Technical Datasheet

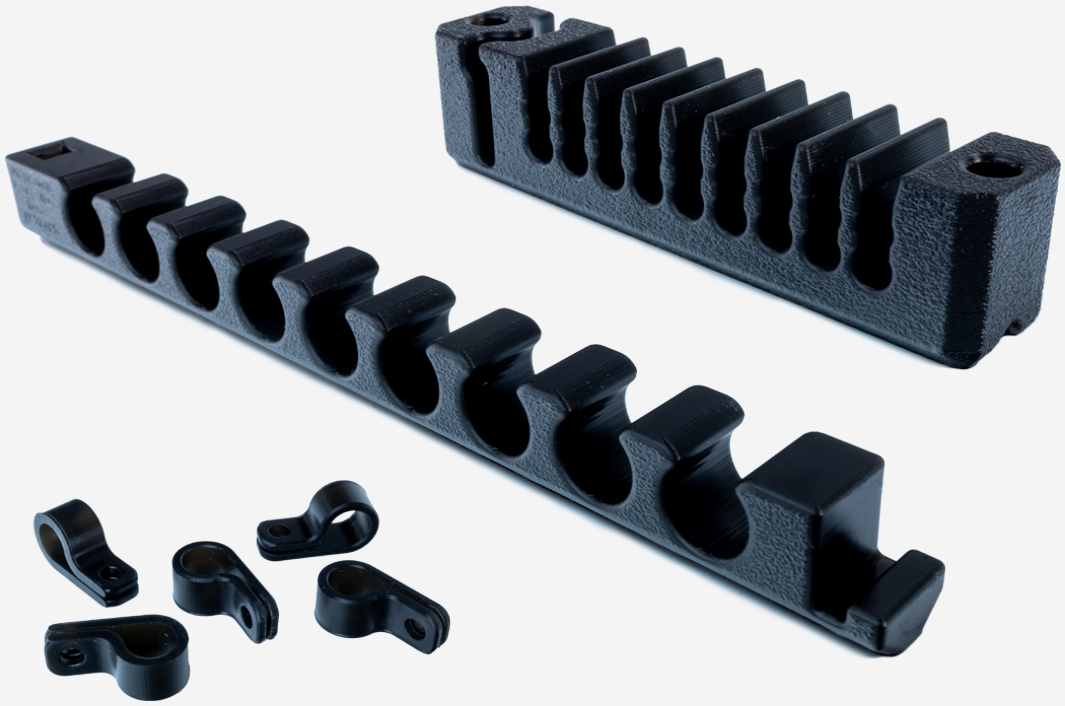
Durable DL902 Plant-Based

460nm

Photocentric

Optimised for:

- Functional prototypes
- Snap-Fit and Assembly Components
- Industrial End-Use Parts
- Consumer Product Parts



Durable DL902 Plant-Based is an ABS-like engineering resin formulated with 52% bio-based raw materials for stereolithography (SLA) and LCD 3D printing. Designed for the Photocentric LC Magna and LC Titan platforms, it delivers a combination of toughness, impact resistance and flexibility for functional prototypes, production tooling and durable end-use components.

This technical data sheet provides the mechanical properties, processing parameters and performance characteristics of DL902.

Compatible:
460nm LCD 3D Printers
Such as LC Magna and LC Titan

Colour
Black

Avaliable:
5kg bottles

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Key Features

Durability Where it Matters
Durable functional resin balancing strength, stiffness, and flexibility for demanding applications.

Stable Under Heat and Stress
Heat-resistant to 73°C with excellent structural stability and dimensional accuracy.

Tough and Flexible Performance
37% elongation provides ABS-like toughness, flexibility, and crack resistance.

Reliable for End-Use Applications
Low water absorption ensures stable long-term mechanical performance in demanding environments.

Durable DL902 Plant-Based Properties

Tensile Properties*	**Green**	**Post-cured***	**Test Method**
Tensile Modulus	548 MPa	2290 MPa	ASTM D638
Tensile Strength (Break)	15.6 MPa	37 MPa	ASTM D638
Tensile Strength (Yield)	10.4 MPa	46 MPa	ASTM D638
Elongation at Break	56%	37%	ASTM D638
Flexural Properties*			
Flexural Strength	-	71 MPa	ASTM D790
Flexural Modulus	-	1790 MPa	ASTM D790
Impact Properties*			
Impact Strength Notched Izod	-	51J/m	ASTM D256
General Properties*			
Shore Hardness	-	82 Shore D	ASTM D2240
HDT (@ 0.455 MPa)	-	73°C	ASTM D648
Water absorption (%) after 24 hrs		0.28%	ASTM D570
Water absorption (%) after 72 hrs		0.34%	ASTM D570
Water absorption (%) after 7 days		0.53%	ASTM D570

*Post cured for 3 hrs at 60°C in Photocentric Cure L2.

Liquid Properties	**Value**	**Method**
Viscosity	900 cPs	At 25°C Brookfield spindle 3
Density	1.06 g/cm3	Internal;
Storage	10<T<50°C	

We are constantly reviewing and improving our range of high-performance materials.
For the very latest information, please visit the Photocentric website

Design Consideration Parameters

Printed on Photocentric LC Magna (100 µm layer height)

Properties	Parameters
Minimum feature size (pins)	0.5 mm
Minimum hole diameter	0.8 mm
Minimum slot thickness	0.7 mm
Minimum wall thickness	0.3 mm
Overhangs	Successful for overhangs ≤ 60°
Minimum unsupported wall thickness	Unsupported walls with a thickness of 2.0 mm or greater can be printed at the full build height. Unsupported walls with a thickness of 1.0 mm can be printed up to a maximum height of 100 mm.
Scaling factor	+0.5% XY (X 1.005, Y1.005, Z 1.00)
Pro design tip	Due to the durable and slightly flexible nature of this resin, thermal shock methods will not be effective for removing parts from the build platform after post-curing. Any part with a surface area greater than 10 mm in either the X or Y axis should be printed on supports to ensure easy removal and optimal print quality.

Pre-Print Instructions

1. To print with Photocentric LC Magna, choose Durable DL902 at desired layer thickness when preparing your print file in Photocentric Studio.
2. Heat the resin to 30°C in the bottle.
3. Shake the resin bottle for 2 minutes before pouring into the resin vat.

Post-Print Instructions

1. Parts can be washed in 10 minutes using Photocentric Resin Cleaner 30.
2. Once washed, rinse with warm water for 2 minutes
3. Dry with compressed air to remove any remaining water. Or alternatively, leave to air-dry.
4. Place the platform into the Photocentric Cure L2 for a minimum of 3 hours at 60°C.
5. Allow the Photocentric Cure L2 to cool down by leaving door ajar. Remove the build platform and scrape the parts off.