Industrial Plastic Fabrications Ltd
Unit 28 Hillgrove Business Park
Nazeing, Essex
EN9 2HB
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Ceramic White Resin

The **Ceramic White Resin** is a composite resin that has a ceramic content of over 50%. Both the appearance and the smooth feel with a matt surface finish are very reminiscent of real ceramics. The ceramic-like resin is characterised by properties such as durability, precision and high rigidity of up to 5800 MPa. In combination with high wear resistance and low water absorption, the resin is ideal for the production of technical prototypes and exquisite models in industrial quality.

Specifications of Ceramic White Resin

- Density: 1.45 g / cm^3
- Viscosity: 120 mPas
- Modulus of elasticity: 5800 MPa
- Tensile strength: 62Mpa
- Elongation at break: 2%
- Flexural modulus: 5400 MPa
- Bending strength: 90 MPa
- HDT at 1.82MPa: 58°C
- HDT at 0.45MPa: 67°C
- Shore hardness: 90D

Features & Advantages

- Composite resin
- 50% ceramic content
- Durable & precise
- High stiffness & low viscosity

TDS

General Properties	Norm	Typical values	
Appearance	-	White	
Viscosity, 30	Cone/Plate Rheometer[1]	120 mPas	
Viscosity, 50 °C	Cone/Plate Rheometer[1]	45 mPas	
Density (liquid resin)	ASTM D4052-18a	1.45 g/cm³	
Tensile Properties	**Norm**	**Typical values** (UV post-cured)	
E Modulus	ASTM D638	5800 MPa	
Ultimate Tensile Strength	ASTM D638	62 MPa	
Elongation at Break	ASTM D638	2 %	
Flexural Properties	**Norm**	**Typical values** (UV post-cured)	
Flexural Modulus	ASTM D790	5400 MPa	
Flexural Strength	ASTM D790	90 MPa	
Impact Properties	**Norm**	**Typical values** (UV post-cured)	
Notched Izod (Machined), 23 °C	ASTM D256	26 J/m	
Unnotched Izod, 23 °C	ASTM D256	90 J/m	
Charpy notched, 23 °C	ISO 179-1	5.36 kJ/m²	
Thermal Properties	**Norm**	**Typical values** (UV post-cured)	**Typical values** (UV + thermal*)
HDT at 0.45 MPa	ASTM D648	67 °C	90 °C
HDT at 1.82 MPa	ASTM D648	58 °C	60 °C
Hardness	**Norm**	**Typical values** (UV post-cured)	
Shore D	ASTM D2240	>90	
Other	**Norm**		
Water Absorption, Short Term (24 hours)	ASTM D570	0.22 %	

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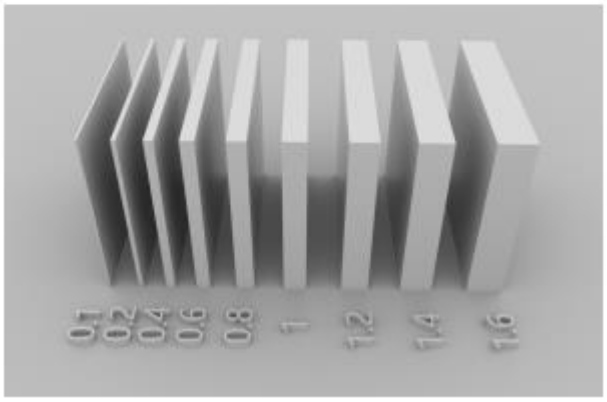
Design Specifications

※Note: All indicators are limited to each resin; the value will vary with different machines and environmental conditions.※

Minimum Unsupported Wall Thickness

This indicator shows the minimum wall thickness that can be printed independently with no support without causing any bending or breaking.

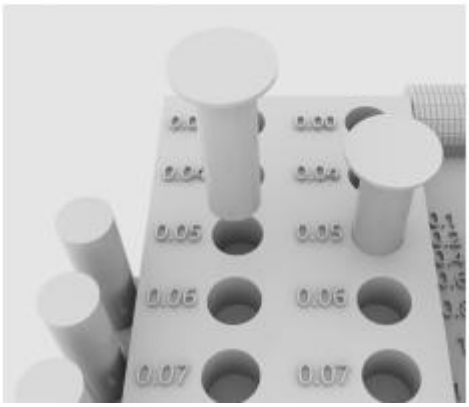
Recommended thickness: : ≥ 0.4 mm



Size Tolerance, X-Y plane

This indicator shows the minimum dimensional tolerance between the hole and the column parallel to the XY plane.

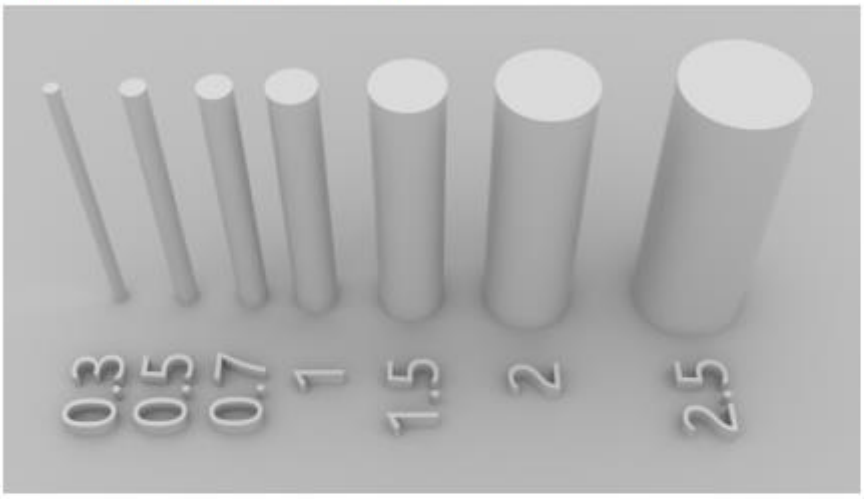
Recommended tolerance: ≥ 0.04 mm



Minimum Pin Diameter

This indicator shows the minimum column diameter of pillars and supports that can be printed independently without bending or breaking.

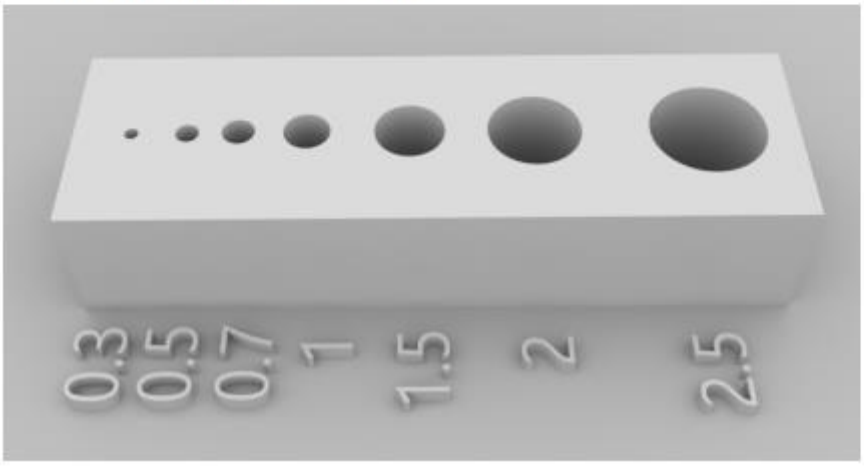
Recommended diameter: ≥ 0.5 mm



Minimum Hole Diameter, X-Y plane

This indicator shows the minimum hole diameter that can be successfully printed parallel to the XY plane.

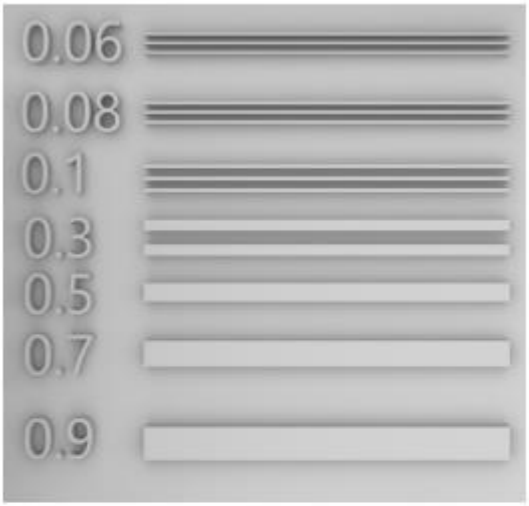
Recommended diameter: ≥ 0.7 mm



Minimum Embossed Detail Width, X-Y plane

This indicator shows the minimum line width that can successfully be printed with embossed details.

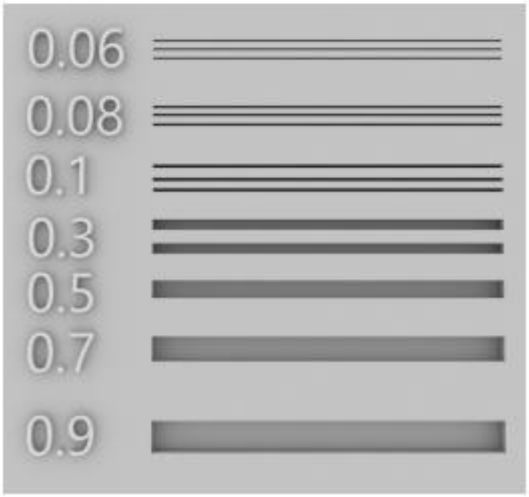
Recommended width: ≥ 0.1 mm



Minimum Engraved Detail Width, X-Y plane

This indicator shows the minimum line width that can successfully be printed with engraved details.

Recommended width: ≥ 0.3 mm



Maximum Horizontal Bridge Span

This indicator shows the maximum width between the supporting walls that can be printed without deforming the bridge.

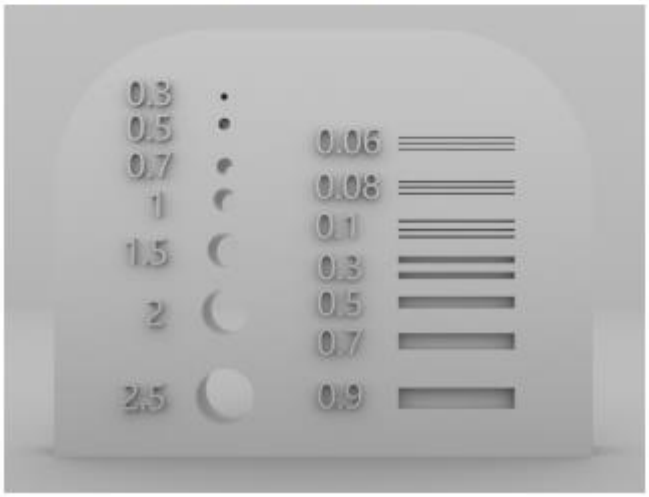
Recommended width: ≤ 6 mm

Minimum Hole Diameter and Engraved Detail Width, Z-Axis, at 0.05mm Layer Height

This indicator shows the minimum hole diameter and engraving groove width that can be successfully printed on the Z-axis with a layer thickness of 0.05mm.

Recommended diameter: ≥ 0.5 mm

Recommended width: ≥ 0.08 mm



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Hazard and precautionary statements

Signal word: Danger

Precautionary statements:

- P273 - Avoid release to the environment.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P310 - Contact your doctor/poison control centre immediately.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P501 - Dispose of contents/container according to local/national regulations.
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

Hazard statements:

- H315 - Causes skin irritation
- H317 - May cause an allergic skin reaction
- H318 - Causes serious eye damage.
- H412 - Harmful to aquatic life with long lasting effects