



CERTIFICATION OVERVIEW

This document serves as an overview of all our certifications. For original certificates or in case of questions please contact our experts directly.¹



PSS
PolyShot Surfacing



VFS
VaporFuse Surfacing



DDC
DeepDye Coloring



QUALITY MANAGEMENT

✓ Certified according to **ISO 9001:2015**



BIOCOMPATIBILITY

✓ **CYTOTOXICITY** according to ISO Guidelines 10993-1, ISO 10993-5 & ISO 10993-12.²

This certificate testifies that the tested samples are classified as not cytotoxic. For the cytotoxicity tests either the selection of base dyes or the exact formulation was used.

✓ **SKIN IRRITATION** according to ISO Guidelines 10993-1, ISO 10993-23 & ISO 10993-12.³

This certificate testifies that the tested samples have not shown any skin irritation potential. For the skin irritation tests either the selection of base dyes or the exact formulation was used.

¹ The testing results may change depending on the modification of the current regulations, test methods, post-processing steps, the composition and the compliance of the used plastic material. It is the responsibility of the distributor to test the final product according to the intended conditions of use.

² Tested on:

EOS PA 2200 with PSS & DDC & PSS finish (base dyes used for DM Standard Colors 1-17, RAL Colors and Neon Colors[®]).
EOS PA 2200 with VFS & DDC finish (DM Black 01).
EOS PA 2200 with VFS finish (no color).
HP 3D HR PA 12 with VFS finish (no color).
HP 3D HR PA 12 with DDC & PSS finish (DM Black 01).
HP 3D HR PA 12 with DDC & PSS finish (DM Black FL L-R).
Stratasys High Yield PA 11 with DDC & PSS finish (DM Black 01).

³ Tested on:

EOS PA 2200 with PSS & DDC & PSS finish (base dyes used for DM Standard Colors 1-17, RAL Colors and Neon Colors[®]).
EOS PA 2200 with VFS & DDC finish (DM Black 01).
EOS PA 2200 with VFS finish (no color).
HP 3D HR PA 12 with VFS finish (no color).
HP 3D HR PA 12 with DDC & PSS finish (DM Black 01).
HP 3D HR PA 12 with DDC & PSS finish (DM Black FL L-R).
Stratasys High Yield PA 11 with DDC & PSS finish (DM Black 01).



FOOD SAFETY⁴

- ✓ Approved for **FOOD CONTACT** according to the Commission Regulation (EU) No. 10/2011 (lastly amended by Regulation (EU) No 202/2014), Regulation (EG) No. 1935/2004 and §§ 30, 31 of the German Food and Consumer Goods Act LFGB.

This test testifies that our solvent VaporFuse VF47 Eco Fluid used in the VaporFuse Surfacing (VFS) process should not exceed the overall migration limit (OML) from plastic articles for repeated contact with alcoholic and fatty food and single contact for all other types of food. The organoleptic properties were not affected.

- ✓ Approved for **FOOD CONTACT** according to FDA's 21 C.F.R. for 3D-printed food-contact articles.

This test testifies that our solvent VaporFuse VF47 Eco Fluid used in the VaporFuse Surfacing (VFS) process should not exceed the specific migration limit (SML) from plastic articles for repeated contact with all types of food.



COLOR FASTNESS⁵

- ✓ **RUBBING** according to ISO 105-X12
- ✓ **WASHING** according to ISO 105-C06
- ✓ **BLEACHING** according to ISO 105-N01
- ✓ **PERSPIRATION** according to ISO 105-E04

The samples were tested to investigate the influence of various treatments with different liquids and textile fibers.



SCRATCH RESISTANCE⁶ according to PV3952

Using a multiple use scratch device, a grid pattern with a line distance of 2 mm was applied to the surface of the samples. These were then assessed.

⁴ Tested on EOS PA 2200 with VFS finish (no color).

⁵ Tested on EOS PA 2200 & HP 3D HR PA 12 with DDC & PSS finish (DM Black 01).

⁶ Tested on EOS PA 2200 with DDC & PSS finish (DM Black 01).



LIGHT & HEAT RESISTANCE⁷ according to ISO 105-B06

The special color Automotive Black^x has been tested according to the frequently used automotive standard to investigate the influence of light and heat. These requirements were successfully met.

⁷ Tested on EOS PA 2200, EOS PA 1101 and HP 3D HR PA 12 with DDC+PSS finish finish (AM X-Black).



STATEMENTS

✓ REACH (REGISTRATION, EVALUATION, AUTHORIZATION OF CHEMICALS)

REACH Regulation EC 1907/2006

✓ ROHS (RESTRICTION OF HAZARDOUS SUBSTANCES)

2011/65/EU and amendment 2015/863



ORIGINAL CERTIFICATES & FURTHER INFORMATION

We are happy to provide you with original certificates and test values. Our global team or your DyeMansion partner is always at your disposal for any further questions. If you have specific environment, health & safety requests, please contact hello@dyemansion.com.

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