

## Statement

# Flame resistance of Ultrafuse® PC/ABS FR Black

Date / Revised: December 10, 2021

Version No.: 1.0

Dear Valued Customer,

This letter responds to your request to provide specific information regarding the flame resistance properties of our Ultrafuse® PC/ABS FR Black filament.

We have therefore regrouped the following information to support our response:

- **Conform the European railway standard for fire safety EN45545-2:2016, R26 (EL 10)**, the DIN EN 60695-11-10:2014 (equivalent to UL94:2018) was performed on Ultrafuse® PC/ABS FR Black 3D printed test specimen. The test result was **V-0** for the specimen of nominal thickness 1.5 and 3 mm subjected to vertical flammability test. This result provides evidence for conformity with EN45545-2:2016, **R26 for HL1, HL2 and HL3**. The accreditation by DAkkS is presented on the next page.
- **In reference to the UL94 Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances testing** our Ultrafuse® PC/ABS FR Black material is tested in 3D printed specimens complying and fulfilling the requirements in reference to **the UL94 V-0** standard with a wall thicknesses of 1.5 and 3 mm. Meaning, that it is classified as self-extinguishing.
- **Glow wire on end product test (GWEPT)** is performed on 3D printed specimens per **IEC 60695-2-11**. The glow wire testing is an electrical safety test designed to evaluate the flame resistant properties of plastic materials used in electrical devices. Based on our Glow Wire Test, the worst case “ZX / upright direction” 3D printed specimens from Ultrafuse® PC/ABS FR Black passed the GWEPT without dripping at **750 °C** when testing a specimen with a wall thickness of 1.5 mm and the **960 °C** with a wall thickness of 3 mm.

Further information can be accessed on our [ForwardAM](#) website. Specific technical information regarding the Ultrafuse® PC/ABS FR Black filament is available by utilizing the QR-code or clicking on the following link; [click here](#).

### For notice:

We give no warranties, expressed or implied, concerning the suitability of above-mentioned product for use in any device and applications.

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# Statement

# Flame resistance of Ultrafuse<sup>®</sup> PC/ABS FR Black

Formblatt MA4.5\_F003, Revision: 3.4, gültig ab: 05.01.2021

<b>TEST REPORT according to ISO/IEC 17025</b> No. AVS: 2006115 Date: 2021-11-15 File: 2006115_V_EN.DOCX	 Deutsche Akkreditierungsstelle D-PL-14121-04-00
<b>Testing laboratory</b> BASF SE RBU Performance Materials Europe Materials and Parts Testing PMD/EX-H201 67056 Ludwigshafen Deutschland	<b>Contact at laboratory</b>
<b>Client</b> Company: BASF 3D Printing Solutions GmbH Speyerer Strasse 4 69115 Heidelberg Germany	<b>Contact at client</b>
<b>Test specimen / Material</b> A2020-2248 PC-ABS (FR) black	<b>Test methods (Standard and publication date)</b> - IEC 60695-11-10:2014 vertical (equivalent to UL94:2020)
Order received on: 2021-01-04 Specimen received on: 2021-01-04 Tests conducted on: 2021-01-12	

**Decision rule**

EN45545-2:2016, R26 (EL 10): HL1-3 (V0)

**Result**

Test specimen of nominal thickness 1.5 and 3 mm were subjected to vertical flammability testing according to DIN EN 60695-11-10:2014 (equivalent to UL94:2018). The test result is V-0. This result provides evidence for conformity with EN45545-2:2016, R26 for HL1, HL2 and HL3.

The test results of this report are only valid for the specimens tested and only describe the results achieved by the application of the particular tests methods to these specimens. They do not imply any guarantee nor any agreement on a contractual quality or a suitability of the product for a specific purpose. In view of the many factors that may affect processing and application of the product, the test results do not relieve processor from carrying out own investigations and tests. The report does not imply any recommendation for a product. The report shall only be reproduced and passed on in full.

The testing laboratory is accredited by DAkkS Deutsche Akkreditierungsstelle GmbH (German Accreditation Body) according to ISO 17025 for mechanical, thermal, physical-chemical and flammability tests. The accreditation is valid only for the scope of accreditation listed in the Annex to the accreditation certificate (Registration No. D-PL-14121-04-00).

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