



BENCHMARK & APPLICATION CENTER

GUIDELINES **BENCHMARKING**



DYEMANSION BENCHMARKING GUIDELINES

DYEMANSION BENCHMARKING AT A GLANCE

Procedure and ordering process

COMPONENT REQUIREMENTS

Compatible technologies

Maximum dimensions

AVAILABLE POST-PROCESSING COMBINATIONS

Overview of finishing options

Finishing Guidelines (PSS, VFS and DDC)

DYEMANSION POST-PROCESSING TECHNOLOGIES

PolyShot Cleaning (PSC)

PolyShot Surfacing (PSS)

VaporFuse Surfacing (VFS)

DeepDye Coloring (DDC)

INFLUENCE OF THE MATERIAL PROPERTIES

Possible finishing combinations

Color selection depending on the base material

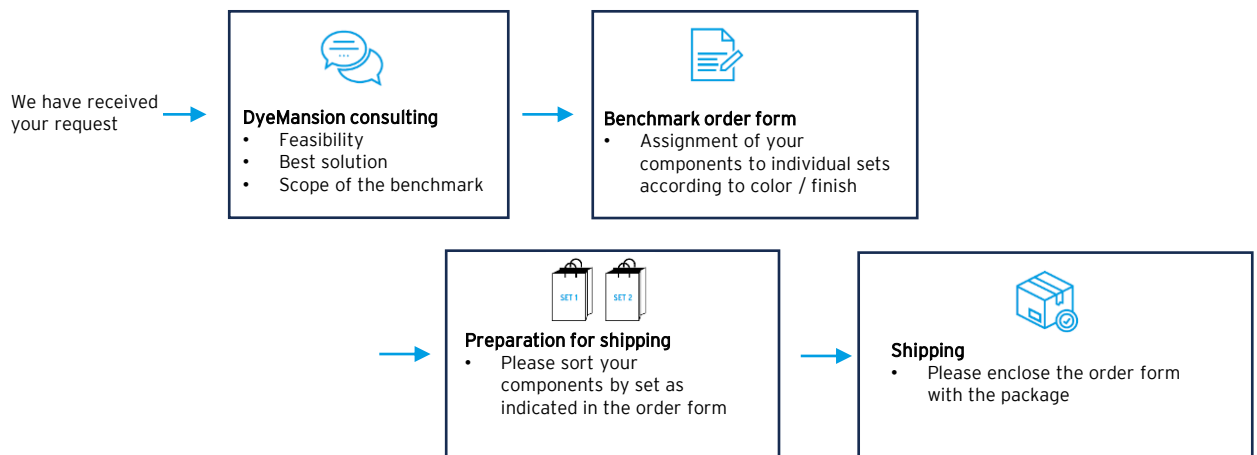
DYEMANSION BENCHMARKING AT A GLANCE

PROCEDURE AND ORDERING PROCESS

Not yet familiar with DyeMansion technology? Test our solutions for finish and color on your own components and start with a free benchmark.

FOUR STEPS TO THE BENCHMARK

1. Get in touch with us via the contact form or directly via our contact persons
2. Let our experts advise you on the best finish and color for your application
3. Fill out the benchmark order form together with your contact person
4. Pack the components according to the sets and send them to us together with the enclosed order form



CONTACT US - WE WILL BE HAPPY TO HELP YOU!

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COMPONENT REQUIREMENTS

COMPATIBLE TECHNOLOGIES



SLS



MJF
SAF
HSS

The most common rigid & flexible polymers in the categories: PA 11, PA 12 & TPU

You can request further materials from us as a feasibility study. Please ask for a quote



FDM
FFF



SLA

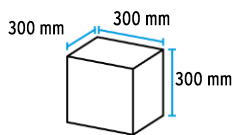


DLP



CDLP
CLIP

MAXIMUM DIMENSIONS

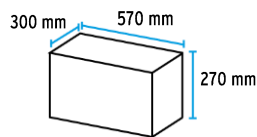


MAXIMUM DIMENSIONS

PolyShot Surfacing

300 mm x 300 mm x 300 mm (L x W x H)

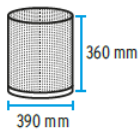
Larger components possible when switching to manual operation



MAXIMUM DIMENSIONS

VaporFuse Surfacing

570 mm x 300 mm x 270 mm (L x W x H)



MAXIMUM DIMENSIONS

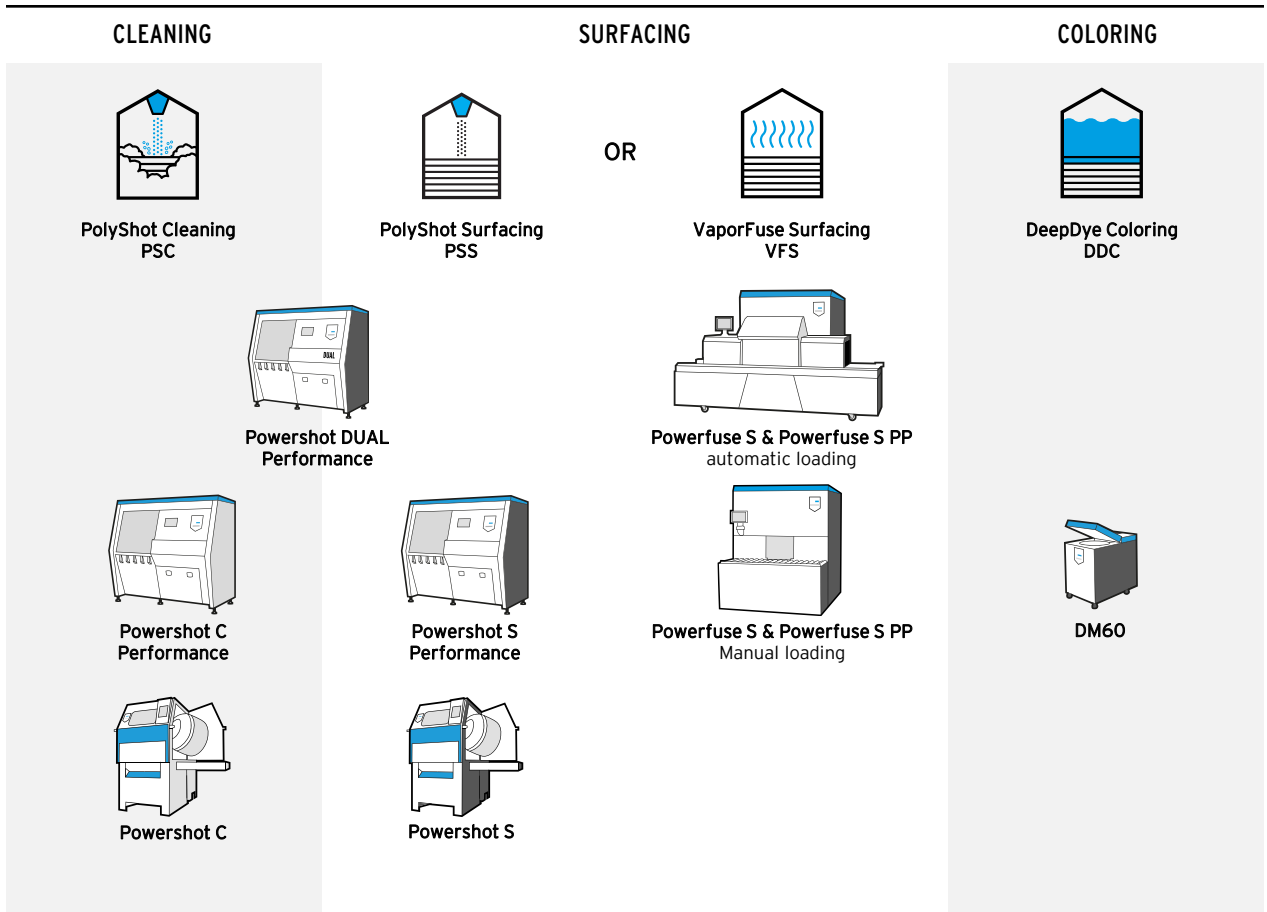
DeepDye Coloring

390 mm x 360 mm (Ø x H)

AVAILABLE POST-PROCESSING COMBINATIONS

OVERVIEW FINISHING OPTIONS

ALLOCATION OF PROCESSES TO THE SYSTEMS



FINISHING GUIDELINES

Prepare your components optimally. Our design guidelines provide you with the necessary information.

[PolyShot Surfacing Guidelines](#) | [VaporFuse Surfacing Guidelines](#) | [DeepDye Coloring Guidelines](#)

For more information on the technologies, please visit our website at <https://dymansion.com/en/products/> or send us an inquiry using the [contact form](#).

OVERVIEW

DYEMANSION POST-PROCESSING TECHNOLOGIES

The automated PolyShot Cleaning process is a highly efficient & gentle blasting process to completely depowder a large quantity of components evenly and in a short time. In addition to the significant increase in productivity, the components are depowdered without damaging the component surface. Regardless of the component geometry, this process forms the basis for all further post-processing steps.

POLYSHOT CLEANING

Automated de-powdering:
Gentle & efficient as the perfect basis for finished parts



PSC

ADVANTAGES AND IMPROVED COMPONENT PROPERTIES



- ✓ Increased productivity through automated, efficient processes
- ✓ Highly efficient & reproducible blasting process
- ✓ No damage and gentle on the surface
- ✓ Uniform irradiation distribution
- ✓ Improved blasting processes perfectly designed for different materials & finishes
- ✓ Powder free parts provide the perfect basis for further post-processing

POLYSHOT SURFACING

The leading blasting process for a high-quality surface finish



PSS

PolyShot Surfacing is a mechanical blasting process in which the surface of the components is leveled with the help of a blasting medium. This process impresses with improved properties, including minimized roughness and pleasant haptics. As no material is removed, the original geometry of the component is retained.

ADVANTAGES AND IMPROVED COMPONENT PROPERTIES



- ✓ Proprietary surface technology developed for powder bed processes
- ✓ Highly efficient & reproducible blasting process
- ✓ Homogenization of surface without material removal
- ✓ High color brilliance and in combination with DyeMansion DeepDye Coloring
- ✓ Smoothed surface & simultaneously true to geometry and detail
- ✓ Matt-glossy surface
- ✓ Pleasant feel
- ✓ Greatly increased scratch resistance

OVERVIEW

DYEMANSION POST-PROCESSING TECHNOLOGIES

The industrial VaporFuse Surfacing process is a post-processing method that gives additively manufactured components a surface finish on par with injection molding. The sealed and washable surface - even on porous, flexible materials - opens up new fields of application for a wide range of industries.

VAPORFUSE SURFACING

The Green & Industrial Vapor Polishing System



VFS

ADVANTAGES AND IMPROVED COMPONENT PROPERTIES



- ✓ Injection-molding like parts
- ✓ Sealed and washable surfaces
- ✓ Various smoothing levels possible
- ✓ Improved stability & airtightness
- ✓ Reduced friction
- ✓ Inhibition of bacterial growth
- ✓ No material removal/ material increase

DEEPLYE COLORING

The leading coloring solution for industrial additive manufacturing



DDC

DeepDye Coloring is a penetrative dye process, which enables coloring without the need for painting. As a result, the color has a high scratch resistance and is resistant to wear. Thanks to the world's largest color database and individual color development offers, there are almost no limits to your color wishes.

ADVANTAGES AND IMPROVED COMPONENT PROPERTIES



- ✓ Reproducible results
- ✓ Exact color and process formulas, developed according to material, surface finish & color
- ✓ Penetration of the dye into the component
- ✓ Penetrative dye process does not add additional layer to part
- ✓ Increased scratch resistance

INFLUENCE OF THE MATERIAL PROPERTIES

FINISHING COMBINATIONS DEPENDING ON THE MATERIAL

WHITE PARTS

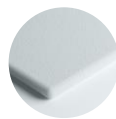
	HARD MATERIAL		ELASTIC MATERIAL	
	DDC - BLACK	DDC - OTHER COLORS	DDC - BLACK	DDC - OTHER COLORS
BLASTING	DDC + PSS	PSS + DDC + PSS	PSS not applicable ⁽¹⁾	PSS not applicable ⁽¹⁾
SMOOTHING	VFS + DDC	VFS + DDC	VFS + DDC ⁽²⁾	VFS + DDC ⁽²⁾

GREY PARTS

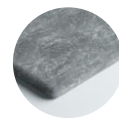
	HARD MATERIAL	ELASTIC MATERIAL
	DDC - ALL COLORS	DDC - ALL COLORS
BLASTING	DDC + PSS	PSS not applicable ⁽¹⁾
SMOOTHING	VFS + DDC ⁽³⁾	VFS + DDC ⁽³⁾

- 1) Due to the elastic material properties, PolyShot Surfacing has no effect on the surface texture
- 2) Black coloring only on request; selected colors are recommended - we will be happy to advise you
- 3) Components become almost black after smoothing, please contact us for advice on the choice of color

COLOR SELECTION - STANDARDIZED COLOR DATABASES AND INDIVIDUAL COLORS OF CHOICE



WHITE PARTS



GREY PARTS

	WHITE PARTS	GREY PARTS
Standard colors	✓	✓
Color systems	✓	✓
Colors of choice	✓	✓
Automotive Colors ^x	✓	✓
Neon colors ^x	✓	-

✓ Ready to use
✓ Further development necessary

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