



VARIETY AND CHARACTER

DENTAL RESIN



The zOrtho resin is specifically designed for use in dentistry and orthodontics. This resin is featured with high-precision, low-viscosity and delivers high temperature resistance.

zOrtho GRAY					
	METRIC ¹		IMPERIAL ¹		METHOD
	Green ²	Post-Cured ³	Green ²	Post-Cured ³	
Tensile Properties					
Tensile Strength	25.88MPa	35.11MPa	3752.6psi	5090.95psi	ASTM D 638-14
Elongation at Break	51.5%	23.71%		23.71%	ASTM D 638-14
Modulus	159.71MPa	251.07MPa	23157.95psi	36405.15psi	ASTM D 638-14
Flexural Properties					
Flexural Strength	20.98MPa	48.77MPa	3042.1psi	7071.65psi	ASTM D 790-15
Flexural modulus	776.95MPa	1558.28MPa	112.66psi	225.95psi	ASTM D 790-15
Impact properties					
Notched izod (Machined)	18.57J/m	7.06J/m	0.35ft-lbf/in	0.13ft-lbf/in	ASTM-D256-10

NOTES:
1. Material properties can vary with part geometry, print orientation, print settings and temperature.
2. Data was obtained form green parts, printed using, 100 μm, Clear settings, without additional treatment.
3. Data was obtained form green parts, printed using, 100 μm, Clear settings and post-cured with 600 mW/cm2 of 405 nm LED light at 25°C for 10 min.



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The zDental Model Sand Resin is perfect for dental applications such as dental models, orthodontic molds and plastic dentures. It has high precision, great assembly capabilities and a good balance of stiffness and toughness. This particular resin has been praised by consumers who utilize it for high precision dental models.

Below are the properties of zDENTAL MODEL SAND. Product properties may change without notice

zDENTAL MODEL SAND					
	METRIC ¹		IMPERIAL ¹		METHOD
	Green ²	Post-Cured ³	Green ²	Post-Cured ³	
Tensile Properties					
Tensile Strength	24.68MPa	32.97MPa	3578.6psi	4780.65psi	ASTM D 638-14
Elongation at Break	32.72%	15.48%	32.72%	15.48%	ASTM D 638-14
Modulus	166.99MPa	287.88MPa	24213.55psi	41742.6psi	ASTM D 638-14
Flexural Properties					
Flexural Strength	22.95MPa	52.6MPa	3327.75psi	7627psi	ASTM D 790-15
Flexural modulus	836.12MPa	1760.79MPa	121.24ksi	255.31ksi	ASTM D 790-15
Impact properties					
Notched izod (Machined)	7.39J/m	4.38J/m	0.14ft-lbf/in	0.08ft-lbf/in	ASTM-D256-10

NOTES:

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Hardness and Viscosity of zDental Model Sand			
Property	Requirement	Result	ISO standard
Hardness shore D	≥ 80 Shore D	91	ISO 178
Viscosity at 25°C		230mpa	

Note:

1. Clean printed parts thoroughly with isopropyl alcohol (IPA) or UNIZ's TotalCure®, then dry parts naturally or with compressed air before post-curing.
2. Post-cure the parts for 1 minute under 405nm 10W UV LED light.



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SURGICAL GUIDE RESIN



zSG Resin is specially designed for 3D printing precise surgical guides. It is autoclavable and biocompatible. It can be used in various surgical applications such as implant placement, tumor operation, etc.

zSG AMBER					
	METRIC ¹		IMPERIAL ¹		METHOD
	Green ²	Post-Cured ³	Green ²	Post-Cured ³	
Tensile Properties					
Tensile Strength	21.15MPa	42.47MPa	3066.75psi	6158.15psi	ASTM D 638-14
Elongation at Break	43.24%	18.38%	43.24%	18.38%	ASTM D 638-14
Modulus	120.83MPa	323.52MPa	17520.35psi	46910.4psi	ASTM D 638-14
Flexural Properties					
Flexural Strength	17.7MPa	69.47MPa	2566.5psi	10073.15psi	ASTM D 790-15
Flexural modulus	678.56MPa	1252.86MPa	98.39psi	181.66psi	ASTM D 790-15
Impact properties					
Notched izod (Machined)	11.51J/m	5.01J/m	0.22ft-lbf/in	0.09ft-lbf/in	ASTM-D256-10

NOTES:
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2. Data was obtained from green parts, printed using, 100 μm, Clear settings, without additional treatment.
3. Data was obtained from green parts, printed using, 100 μm, Clear settings and post-cured with 600 mW/cm2 of 405 nm LED light at 25°C for 10 min.