

# TECHNICAL DATA SHEET

ApolloX Flame Retardant

Date of issue: 20-01-2025 / Date of update: 20-01-2025



## Product specifications

ApolloX Flame Retardant meets the UL 94 V0 standards. This is the highest flammability rating. Fire will extinguish within 10 seconds. It is UV and weather resistant, and printed parts can operate under high temperatures.

ApolloX Flame Retardant is perfect for outdoor and automotive applications. It prints very easy and is suitable for both desktop and large format 3D printing. Its flame retardant properties make this an even more versatile filament. Printed parts provide a high level of safety in all kind of environments.

## Important key features

- Designed to meet UL 94 V0 standards\*.
- UV- and weather resistant.
- HDT of 86 °C / Vicat of 94 °C .
- Zero-warp technology.
- High impact strength.

## Suitable applications

- Interior components for automotive.
- Flame resistant machine guards.
- 3D printing flame resistant end-use parts.
- Under-the-hood parts.
- Household applications that require fire safety.

\* The filament meets the self-extinguishing flammability standards of UL 94 V0, but is not certified by Underwriters Laboratories and does not have a UL number.

## Recommended print settings

**Nozzle temp:** ± 230 - 280°C

**Print speed:** ± 25 - 200 mm/s

**Drying:** Not necessary

**Experience level:** Intermediate

**Heat bed:** ± 90 - 110°C

**Nozzle:** ≥ 0.15mm

**Drybox:** Not necessary

**Fan speed:** ± 0 - 50%

**Buildplate adhesion:** EasyFix Nr. 1

**Enclosure:** Recommended

## Material properties

Specific Gravity

## Typical value

1.08 g/cm<sup>3</sup>

## Test Method

ASTM D 792

Melt Flow Index (220°C, 10kg)

5 g/10min

ASTM D1238

## Mechanical properties

Tensile strength at yield (23°C, 50mm/min, 3.2mm)

42 MPa

ASTM D638

Tensile elongation at break, (23°C, 50mm/min, 3.2mm)

35% (Min)

ASTM D638

Tensile modulus (23°C, 50mm/min, 3.2mm)

1800 MPa

ASTM D638

Flexural strength (23°C, 15mm/min, 3.2mm)

64 MPa

ASTM D790

Flexural modulus (23°C, 15mm/min, 3.2mm)

1900 MPa

ASTM D790

Notched Izod impact strength (3.2mm, 23°C)

435 J/m

ASTM D256

Notched Izod impact strength (3.2mm, -30°C)

60 J/m

ASTM D256

Notched Izod impact strength (6.4mm, 23°C)

340 J/m

ASTM D256

Notched Izod impact strength (6.4mm, -30°C)

60 J/m

ASTM D256

Rockwell Hardness, R-Scale

92

ASTM D785

## Thermal properties

HDT

86°C

ASTM D648

VICAT (50N, 50°C/h)

90°C

ASTM D1525

RTI Electrical

50°C

UL 746B

RTI Mechanical with Impact

50°C

UL 746B

RTI Mechanical without Impact

50°C

UL 746B

## Flammability properties

Fire Resistance (1.6mm)

V0

UL94V equivalent laboratory test



# TECHNICAL DATA SHEET

ApolloX Flame Retardant

Date of issue: 20-01-2025 / Date of update: 20-01-2025



## Buildplate adhesion

For optimal buildplate adhesion we recommend to use our EasyFix Adhesive – Nr. I.

## Storage and handling

Filament should be stored at room temperature in a dry and dark place with humidity below 15%. Recommended storage temperature is ca. 18-25°C (64.4 -77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months. To obtain the best parameters of the printed object, it is recommended to dry the material prior to usage and to 3D print it directly from a dry box.

## Product export information

HS Code	Description	Origin
39169090	Monofilament for 3D printing	European Union

## Disclaimer

*The product- and technical data provided in this datasheet is correct to the best of FormFutura BV's knowledge and are intended for reference and comparison purposes only. Actual values may vary according to printing conditions, model complexity, environmental conditions, etcetera. Typical values are indicative only and are not to be construed as being binding specifications. All other information supplied, including that herein, is considered accurate but is furnished upon the express condition that the customer shall make its own assessment to determine a product's suitability for a particular purpose. We make no warranty, express or implied, including regarding any information supplied or the data upon which it is based or the results to be obtained from the use of such products or information, or concerning product, whether of satisfactory quality, merchantability, fitness for any particular purpose or otherwise, or with respect to intellectual property infringement as a result of use of information or products, and none shall be implied.*

