significantly dependent on printing setting, debinding parameters, operators experience and surrounding conditions. Any descriptions, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product.