



## Introduction

The Crestaform<sup>®</sup> Durable is a durable 3D printing resin for elastic prototyping, Nylon-like materials. It exhibits high impact resistance, which together with elasticity, creates a perfect 3D printing resin for applications where impact resistance is crucial. Crestaform Durable also has increased fracture toughness.

## Crestaform<sup>®</sup> Durable comes with the following benefits:

- Excellent mechanical performance
- High reactivity and printing speed
- Rigorously tested to ensure optimal performance
- Globally available technical support
- Reputable manufacturer with over 100 years of experience and expertise

## Typical printing parameters\*

Printer Type	LCD, DLP
Printer Wavelength (nm)	385 - 405
Layer Height (µm)	25 - 100
Printing Temperature (°C)	21 - 30
Base Layer Exposure Time (sec)	10 - 30
Normal Layer Exposure Time (sec)	1.5 - 2.5

\* For DLP printers, it is recommended that light power is reduced to around 2.5mW/cm<sup>2</sup>

## Recommended cleaning

- Soak the print in a clean isopropanol (IPA) (or similar solvent) bath for a minimum of 5 minutes. Alternatively, rinse the part with IPA until all the visible uncured resin has been removed. Reusing IPA in multiple cleans can reduce the cleanliness and clarity of a print.
- Leave the print to dry off any residual solvent prior to post-curing

## Recommended post-curing

- Post-cure as soon as possible after completion of printing
- To reduce surface tack, it is recommended to post-cure Crestaform Durable at 60°C for 1 hour in combination with UV post-curing
- If a hybrid thermal-UV post-cure station is not available. Undertake UV post-curing first and then use a standard thermal oven (non-domestic) to obtain final properties

## Instructions to use the Crestaform<sup>®</sup> Durable resin:

- Always shake or mix the resin thoroughly before use
- Open the container and pour the appropriate amount of resin into the tank according to the size of the printer model
- Make sure to not spill the resin onto the printer, LCD screen or anywhere outside of the resin tank
- If not used for a long time, please filter the resin and pour the resin into the storage container



## Physical properties

	Values	Description
Viscosity (Poise)	7.0 – 9.0	ICI Viscosity @ 25°C
Liquid Density (g/cm <sup>3</sup> )	1.12 – 1.13	-
Colour Options	-	Black, Blue, Grey

## Mechanical properties

Typical properties below: Mechanical Testing Specimen Print Orientation - 50°

	Values	Description
Tensile strength (MPa)*	37	ISO 527-2 Type 5A
Tensile modulus (GPa)*	1.5	ISO 527-2 Type 5A
Elongation at break (%)*	57	ISO 527-2 Type 5A
Flexural strength (MPa)*	28	ISO 178
Flexural modulus (GPa)*	0.5	ISO 178
Izod Impact Strength (kJ/m <sup>2</sup> )**	6.3	ISO 180 Type A
Hardness (Shore)*	71D	ISO 868
Heat deflection temperature (°C)*	33	ISO 75-2, Method A (1.8 MPa)

\* 60 mins at 60°C + 405nm UV Post Cure for cured properties

\*\* 16 mins at 60°C + 405nm UV Post Cure for cured properties

## Chemical Resistance\*

	Concentration	Mass increase (%)			
		1 day	7 days	14 days	28 days
Sodium Hydroxide	33%	3**	3	2	***

\* Testing Conducted at 40°C using 1cm<sup>3</sup> cubes

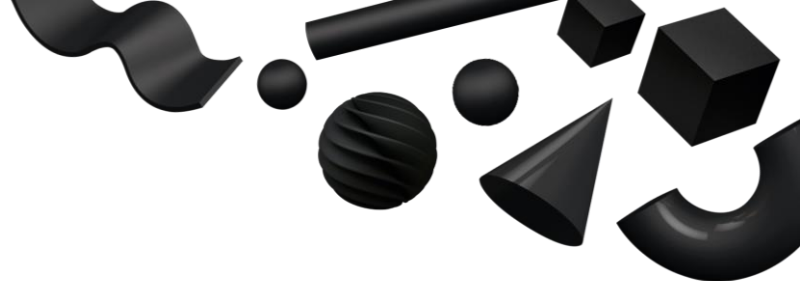
\*\* Slightly swollen

\*\*\* Surface degradation



# Crestaform®

High performance 3D printing resins



## Compatibility

Crestaform® Durable has been designed to work with any UV LCD and DLP 3D printer that is open to 3<sup>rd</sup> party resins, including, but not limited to:

- Anycubic
- Elegoo
- Phrozen
- Creality
- Asiga

### ✓ Do

- Always wear Personal Protection Equipment (PPE), protective eyewear and chemical nitrile gloves when handling resin
- Shake the resin well every time before you use it or decant from the container
- If spilled, please clean the spill immediately with paper towel, and Isopropanol (IPA)
- Store it in its original container at room temperature, away from children, untrained personnel, direct or indirect sunlight, heat sources, sparks and open flames
- Use it in well ventilated rooms
- Use every sensible preventive precaution to avoid skin contact, spillage of resin, eye contact or swallowing. Make note of Local Poison Centres availability

### X Do not

- Expose resin to direct or indirect sunlight, UV light, heat sources, sparks and open flame while handling and storing the resin
- Touch the resin with bare hands. Always wear appropriate gloves. If skin contact occurs, wash it with soapy water. If you feel unwell, please consult immediately medical assistance
- Swallow the resin or printed objects
- Expose to children or pets
- Handle before completing training
- Expose persons sensitive to the resin components – please see Material Safety Datasheet
- Inhale the resin fumes. Use only in well ventilated rooms or areas
- Pour the resin or used IPA into the draining system

## Storage

Crestaform® Durable should be stored in the dark, in suitable, closed containers. It is recommended that the storage temperature should be between 15°C and 35°C. Ideally, containers should be opened only immediately prior to use. Keep out direct light/sunlight.

## Packaging

Crestaform® Durable is supplied in 1000 g bottles. Bulk supply available.

## Health and safety

Please see separate Safety Data Sheet.

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