



# **TRYMANSION GUIDELINES**



# TRYMANSION GUIDELINES

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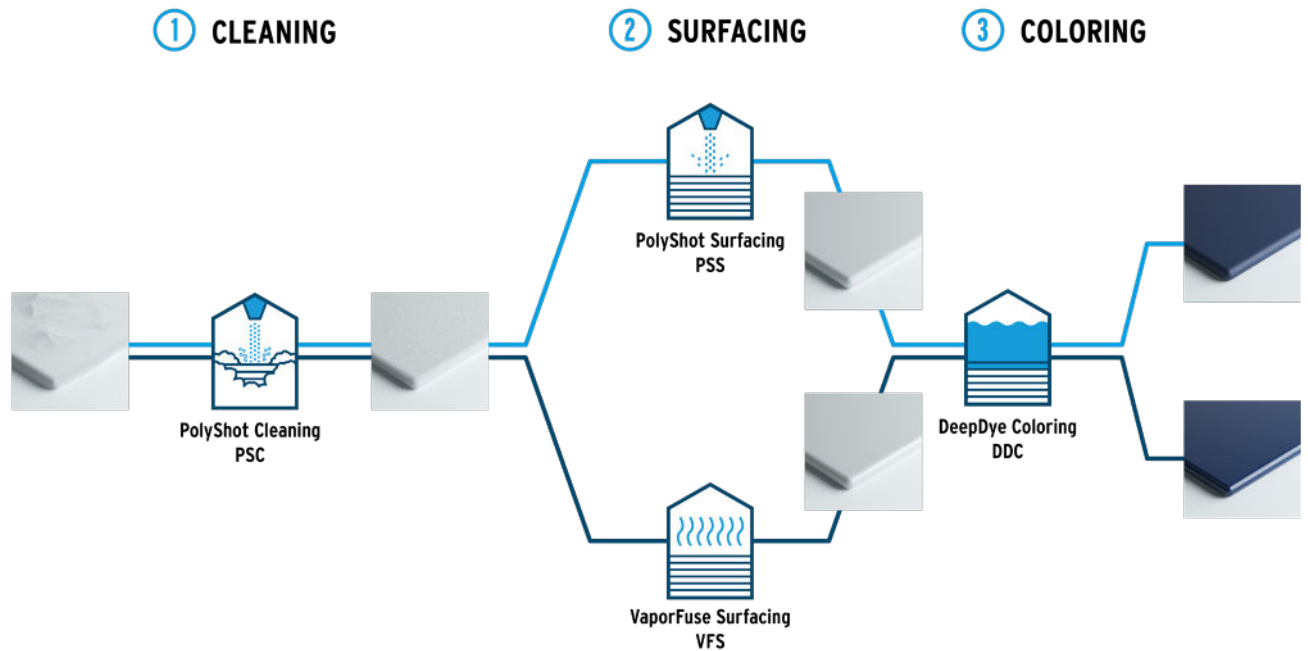
For more information:  
<https://dyemansion.com/en/on-demand/#trymansion>

# TRYMANSION

## TRY DYEMANSION TECHNOLOGY FREE OF CHARGE

Not familiar with DyeMansion technology yet? TryMansion is our service offer for your first free benchmarks. Test our finish and color solutions with your own parts.

### FINISHING SERVICES OFFERED:



#### What's your desired finish?

##### PolyShot & DeepDye

Semi-gloss, scratch resistant, soft haptics aesthetic finish for hard plastics such as PA11 or PA12 and applications like eyewear or prosthetics.

##### VaporFuse & DeepDye

Sealed, washable, injection-molding like functional finish for both flexible and hard plastics such as PA11, PA12 or TPU and applications like pipes or midsoles.

## COMPATIBLE TECHNOLOGIES

### AVAILABLE FOR TRYMANSION

We offer free benchmarking for the most common printing technologies and materials. Furthermore we're happy to test other technologies and materials on request. To find the best solution for you please [get in touch with us](#).

#### FOCUS ON POWDER BED



MJF  
SAF  
HSS



SLS

#### EXTRUSION



FDM  
FFF

#### VAT PHOTOPOLYMERIZATION



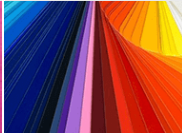



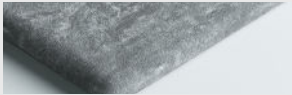
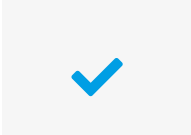
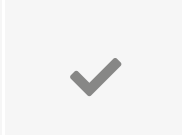
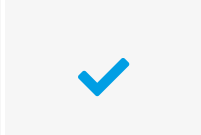
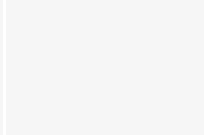



SLA

# COLOR CHOICE

In addition to our [standardized color data base](#) individual colors of choice (e.g. corporate colors) can be developed. A complete list of all standard and RAL colors can be found on [our website](#).

## STANDARDIZED COLOR DATA BASE

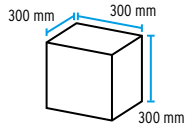
BASE MATERIAL		COLORS				
		STANDARD COLORS	COLOR SYSTEMS	AUTOMOTIVE COLORS <sup>x</sup>	NEON COLORS <sup>x</sup>	COLOR MATCHING
	WHITE BASE COLOR					
	GREY BASE COLOR					

-  Ready to use
-  Further development offered

 For more information visit <https://dyemansion.com/en/color-options/>

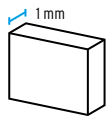


## DESIGN GUIDELINES POLYSHOT CLEANING & POLYSHOT SURFACING



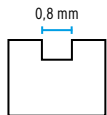
### MAXIMUM SIZE

Maximum size: Approx. 300 mm x 300 mm x 300 mm (L x W x H) with automatic operation within the rotating basket  
Larger parts possible when switching to manual operation.



### MINIMUM WALL THICKNESS

Minimum wall thickness: 1.0 mm  
For delicate features on voluminous parts, the required wall thickness may differ due to the mechanical strain in the rotating basket.



### MINIMUM GAP SIZE

Minimum gap size: 0.8 mm  
If the gap is not large enough, blasting material can get caught in the part. DyeMansion reserves the right, after consultation with the customer, to charge for the additional work or to ship the parts with residual blasting material.



### DUCTS AND INDENTATIONS

Due to the process, the surface treatment of ducts and indentations is possible to a certain extent and must be assessed on an application-specific basis.



### CORNERS

**PolyShot Cleaning**  
Rounded inner edges prevent powder buildup during the cleaning process.

**PolyShot Surfacing**  
Enables homogeneous smoothing in corners and prevents the buildup of blasting material.

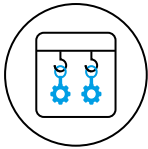
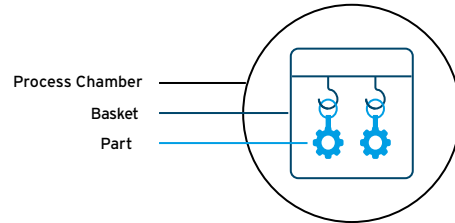


## FASTENING GUIDELINES VAPORFUSE SURFACING



VaporFuse Surfacing is a finishing process based on the condensation of vaporized VaporFuse Eco Fluid on the surface of the part.

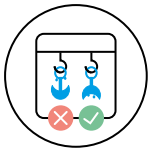
The hanging of the part in the basket carrier ensures that the steam can freely access the surface of the part. For this purpose, mounting options in the form of an eyelet on the part are necessary.



### EYELETS FOR MOUNTING

Ideally, the eyelet is positioned so that the weight of the part is transferred evenly while hanging.

Depending on the weight and material, the eyelet must be sufficiently sized. In the case of flexible materials, we recommend stronger eyelets in order to be able to absorb the weight of the part. If you have any questions, please contact [your On-Demand Service contact](#).

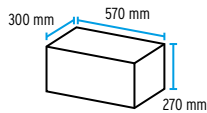


### HANGING ALIGNMENT

Large upward facing sinks should be avoided, as condensed Eco Fluid can accumulate and not drain properly.

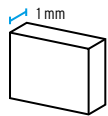


## DESIGN GUIDELINES VAPORFUSE SURFACING



### MAXIMUM SIZE

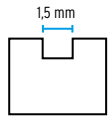
570 mm x 300 mm x 270 mm (L x W x H)



### MINIMUM WALL THICKNESS AND TRANSITIONS

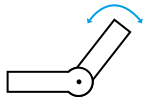
Possible warping by VaporFuse Surfacing can be prevented if large changes in thickness are avoided and a minimum wall thickness of 1 mm for PA-materials and 1.5 mm for TPE-materials is recommended. A maximum wall thickness of up to 1.5 mm is recommended for all materials.

These measures also reduce induced stress during the printing process. In general, thermal stresses during the printing process must be minimized as much as possible.



### MINIMUM GAP SIZE

Narrow gaps may accumulate Eco Fluid. As a precaution a minimum gap size of 1.5 mm must be maintained.



### MOVING PARTS

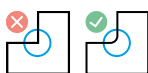
Moving parts merge close to the contact points. Ideally, the parts are separated and mounted separately. Depending on the application, spacers or fixings can also be provided in the design to avoid contact.



### CHANNELS AND OPENINGS

Diameter and length ratios need to be considered on an application-specific basis. As a reference, a continuous channel with a diameter of 15 mm and a length of approx. 250 mm is processible.

Geometric features with openings on both ends are preferable to features with deep one-sided openings (i.e. blind holes).

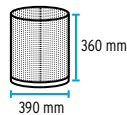


### CORNERS

Rounded inner edges prevent the accumulation of Eco Fluid.

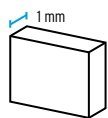


## DESIGN GUIDELINES DEEPDYE COLORING



### MAXIMUM SIZE

390 mm x 360 mm (Ø x H)



### MINIMUM WALL THICKNESS

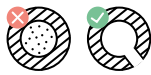
Depending on the translucency of the material, thin wall thicknesses can lead to color variations. A minimum wall thickness of 1 mm is recommended.



### CHANNELS AND UNDERCUTS

Air bubbles can get stuck in channels and undercuts, which prevent the dye from coming in contact with the surface of the part.

An accumulation of air bubbles on the part can be prevented by adding holes, openings and rounding edges.



### CAVITIES

Cavities with or without enclosed powder cause the part to float in the dye bath. Ideally, cavities are avoided by additional openings.

If design adjustments are not possible, the parts can be fastened inside the dye bath to the basket. Please mark the corresponding parts.



### SURFACE PROPERTIES

The color absorption and the dyeing result depend on surface properties. It is recommended to avoid different characteristics on critical surfaces.

The visibility of differences, for example due to upskin and downskin, can be reduced by optimized print orientation of the part.



### ROUNDED EDGES

Before DeepDye Coloring

Rounded edges allow more consistent color absorption than sharp edges.

After DeepDye Coloring

Rounded edges improve color retention on parts subject to mechanical abrasion.



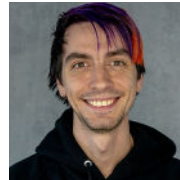
# ORDERING PROCESS

For offer preparation as well as any other queries, please get in touch with our contacts:



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## PROCESS OVERVIEW

