

## TECHNICAL DATA SHEET

### Tarfuse® PETG FR

3D Filament

Version No.: 1.0

Date: 11. 2022

## General Information

#### CHARACTERISTICS

Tarfuse® PETG FR it is a non-flammable filament, class V0 / 0.4mm according to UL94, does not contain halogen derivatives, red phosphorus and asbestos. It is characterized by high mechanical strength, good interlayer adhesion as well as low linear shrinkage. It is characterized by high ease of printing, at the level of unmodified PET-G.

#### APPLICATIONS

Tarfuse® filament for Fused Filament Fabrication.

#### DELIVERY FORM

Tarfuse®: diameter 1.75±0,05mm;

#### PACKAGING

Available packing : 0,5kg (+197 g spool), 1kg (+275 g spool), 2kg (+602 g spool)

#### COLOUR

Natural, basic colours on request.

#### STORAGE

Tarfuse® PETG FR filament must be stored in closed original packaging of the producer in dry rooms. Protect the packaging's against damage and against the influence of weather conditions.

#### NOTICE

The data contained in this publication are based on our current knowledge and experience. In view of the many factors with may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product.

It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

## TECHNICAL DATA SHEET

### Tarfuse® PETG FR

3D Filament

Version No.: 1.0  
Date: 11. 2022

#### RECOMMENDED PRINT PROCESSING PARAMETERS

Nozzle temperature: 230 - 245 °C  
Build chamber temperature: heating of the chamber is not required  
Bed temperature: 80 - 90 °C  
Bed material: glass, polycarbonate (PC) mat, PI mat; + Dimafix glue  
Nozzle diameter:  $\geq 0.4$  mm  
Print speed: 30 - 60 mm/s

| Physical Properties               | Unit                   | Value | ISO standard | Test conditions |
|-----------------------------------|------------------------|-------|--------------|-----------------|
| Melting temperature; DSC          | °C                     | -     | 11357-1-3    | 10°C/min.       |
| Glass transition temperature; DSC | °C                     | 80    | 11357-1-3    | 10°C/min.       |
| Crystallization temperature; DSC  | °C                     | -     | 11357-1-3    | 10°C/min.       |
| Density                           | g/cm <sup>3</sup>      | -     | 1183         | -               |
| Melt volume-flow rate MVR         | cm <sup>3</sup> /10min | 40    | 1133         | 220°C/10 kg     |

| Mechanical Properties          | Unit              | XY   | XZ          | ZX      | ISO standard | Test conditions |
|--------------------------------|-------------------|------|-------------|---------|--------------|-----------------|
| <b>Print direction</b>         |                   | Flat | On its edge | Upright |              |                 |
| Tensile strength               | MPa               | 33   | 35          | 19      | 527-1,-2     | 50mm/min        |
| Elongation at break            | %                 | 3,5  | 2,5         | 1,5     | 527-1,-2     | 50mm/min        |
| Tensile E-modulus              | MPa               | 2300 | 2400        | 1900    | 527-1,-2     | 1mm/min         |
| Flexural strength              | MPa               | -    | -           | -       | 178          | 2mm/min         |
| Flexural modulus               | MPa               | -    | -           | -       | 178          | 2mm/min         |
| Charpy impact strength         | kJ/m <sup>2</sup> | -    | -           | -       | 179-1        | 1eU             |
| Charpy notched impact strength | kJ/m <sup>2</sup> | -    | -           | -       | 179-1        | 1eA             |
| Vicat softening point          | °C                | -    | -           | -       | 306          | 50N             |
| Heat deflection temperature    | °C                | -    | -           | -       | 75-1,-2      | 1.8 MPa         |
| Flammability vertical*         | -                 | V0   | V0          | V0      | UL94         | 0,4 mm          |

Tests were performed at 23 °C, unless otherwise specified.

#### Print processing parameters:

Nozzle temperature 245 °C  
Build chamber temperature -  
Bed temperature 85 °C  
Bed material PI+ Dimafix  
Nozzle diameter 0.4 mm  
Layer 0.2 mm  
Filling 100%; 45°/45°