

3D Printing Materials



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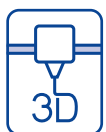


Core materials to lead the Global Dental 3D Printing technology

DIO Implant developed an innovative dental 3D printing material 'DIONavi. 3D Printing Materials' to increase efficiency in the clinic and increase the convenience of the users with the unrivaled technology.

DIONavi. 3D Printing Material' is the latest photopolymer bio-compatible dental 3D printing material that is suited for digital dental treatment.

After successfully developing the five 3D printing materials (C&B, SG, Cast, Model, Denture) for the first time in Korea, DIO has been leading dental 3D printing technology with high-quality materials through its unique synthesis, composition, and evaluation technologies.



High-quality output

Hybrid nanotechnology, which matches the combination and conditions of materials, has been combined to ensure high-quality output stability.



Various 3D printing material line-up

A variety of 3D printed material line-ups (C&B, SG, Cast, Model, Denture) have broadened users' choices, and high-intensity, durable prosthetic printing is possible with robust, bio-friendly resins with outstanding properties.




Natural tooth Shade

Prosthetic materials for different shades (A0, A1, A2, A3, B1) are all similar to natural teeth, so they have high aesthetic completeness.

Crown and Bridge

DIOnavi-C&B Z

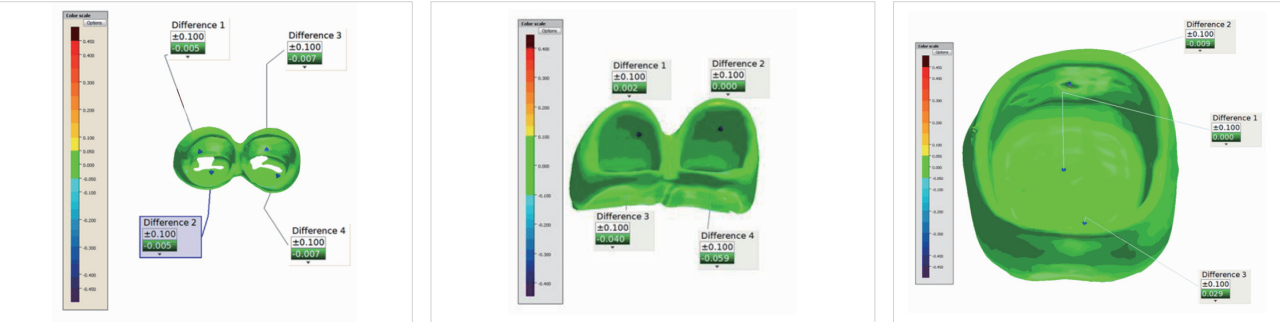


Up to 40 pcs simultaneous printing
(for single crown)

25min



DIOnavi-C&B Z is a photopolymer resin for printing prostheses such as dental crowns or bridges. The material is biocompatible and the safety and strength of printed crowns and bridges have been proved through strength, toxicity, and biological tests. It is a material that has been tested for toxicity and biological test on the human body as well as its strength.




Property	Value	Method
Color	A0, A1, A2, A3, B1	Shade guide
Flexural strength	>80MPa	ISO 10477:2003
Water sorption	<40µg/mm2	ISO 10477:2003
Water solubility	<7.5 µg/mm2	ISO 10477:2003
Hardness shore D	>80	ISO 868:2003



Dental Model

DIOnavi-Model (Orange)
DIOnavi-Model02 (Gray)

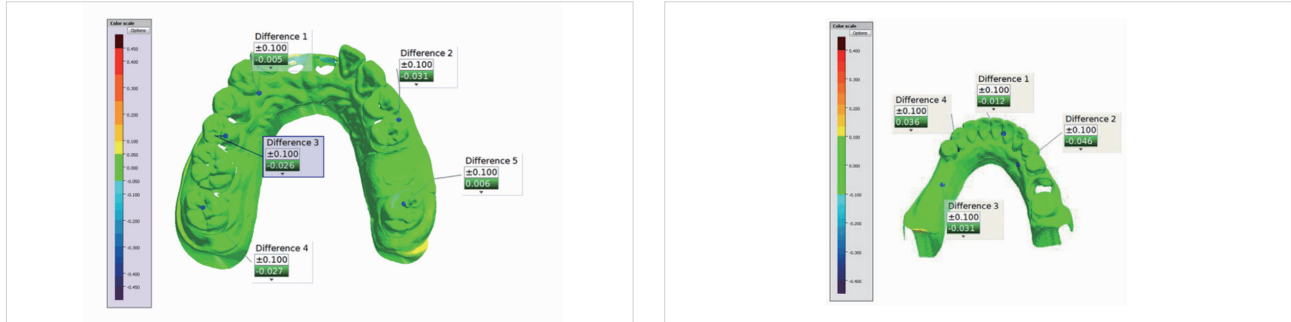


Up to 1 pcs simultaneous printing
(for Full Arch)

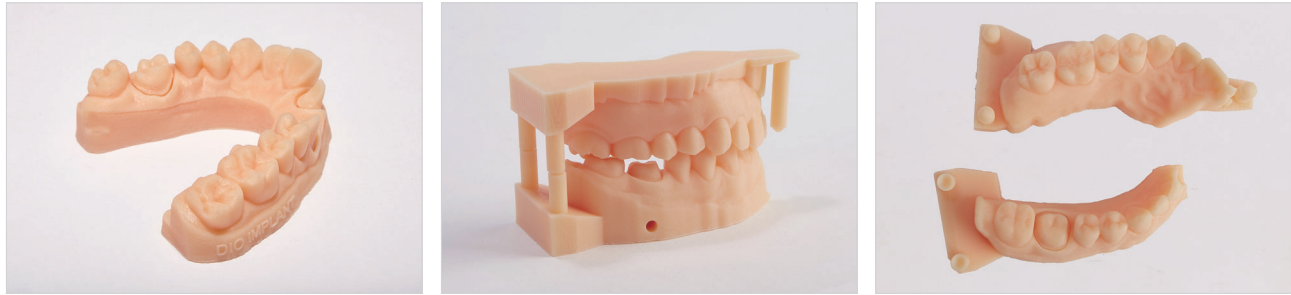
35min



DIOnavi-Model and DIOnavi-Model02 is a photopolymer resin for printing dental models that are used for counseling and modeling. This material has a significantly lower shrinkage rate considering its fit and margin, and it also provides the same level of visibility as the impression model.




Property	Value	Method
Color	Orange & Gray	-
Flexural strength	>80MPa	ISO 178:2010
Hardness shore D	>70	ISO 868:2003



Surgical Guide

DIONavi-SG (Yellowish)
DIONavi-SG02 (Clear)

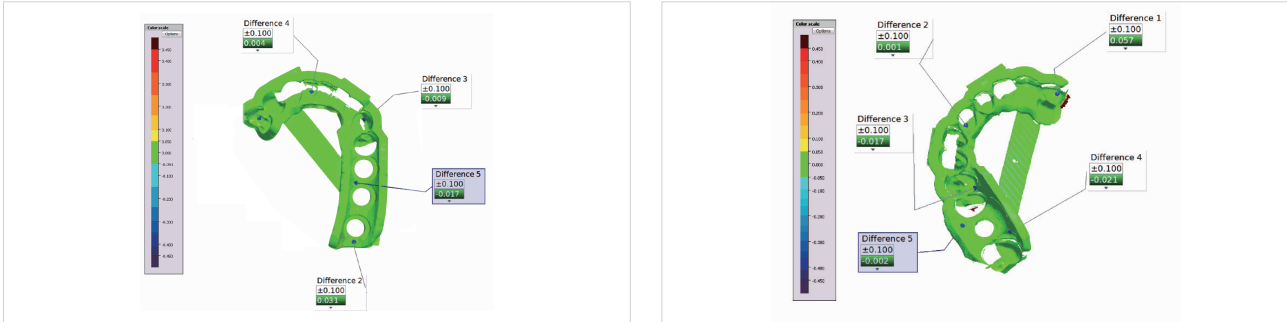


Up to 2 pcs simultaneous printing
(for single crown)

30min



DIONavi-SG is a biocompatible photopolymer resin developed for printing surgical guides used in patient-customized implant surgeries. The printed guide is placed on the patient's teeth before surgery, defining the exact angle, depth, and location of the implant. It is a material that has been tested for toxicity and biological test on the human body as well as its strength.

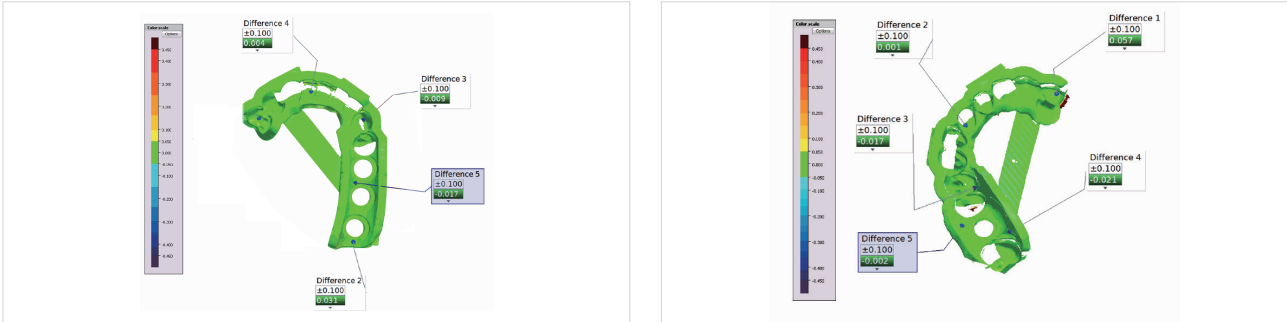


Property	Value	Method
Color	Yellowish	-
Flexural strength	>80MPa	ISO 20795:2013
Water sorption	<32µg/mm2	ISO 20795:2013
Water solubility	<1.6 µg/mm2	ISO 20795:2013
Hardness shore D	>70	ISO 868:2003



DIONavi-SG02 is a biocompatible photopolymer resin developed for printing surgical guides used in patient-customized implant surgeries. The printed guide is placed on the patient's teeth before surgery, defining the exact angle, depth, and location of the implant. It is a material that has been tested for toxicity and biological test on the human body as well as its strength.

*DIONavi-SG02 is transparent in color. (Transparent color, with low discoloration)

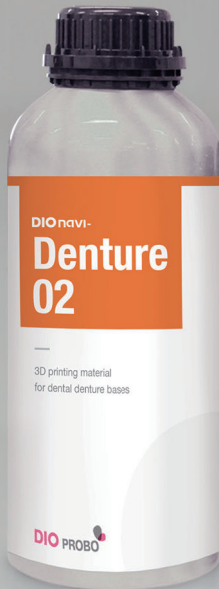


Property	Value	Method
Color	Clear	-
Flexural strength	>80MPa	ISO 20795:2013
Water sorption	<32µg/mm2	ISO 20795:2013
Water solubility	<1.6 µg/mm2	ISO 20795:2013
Hardness shore D	>80	ISO 868:2003



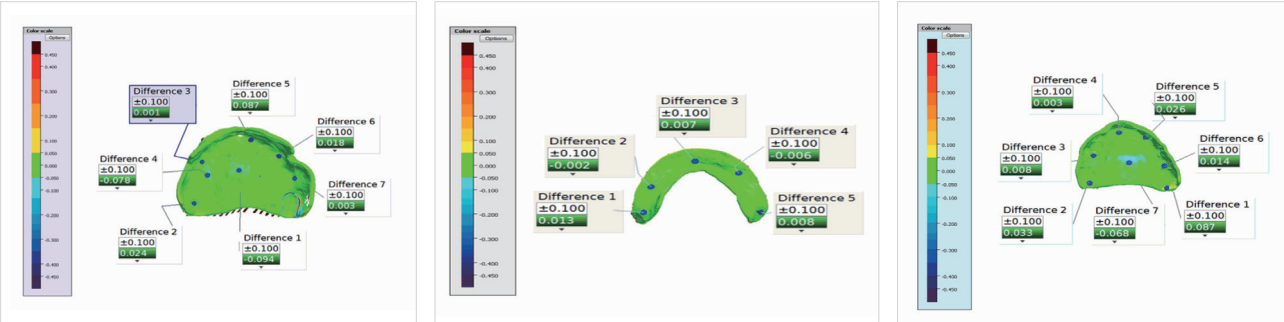
Denture

DIOnavi-Denture02



Up to 3 pcs simultaneous printing
(for vertical printing standard) **103min**

DIOnavi-Denture02 is a biocompatible photopolymer resin that can be printed with a 3D printer to make denture bases. It can be used to manufacture Full Dentures or partial dentures. It is a material that has been tested for toxicity and biological test on the human body.



Property	Value	Method
Color	Pink (One color)	-
Flexural strength	>80MPa	ISO 20795-1:2013
Water sorption	<32µg/mm2	ISO 20795-1:2013
Water solubility	<1.6µg/mm2	ISO 20795-1:2013
Hardness shore D	>80	ISO 868:2003



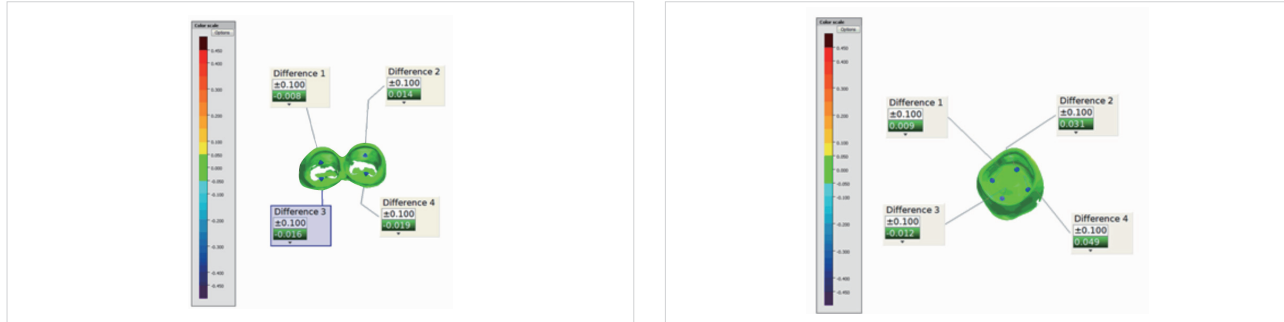
Castable Resin

DIOnavi-Cast02



Up to 80 pcs simultaneous printing
(for Single crown) **20min**

DIOnavi-Cast is a photopolymer resin used for printing casting patterns. It is a 3D printing material that is residue-free after burning out and it can be used for all casting purposes such as partial frames, metal crowns, and orthodontics appliances.



Property	Value	Method
Color	Dark red	-
Flexural strength	>65MPa	ISO 178:2010
Hardness shore D	>70	ISO 868:2003

