



CIT-25

Custom Impression Tray Resin

PERFECT FOR

- Custom edentulous trays for complete removable dentures.
- Custom dentulous trays for tooth-borne restorations and prostheses.
- Full-arch and sectional tray designs.



MB Labsamera

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Biocompatible, CE Class I marked resin for 3D printing custom impression trays. Print fast at up to 200 µm layers, does not inhibit silicone, and adjusts easily chair-side.

MATERIAL PROPERTIES

Broad impression-material compatibility, no inhibition: validated with silicone, alginate impression materials when following our post-processing methods. No need to use separator sprays.

Easy chair-side adjustment: trims, grinds, and drills cleanly with standard dental tools for fast mechanical adjustments.

Fast, accurate printing: reliable and fast printing at up to 200 µm layers.

Dimensional stability over time: holds tray geometry to support accurate, repeatable impressions.

Biocompatible: CE Class I marked and compliant with EN ISO 10993-1.

Wide printer compatibility: cures on both 385 nm and 405 nm light sources, with validated procedures for most printers.

TPO, THFA, MMA, BPA, and phthalate free

TECHNICAL DATA

Tensile Properties	Standard	Value	Other Properties	Standard	Value
Elongation Modulus, GPa	ISO 527A	3.19	Glass transition temperature, °C tan d	ASTM 5023	140.3
Stress at Yield, MPa		-	Glass transition temperature, °C E'		68.7
Elongation at Yield, %		-	Glass transition temperature, °C E''		67.5
Stress at Break, MPa		56.6	Shrink compensation, %	Internal	100.55
Elongation at Break, %		3.1	Light bleed compensation, µm		30
Flexural Properties	Standard	Value	Impact resistance (notched), kJ·m ²	ASTM D256	0.97
Flexural Modulus, GPa	ISO 178	2.59	Vicat softening temperature, °C	ASTM D1525	-
Flexural Strength, MPa		84.3	HDT @ 0.45 MPa, °C	ISO 75	165.6
Flexural Strain at Yield, %		-	HDT @ 1.8 MPa, °C		65.7
Strain at Break, %		4.6	HDT @ 8 MPa, °C		53.89
Compressive Properties	Standard	Value	Density (liquid), g·cm ⁻³	ISO 2811	1.108
Compressive Modulus	ASTM D695	1.96	Density (solid), g·cm ⁻³	ISO 1183	1.24
Working Curve parameters¹			Viscosity at 25 °C, mPa·s	ISO 2555	692.2
			Hardness, Shore D	ASTM D2240	87
			Water absorption (24 h), %	ASTM D570	0.22
Property	Value				
Critical Dose, mJ·cm ⁻²	3.261				
Light penetration depth, µm	0.165				

Tensile Properties	Standard	Non post cured ²	After 24 h in water ³	After 24 h of drying at 50 °C ³	4 weeks in darkness ³	4 weeks in sunlight ³
Elongation Modulus, GPa	ISO 527A	0.86	3.04	3.35	3.31	3.31
Strain at Yield, MPa		14.6	-	-	-	-
Elongation at Yield, %		4.1	-	-	-	-
Strain at Break, MPa		21.3	54.9	63.32	65.1	64.8
Elongation at Break, %		20	3.1	3.24	3.6	3.5

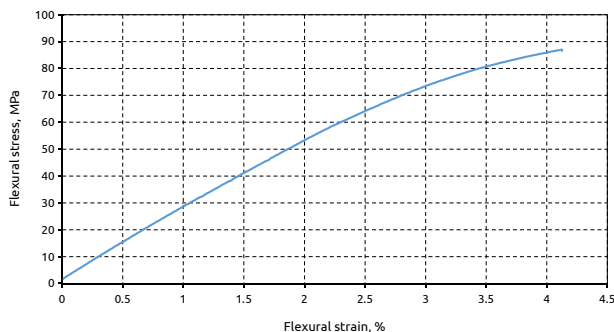
All specimens for various tests were printed using a DLP printer with 2.62 mW·cm⁻² light intensity and a UV spectrum peak of 406.3 nm. A layer height of 50 µm was used to print the specimens, and the exposure was set at 9 s. After printing, the specimens were washed with isopropanol for 10 min in a wash and cure station. Specimens were dried in the air for 30 min and then post-cured for 1 h in a UV chamber with 3 light sources of 365 nm (27.5 W), 380 nm (27 W) and 395 nm (27.5 W).

¹P. F. Jacobs, Rapid Prototyping and Manufacturing: Fundamentals of Stereolithography, McGraw-Hill, Inc., New York, NY, USA, 1993.

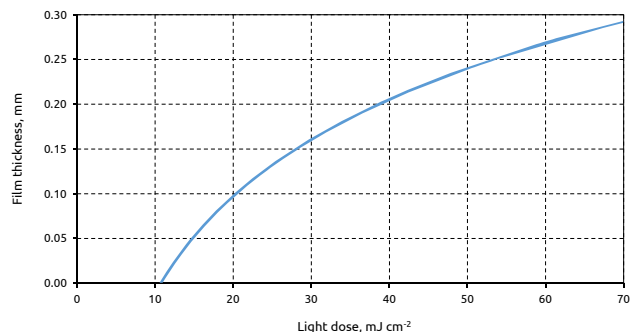
²These properties were measured right after printing, before post-curing.

³After post-curing, specimens were exposed to the specified conditions, and only then their properties were measured.

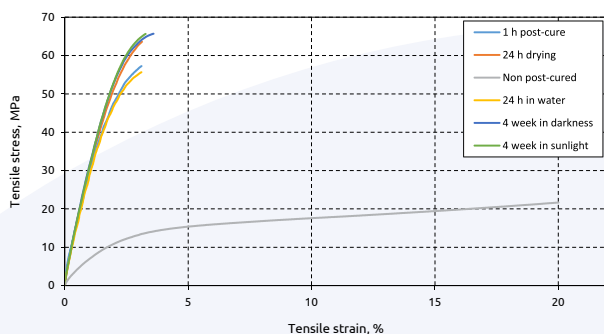
Flexural stress strain diagram of CIT-25



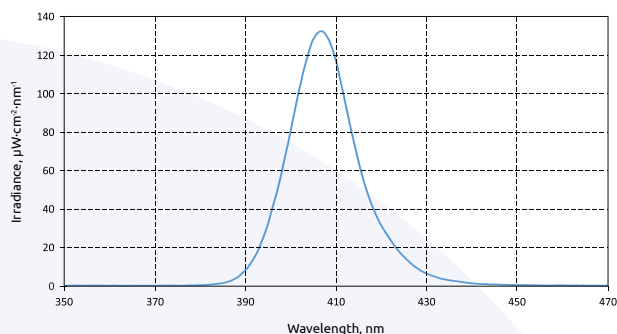
Working curve measurement of CIT-25 resin



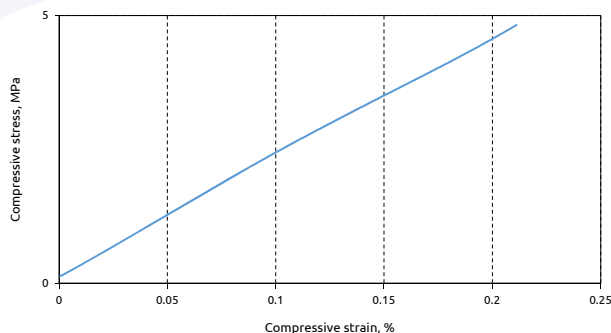
Tensile stress strain diagram of CIT-25



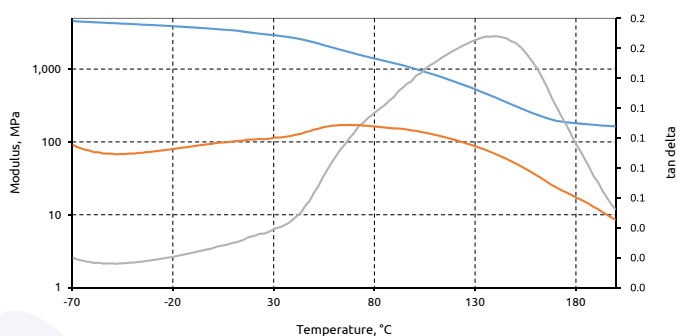
The spectrum of the DLP printer used for specimen preparation



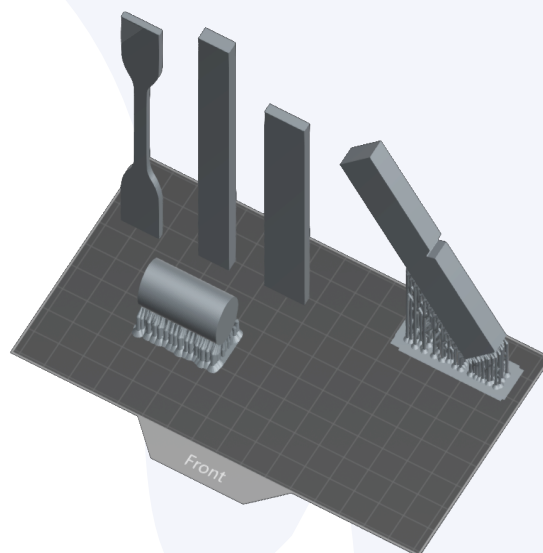
Compressive stress strain diagram of CIT-25



Dynamic Mechanical Analysis Graph of CIT-25



Tensile, Flex and Compression specimen orientation



CIT-25 is a Class I medical device under EU MDR 2017/745, CE marked for the manufacture of custom impression trays. Manufacturer: MB Labsamera, Draugystės st. 14, 51259 Kaunas, Lithuania.

This datasheet contains technical data only. Read the following documents before using this product:

- [Instructions for Use](#): intended purpose, contraindications, limits on patient contact time, clinical handling, and disinfection.
- [Application Guide](#): validated procedures for printing, cleaning, post-curing, and mechanical adjustment.
- [Safety Data Sheet](#): hazard classification, handling precautions, protective equipment, and first aid.

For use by dental professionals only.

The information in this document is based on general experience and knowledge of AmeraLabs in developing and manufacturing 3D printing materials and reflects our current status of knowledge. The performance of our products depends on many factors, in particular, specific use, 3D printing and post-processing conditions, additional treatment, measuring conditions, etc. For this reason, general statements about our products' properties and functions are impossible. The information in this data sheet provides general, non-binding guidelines. They never contain an assurance of properties or guarantee regarding the product's suitability for the individual case.

It is the user's responsibility to test the functional safety of the product in the field of application and to ensure a careful use of the product. Before using the product, we recommend our customers have a personal consultation with one of our contact persons at AmeraLabs to receive comprehensive information about this product's operating conditions and performance characteristics.

We are continuously developing our products for further improvements. We reserve the right to change, correct, and/or improve the product, the production process, and the product information without prior notice. With the appearance of this product information, all former information sheets lose their validity. Copying and/or reproductions in any form require the manufacturer's written consent.

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