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Solid hand phantoms

MCL-T offers solid hand phantoms for radio and mobile phone testing.

- Available in left- or right-hand versions
- Constructed from carbon-loaded silicone rubber
- Sufficiently flexible to "grasp" a phone
- Frequency range: 130 MHz - 6 GHz
- Indefinite shelf life

These hands are specially formulated to match the electrical properties of tissue across a wide frequency range.

Conductive silicone material for hand phantoms: material properties

Frequency (MHz)	Relative permittivity ε_r	Conductivity, σ (S/m)
130.0	70.5	0.27
143.8	68.3	0.29
159.0	66.3	0.30
175.9	64.4	0.32
194.5	63.0	0.34
215.1	61.5	0.37
237.9	60.1	0.40
263.1	58.5	0.42
291.0	57.0	0.45
321.8	55.5	0.48
355.9	54.2	0.51
393.6	52.8	0.54
435.4	51.4	0.57
481.5	50.1	0.61
532.5	48.9	0.65
588.9	47.7	0.70
651.3	46.5	0.74
720.4	45.3	0.79
796.7	44.3	0.83
881.1	43.4	0.88
974.5	42.6	0.94
1,077.8	41.7	1.02
1,192.0	40.6	1.10
1,318.3	39.7	1.16
1,458.0	39.0	1.23
1,612.5	38.3	1.32
1,783.3	37.6	1.43
1,972.3	36.8	1.55
2,181.3	36.1	1.67
2,412.4	35.4	1.81
2,668.1	34.6	1.97
2,950.8	33.9	2.14
3,263.5	33.1	2.33
3,609.3	32.3	2.54
3,991.7	31.5	2.77
4,414.7	30.7	3.03
4,882.5	29.8	3.30
5,399.9	28.8	3.58
5,972.1	27.9	3.87
6,605.0	26.8	4.13
7,304.9	25.9	4.35
8,078.9	25.0	4.52
8,935.0	24.2	4.61
9,881.8	23.6	4.64
10,929.0	23.3	4.64

From Gabriel C 2007, Tissue equivalent material for hand phantoms. *Phys. Med. Biol*. **52** 4205-4210