

# POLYJET Advanced RP

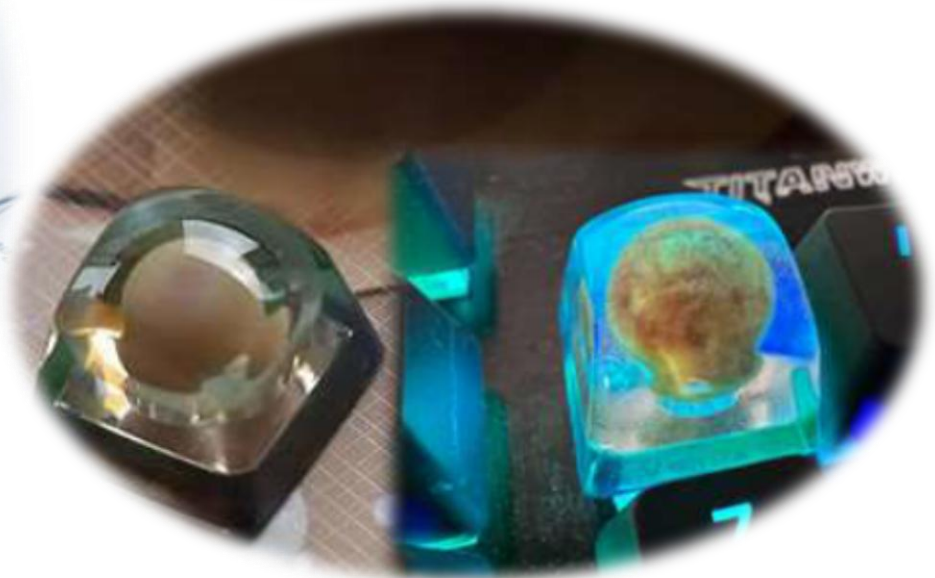
Products & Prototypes  
CMF Design with Keyshot

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Senior Application Engineer D-A-CH  
Team Photopolymer / Advanced Prototyping EMEA



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Every product in the world was designed to have a shape, color, material & finish.

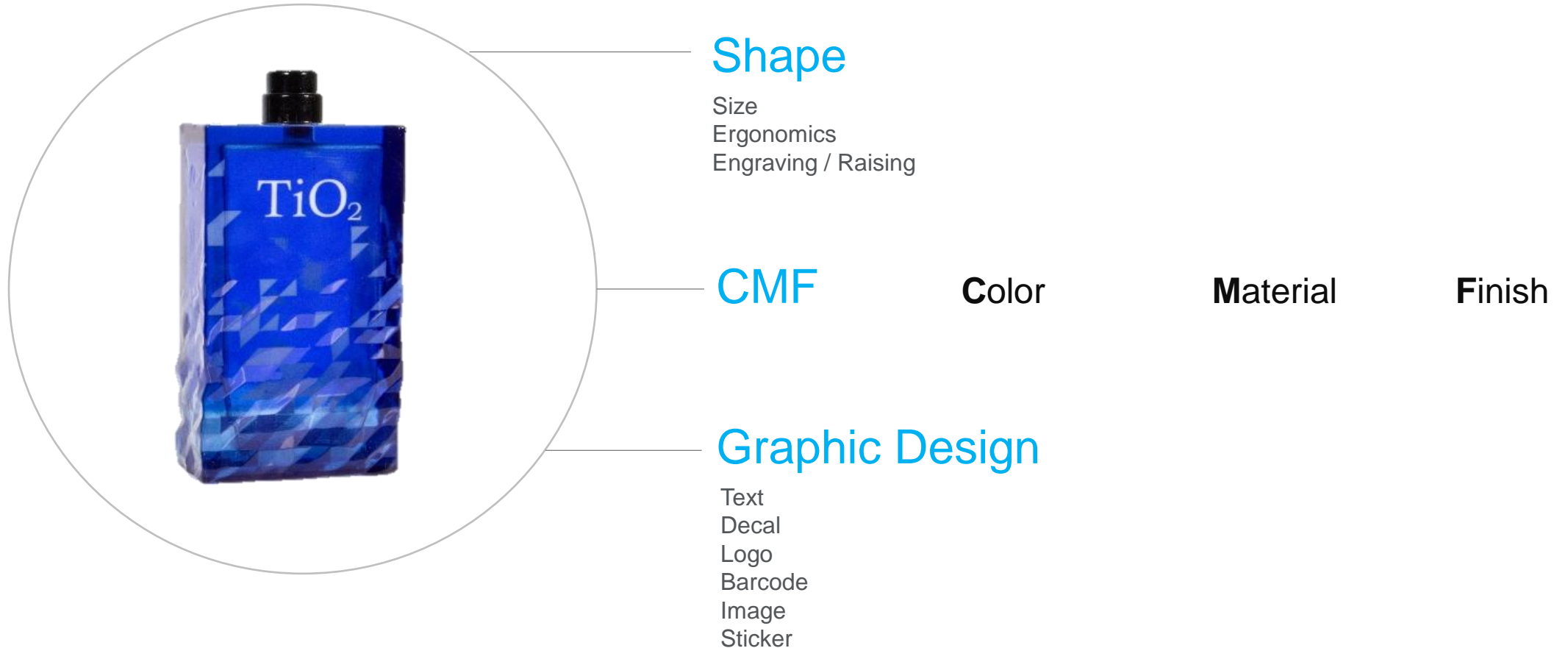
The better the CMF, the higher the perceived value of the product.

Design-Oriented companies invest time and money in refining their CMF.

A shape is “Easy”.  
“Look and Feel” is the hardest part.

# WHAT IS CMF?

# WHAT PRODUCT APPEARANCE IS MADE OF



## Colour Material Finish Document (CMF)

PRODUCT: Hand Mixer

VERSION: V3.2



**COLOUR:** PANTONE: 419 - C

**MATERIAL:** TPE

**FINISH:** MT11245

**COLOUR:** RGB: 255, 0, 0

**MATERIAL:** ABS

**FINISH:** SPI: A-3

**COLOUR:** RAL: 6018

**MATERIAL:** ABS

**FINISH:** SPI: A-3

**COLOUR:** RGB: 0, 255, 0

**MATERIAL:** TPE

**FINISH:** SPI: A-3

**COLOUR:** High Gloss Polished Steel

**MATERIAL:** 18/10 Stainless **FINISH:** Mirror







GarbCAD Print



J-Serie / Stratasys PolyJet



Product / Prototype

Assignment Type	How	File Type
Base Material	ASSIGNED IN GCP	Native CAD & Mesh (STL, WRL, OBJ, <b>3MF</b> )
Digital Material		
Direct Color Assignment		
CMYK		
<i>Pantone</i>		
<b><i>Texture (Imported to GCP)</i></b>	Design Software	WRL, OBJ, <b>3MF</b>

# One Option (best for engineers) is

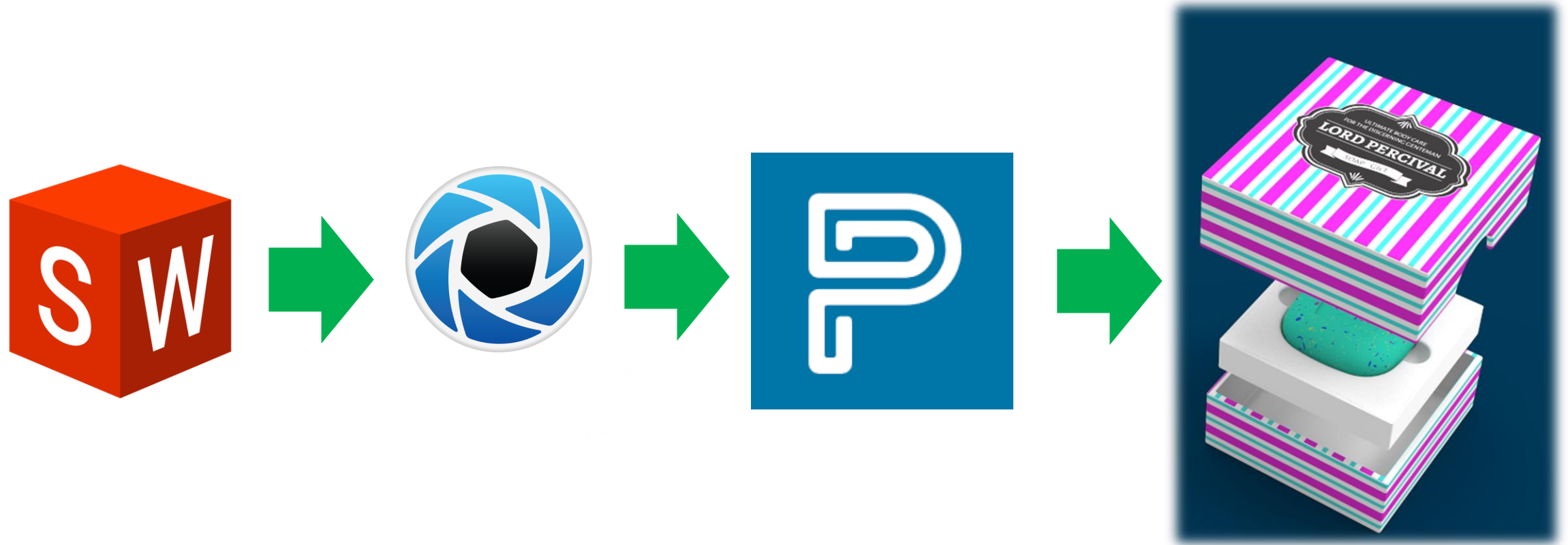


**KeyShot®**  
by Luxion



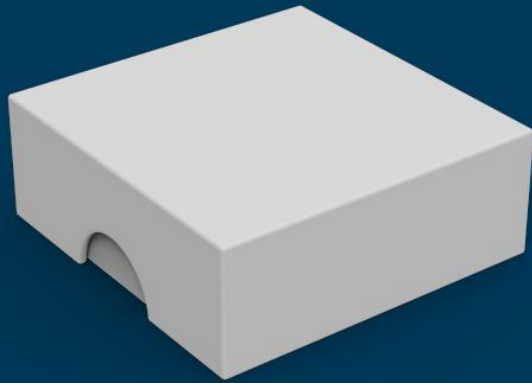
stratasys	Software Type	Software Name	Vertex Paint	Basic Projection	Basic UV Control	Full UV Control	Notes
	CAD	Siemens NX					Good For Basic / Engineering requirements labeling , face / body colors, some texture capabilities
		Solidworks					
	Hobbyist	Paint 3D					<del>Whole body vertex paint. Limited texture “stamp”</del> Microsoft canceled this tool by 01.11.2024
	Most Popular Choices	Magics					Fast and Easy <i>(Limited UV Mapping &amp; Render Capabilities)</i>
		Keyshot					<b><u>Best for Engineers.</u> Powerful / Simple feature set. Easiest to pick</b>
		Rhino					Powerful tools lots of tutorials online <i>(complex interface)</i>
		Blender					Advanced with lots of online resources <i>(complex and confusing to learn)</i>
	Becoming The Industry Designer Standard	Adobe Substance					The one to watch. Adobe integration. Powerful materials creator. 3D Integration WIP (Photoshop replacement)
	Sculpting	Z-Brush					Geared towards digital sculpting (Figurines)
		3D Coat					Can do volumetric texturing, Advanced texture feature set
	Advanced Design	Maya					Lots of tools. More for the creative digital arts: games, animation, FX
		3DS Max					
	Animation FX	Houdini					Advanced packages built for animation and physics simulation (Houdini as v complex)
		Cinema 4D					

# Example: Luxury Packaging

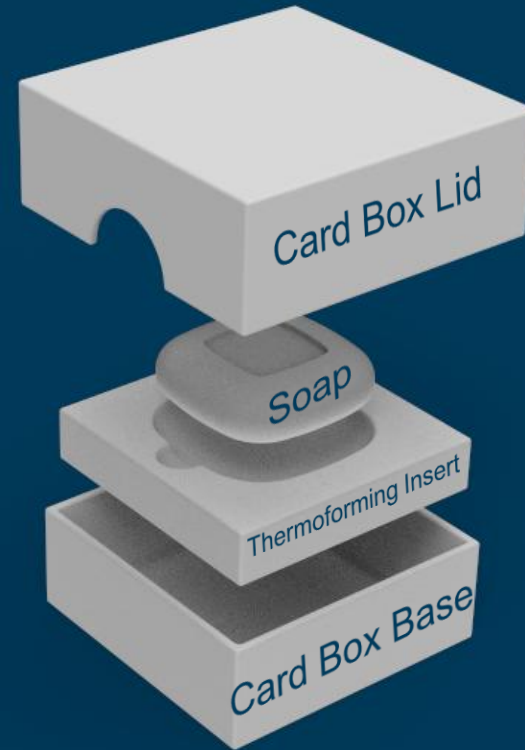




# Luxury Hand Soap Packaging Overview



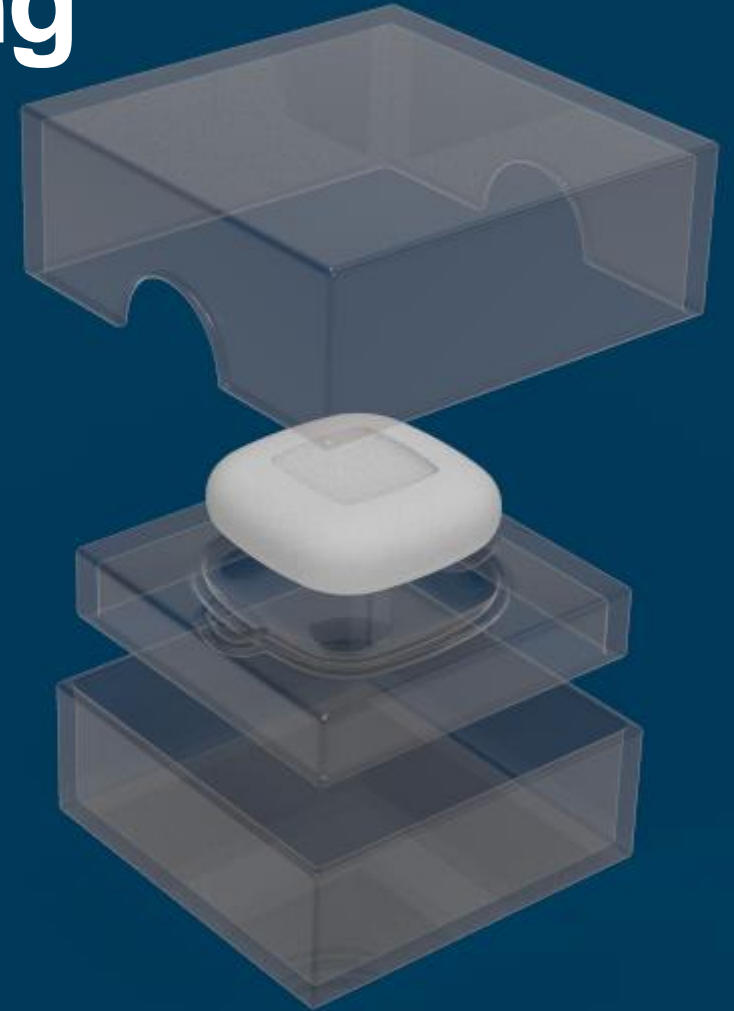
CLOSED



OPEN

# Luxury Hand Soap Packaging CMF Requirements

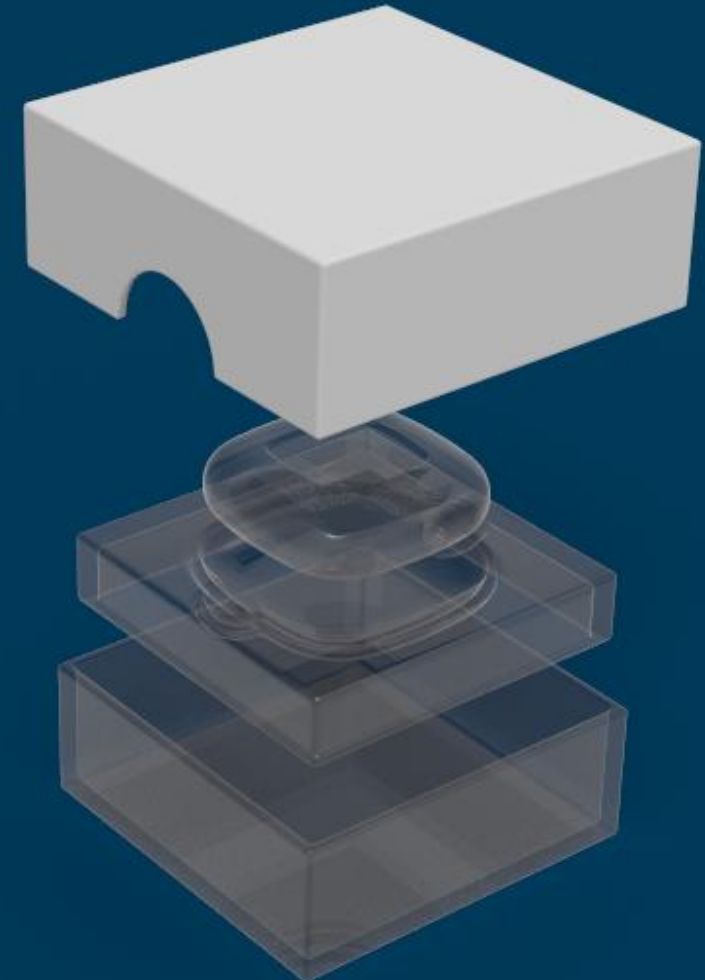
Soap		
Color	Material	Finish
Solid Turquoise with colorful speckles	Glycerin, gin fragrance oil, tonic fragrance oil, green mica powder, blue mica powder, juniper berries, lime fragrance oil	Hard Matte luster
Lord Percival <u>deboss</u>		





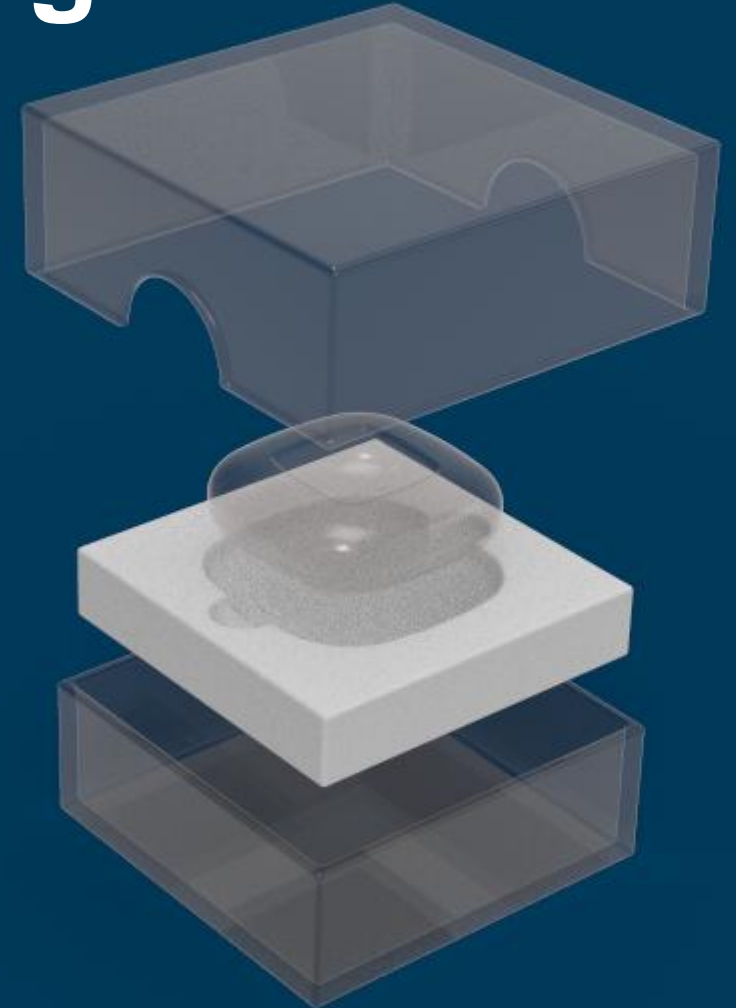
# Luxury Hand Soap Packaging CMF Requirements

Box Lid		
Color	Material	Finish
Candy Stripe (Printed Outside Only)	24pt Cardstock	Matt Aqueous Coating
Product Label	Paper Sticker (0.0254mm / 4mil)	Glossy



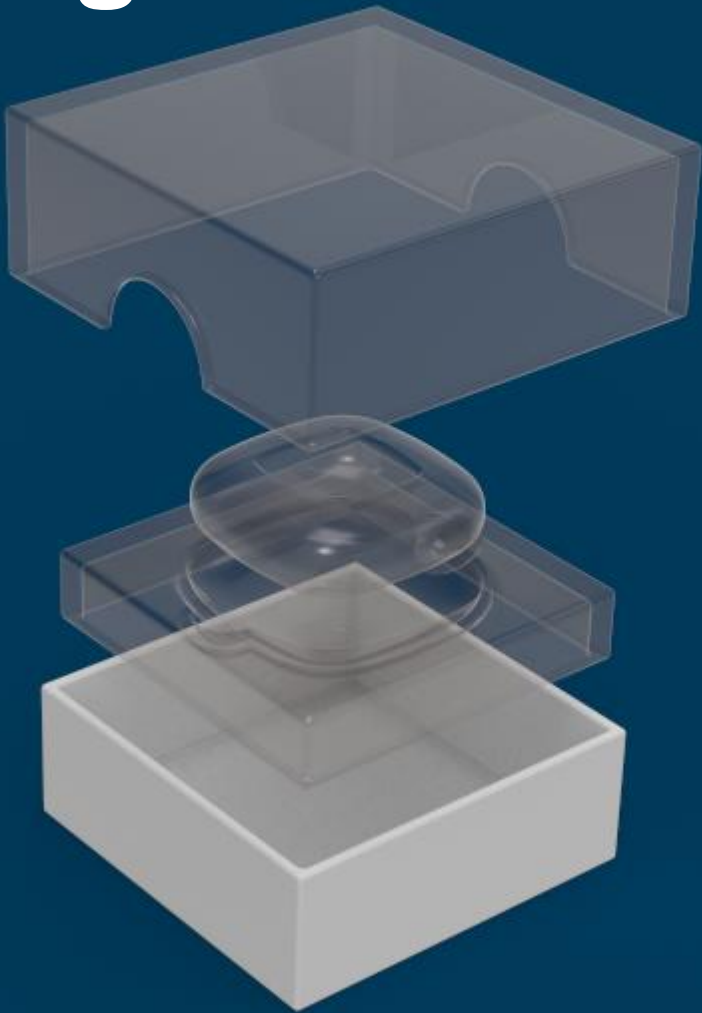
# Luxury Hand Soap Packaging CMF Requirements

Injection Molded Insert		
Color	Material	Finish
White	PVC 0.5mm	Mold tech 11020 on presentation surface



# Luxury Hand Soap Packaging CMF Requirements

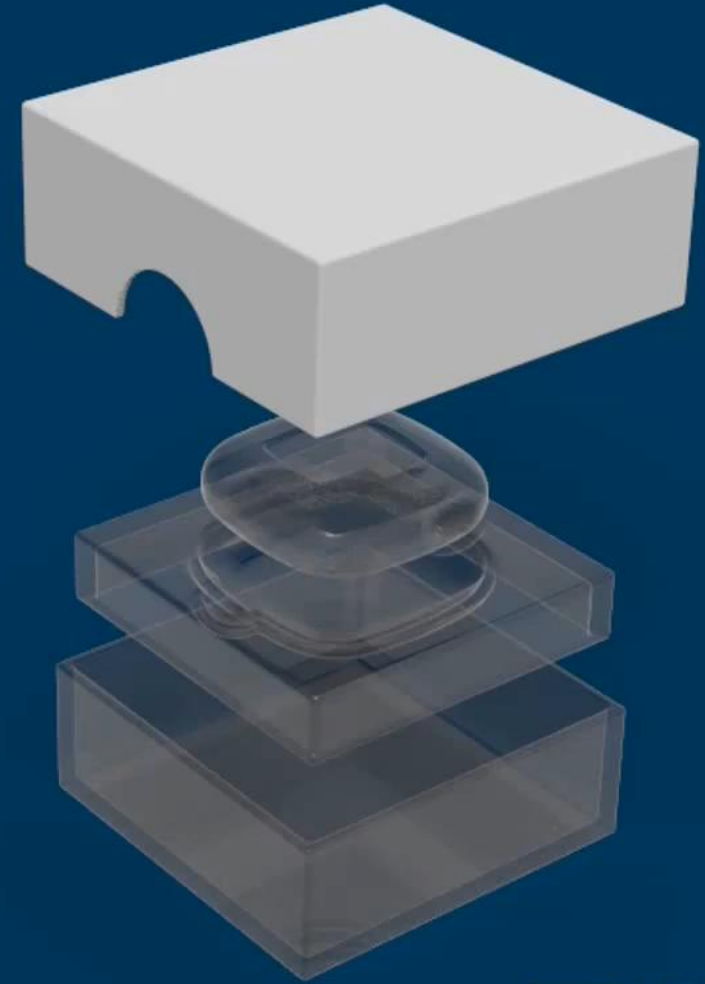
Box Base		
Color	Material	Finish
Candy Stripe (Printed Outside Only)	24pt Cardstock	Matt Aqueous Coating
Product Barcode & details label	Paper Sticker (0.0254mm / 4mil)	Glossy



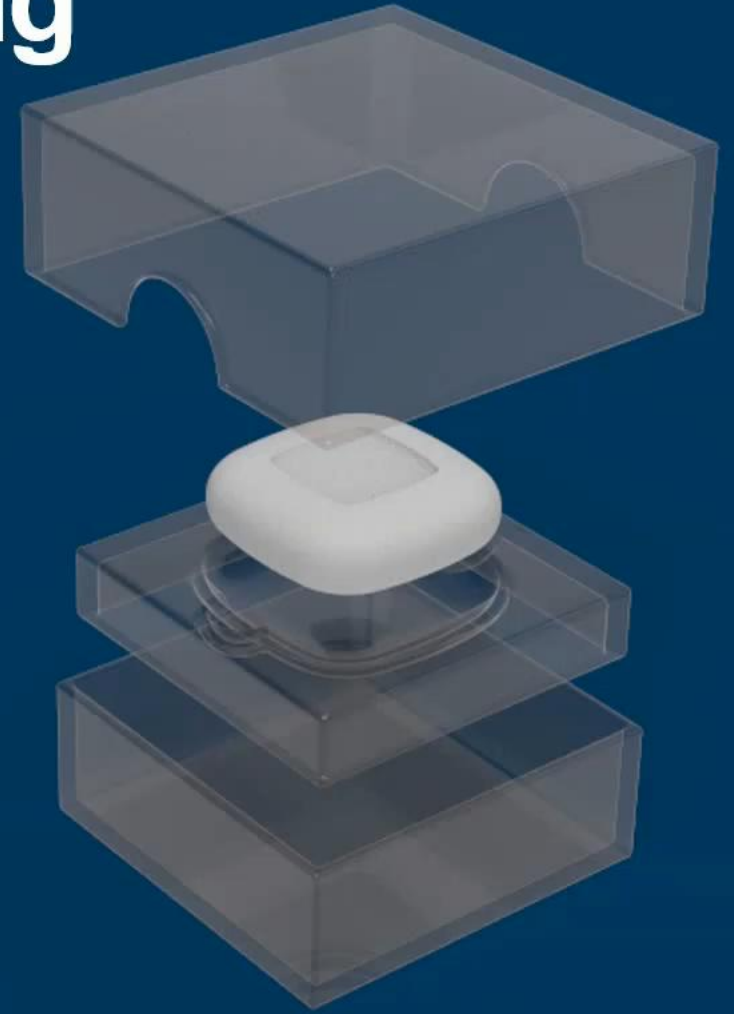
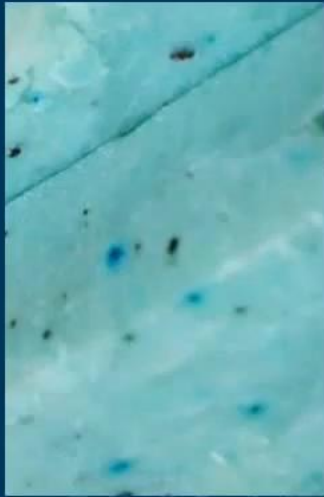


# How to DO Video Tutorials (4)

# Luxury Hand Soap Packaging CMF Requirements



# Luxury Hand Soap Packaging CMF Requirements





# BUMP vs HEIGHT vs DISPLACEMENT MAPPING

Original geometry

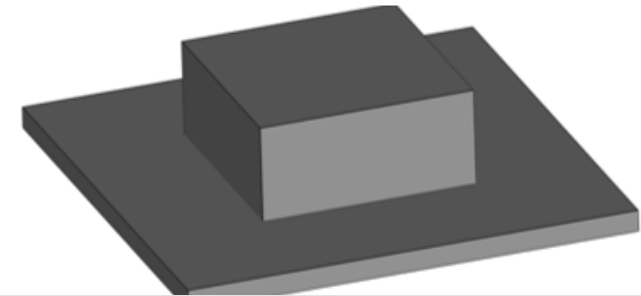


Height map

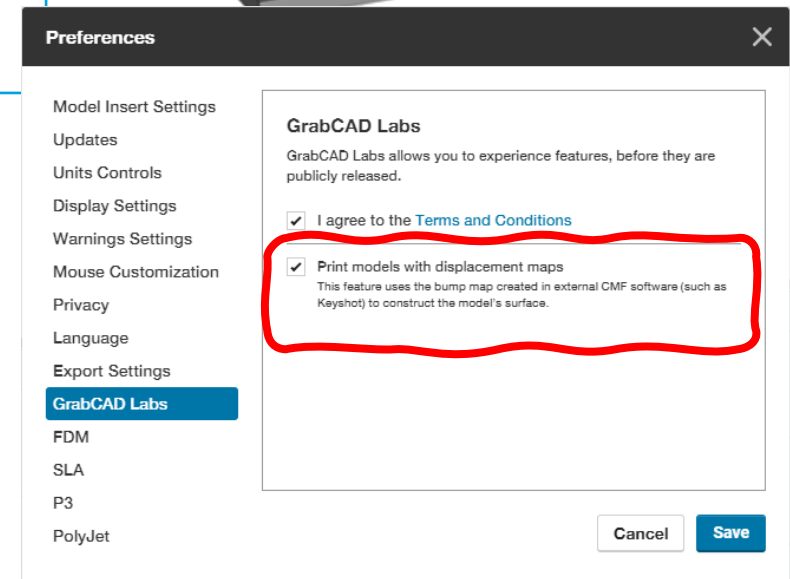


comprised of white & black

Displaced geometry

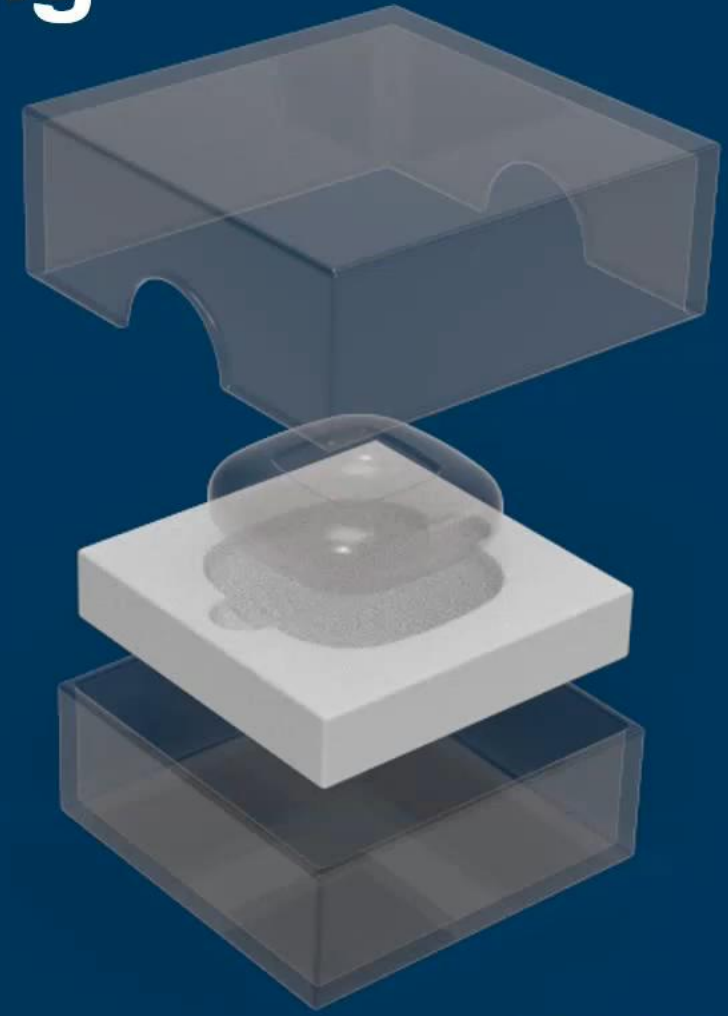


comprised of white, black, & grayscale gradients



**White** = high points | **Black** = low points | **Grayscale** = gradients in between

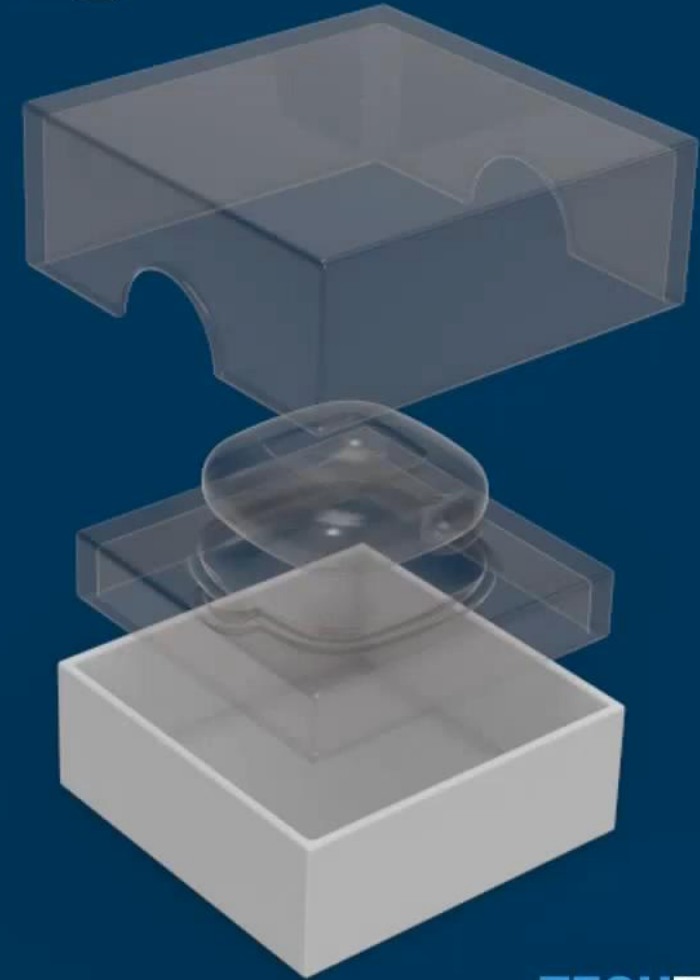
# Luxury Hand Soap Packaging CMF Requirements



# Luxury Hand Soap Packaging CMF Requirements



Lord Percival - Gin & Tonic Scented Soap	
Ingredients	Glycerin, gin fragrance oil, tonic fragrance oil, green mica powder, blue mica powder, juniper berries, lime fragrance oil
Nt. Wt.	5OZ
	
Made with pride in Scunthorpe, North Lincolnshire, England	





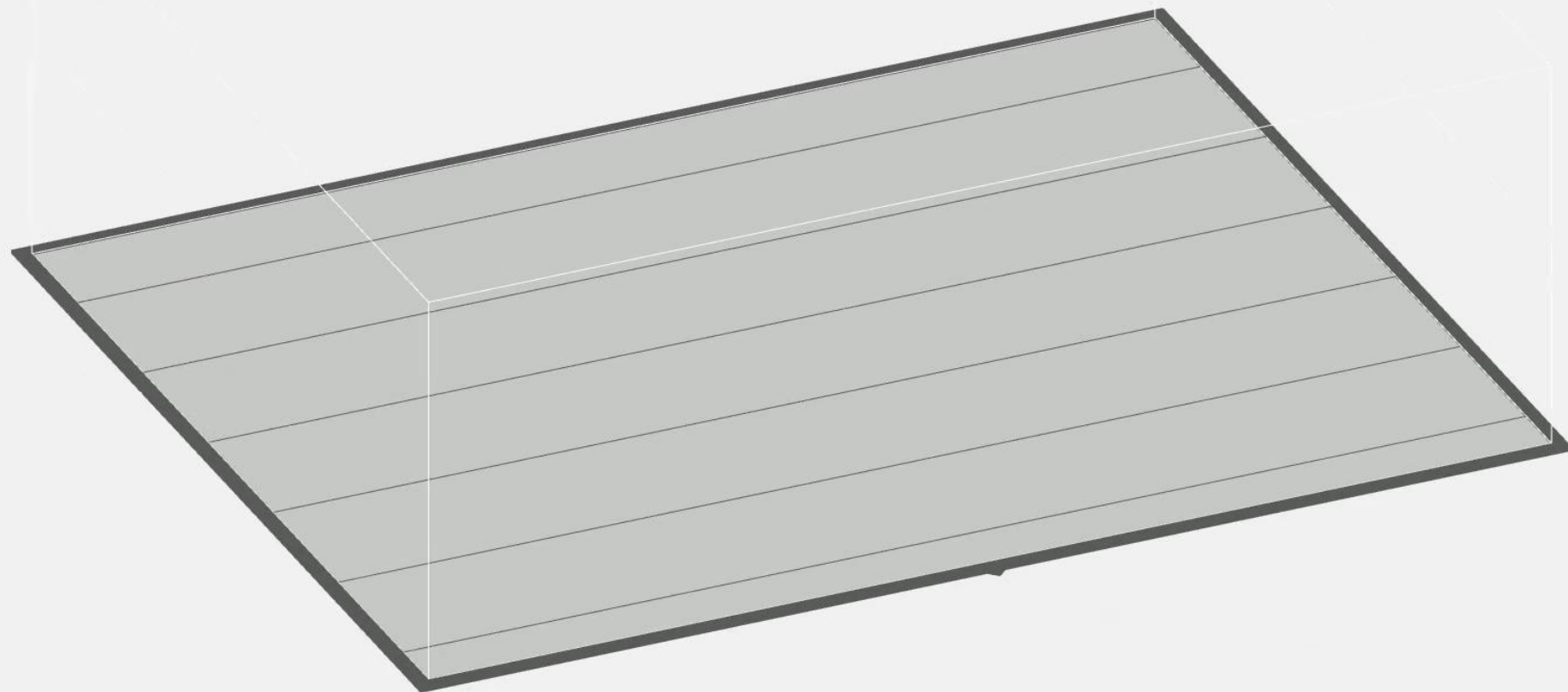
Final Cosmetics tray NE

Add Models

ADD MODELS

Trays

New Tray

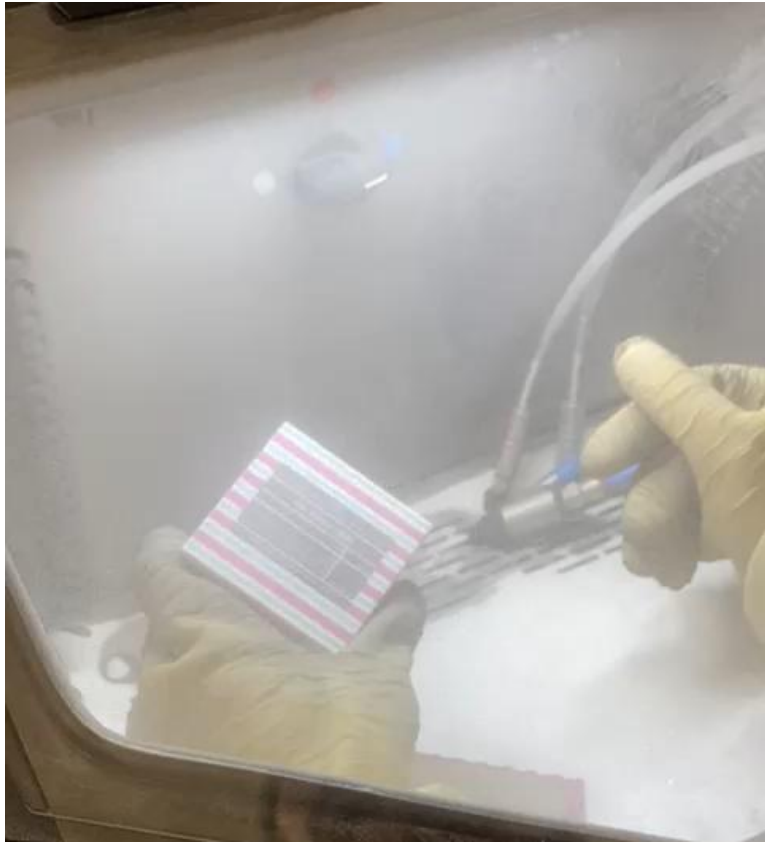


Estimate

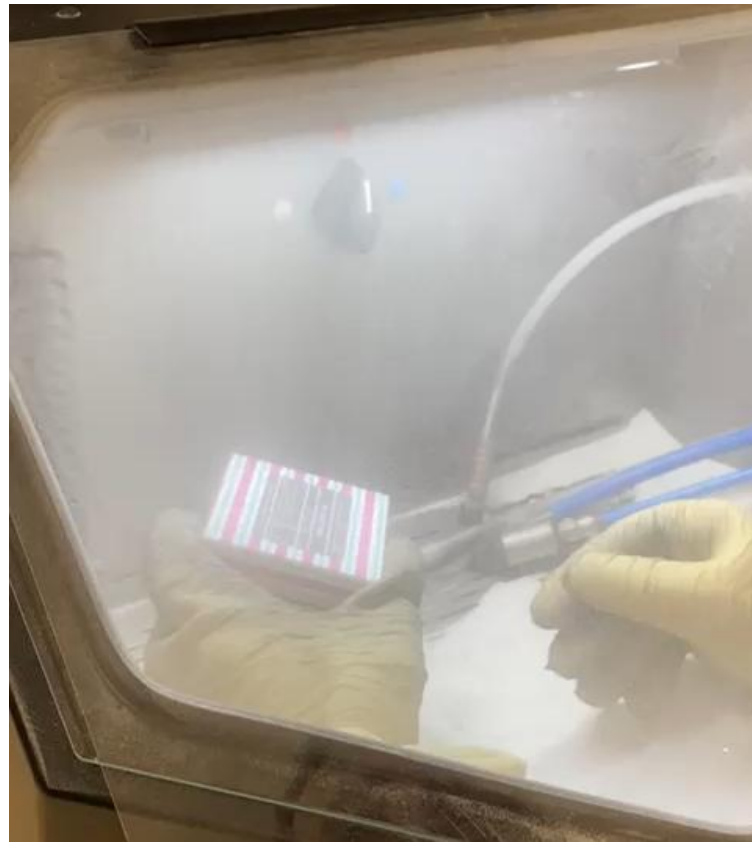
\_\_\_\_K - 17 Kim • Awaits Operator

Print

# Post Processing



Coarse Blast (RED)  
Aluminum Oxide 200um



Fine Blast (WHITE)  
Glass Beads 40 -70um



Automotive plastic protectant  
spray & Wipe off with a cloth



# Post Processing



1	Use an Orbital Sander (4")
2	500 grit (with water)
3	1500grit (with water)
4	3000grit (with water)
5	6" Automotive polishing wheel
6	1 step 3M compound
7	Dremel Polishing for raised text

## 3M™ Perfect-It™ 1-Step Finishing Material

Options available | Select product options for IDs. ★★★★★ 0.0 (0)

[Details](#) [Typical Properties](#) [Resources](#) [Reviews](#)





# The End Product









Printed

Original





# Thank You