

# Humimic Medical Gelatin

## Synthetic Gelatin for Simulating Tissue

Humimic Medical's gelatin is 100% synthetic, and durability and shape retention are varied between gelatin types to closely mimic a range of tissues. Humimic Medical gelatin is completely stable at room temperature, and it will not dehydrate over time. Humimic Medical synthetic gelatin is naturally clear but is dyable to create completely customizable phantoms. Humimic Medical gelatin is also odorless, non-toxic, and moldable into any shape. Humimic Medical gelatin has self-healing properties - it can endure many needle punctures before melting and remolding is necessary. Humimic Medical gelatin is compatible with ultrasound, CT scans, and MRIs, making it ideal for use as a tissue model.



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## Material Properties Data

Gelatin Type	Young's Modulus (MPa)	Firmness (g)	Density (Kg/m <sup>3</sup> )	Needle Resistance (N)
Gel #0	0.57	686	945.284	0.92
Gel #1	0.37	428	935.026	0.62
Gel #2	0.26	308	967.463	0.46
Gel #3	0.19	227	856.839	0.37
Gel #4	0.15	179	934.644	0.30
Gel #5	0.10	127	1118.690	0.22

## Acoustic Properties Data

Gelatin Type	Speed of Sound (m/s)	Acoustic Impedance	Acoustic Attenuation	
			$\alpha$	$\eta$
Gel #0	1449.30 $\pm$ 3.37	1.37 $\pm$ 0.002	0.223 $\pm$ 0.002	1.7 $\pm$ 0.04
Gel #1	1465.20 $\pm$ 4.19	1.37 $\pm$ 0.003	0.202 $\pm$ 0.017	1.681 $\pm$ 0.025
Gel #2	1457.42 $\pm$ 1.02	1.41 $\pm$ 0.001	0.192 $\pm$ 0.031	1.60 $\pm$ 0.062
Gel #3	1458.85 $\pm$ 3.87	1.25 $\pm$ 0.001	0.158 $\pm$ 0.005	1.679 $\pm$ 0.115
Gel #4	1455.10 $\pm$ 1.02	1.36 $\pm$ 0.001	0.132 $\pm$ 0.009	1.761 $\pm$ 0.054
Gel #5	1466.00 $\pm$ 1.68	1.64 $\pm$ 0.001	0.132 $\pm$ 0.023	1.737 $\pm$ 0.056

