

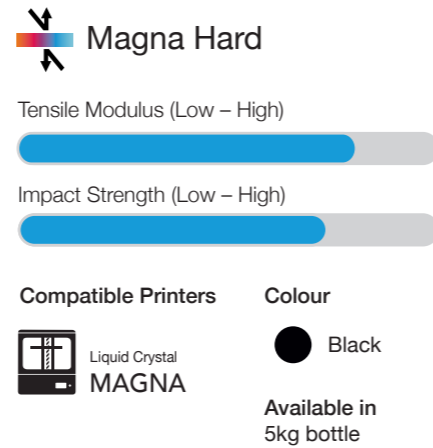


Technical Datasheet

# Magna Hard

Daylight Resin

Photocentric



## Unique features:



Strong, tough and long-lasting



High Accuracy



## Magna Hard Properties

### Tensile Properties

Tensile Modulus *	2080 MPa	ASTM D638
Ultimate Tensile Strength *	57 MPa	ASTM D638
Elongation at break *	8%	ASTM D638

### Flexural Properties

Flexural Modulus *	1550 MPa	ASTM D790
Flexural Strength *	65 MPa	ASTM D790

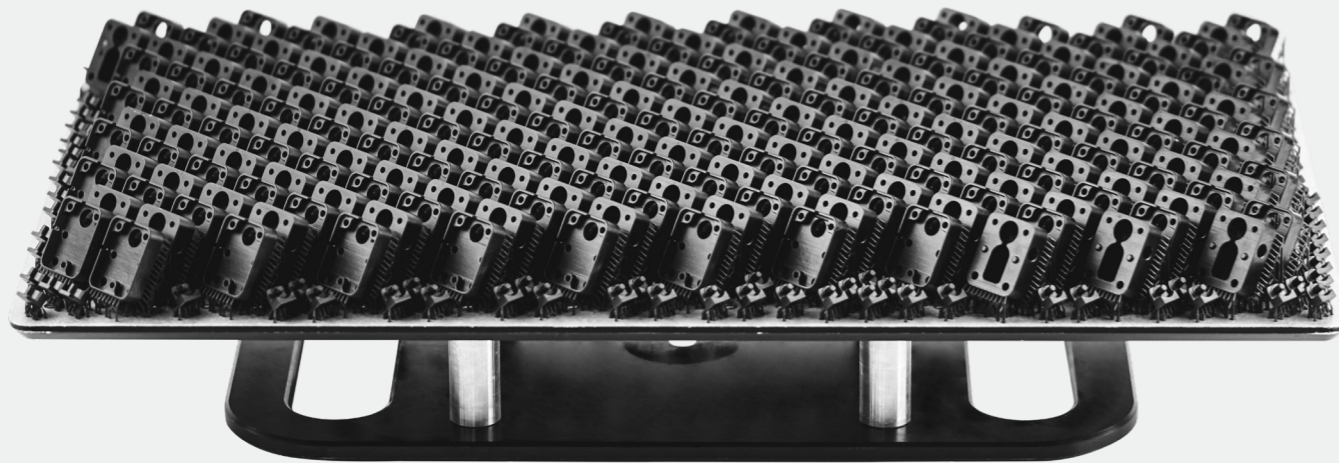
### Impact Properties

Impact Strength Notched Izod *	100 J/m	ASTM D256
--------------------------------	---------	-----------

### General Properties

Shore Hardness *	86 Shore D	ASTM D2240
Heat Deflection Temperature @0.455 MPa	90°C	ASTM D648
Heat Deflection Temperature @1.82 MPa	82°C	ASTM D648
Viscosity	450 cPs	At 25°C Brookfield spindle 3
Density	1.1 g/cm <sup>3</sup>	
Storage	10<T<50°C	

\* Mechanical properties stated based on fully cured material.



Electronic housing

Photocentric's Magna Hard formulation is ideal for making large objects displaying extreme hardness with no compression under high force, negligible plastic deformation due to yield strength before breaking and with minimal shrinkage. Parts also exhibit exceptionally high tensile properties with reasonable elongation.

## Optimised for:

- Printing large functional parts
- Prototyping
- Mass manufacture of custom end-use parts



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



## Pre-Print Instructions

1. To print with Photocentric Liquid Crystal Magna, choose Magna Hard - Black and the 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.



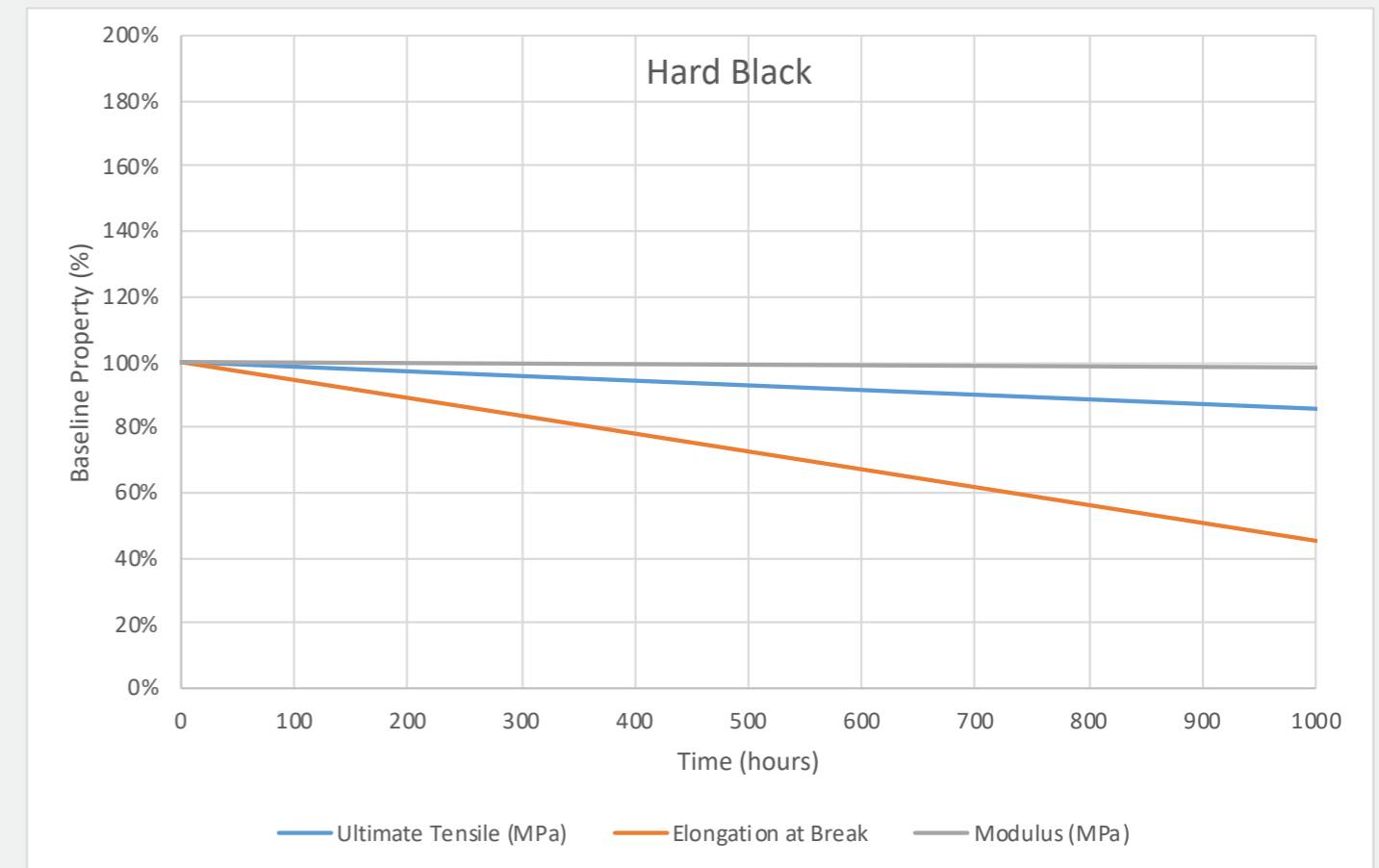
## Post-Print Instructions

1. Parts can be washed in 15 minutes using Photocentric Resin Cleaner or alternatively, 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 4 hours at 60°C or until parts are fully cured.
5. Remove the platform from the Cure L2 and immediately submerge in cold water for thermal shocking. Parts can be removed from the platform with minimal effort.



## Magna Hard Aging

Specific UV ageing testing was externally performed on Magna Hard - Black Resin. Mechanical properties including Tensile Modulus, Tensile Strength at Break and Elongation at Break were evaluated after 1000 hours of exposure and compared against a zero-hour control.\*



\*All mechanical testing was carried out under ASTM D412 (Type C) for flexible/elastomeric materials, and ASTM D638 (Type IV) for rigid/durable materials.