stratasys

FAQ'S
DENTAL

Frequently Asked Questions

TrueDent™

1. What are the indications for use of TrueDent resin?

Stratasys TrueDent is an FDA cleared (Class II) approved, light-curable resin indicated for the fabrication of dental appliances in dental laboratories, including removable full dentures, denture bases, and denture teeth.

2. Can TrueDent resin be used for the fabrication of implant-supported dentures?

TrueDent is not indicated to be used for implant-supported dentures.

3. Can TrueDent resin be used for the fabrication of permanent dentures?

Yes, TrueDent resin is intended for both permanent and temporary dentures.

4. What is TrueDent resin made of?

TrueDent resin is an acrylic based photopolymer. It does not contain methyl methacrylate (MMA), PMMA (Poly Methyl Meth Acrylate), or TPO (Triphenylphosphine Oxide).

5. How do the physical properties of TrueDent resin compare to other denture materials?

Like any other material for full dentures marketed in the United States, TrueDent is FDA approved and ISO 20795-1 compliant.

ISO 20795-1 specifies the requirements for denture bases (Flexural properties, Residual methyl methacrylate monomer, Sorption and Solubility). TrueDent complies with these requirements.

Unlike any other material for full dentures, TrueDent is the first and only material that can be used to create dentures with the Stratasys J5 DentaJet 3D printer. It can be used to 3D print polychromatic, monolithic full dentures. The denture and the base of the denture are printed at the same time, with multiple choices for base and teeth shades.

6. What's the meaning of different physical properties described in the ISO 20795-1?

ISO (International Organization for Standardization) 20795-1 indicates the standards requirement for denture base polymers.

ISO 20795-1 indicates the minimal Flexural properties requirements: Ultimate flexural strength and Flexural Modulus, and the maximal values to Residual methyl methacrylate monomer, Sorption and Solubility.

TrueDent resin complies with ISO 20795-1 requirements.

Ultimate flexural strength indicates how much force is needed to bend the material.

- Flexural Modulus indicates how much the material is flexible or rigid. The higher the value, the material is more rigid.
- Residual methyl methacrylate indicates how much methyl methacrylate is released by the denture base.
- Sorption indicates the liquid absorption by the denture base. The liquid absorption may change the denture dimensions and physical properties.
- Solubility indicates how much the denture base material dissolves in the mouth. It may change the denture dimensions and physical properties.

ISO 20795-1 indicates two more criteria for improved impact resistance: Maximum stress intensity factor, and Total fracture work. These two indicators specify the material resistance to the spread of cracks in the material.

7. What is the meaning of type-4 material in ISO 20795-1?

TrueDent resin contains light-activated materials, which allows it to cure during the 3D printing process in the J5 DentaJet Printer. Hence, it falls under the type 4 material category of ISO 20795-1 and to the requirements derived from it.

8. Is an intra oral scanner required for prescribing TrueDent dentures*?

No. Traditional impressions may be taken by the dentist which in the lab will be cast and scanned to create a 3D dental CAD/CAM STL file.

9. How many TrueDent teeth and base shades are available?

TrueDent resin is offered in 5 different colors (cyan, magenta, yellow, white, and clear). The J5 DentaJet software modulates the deposited amount of each base resin to achieve a required shade and internal structure for each TrueDent denture. Currently available teeth and base shades:

Gingiva: 4 shades with 3 translucency levels each.

Teeth: 10 shades.

10. Can teeth “debond” in a TrueDent denture?

Traditionally made dentures, most 3D printed dentures and some milled dentures, require manual assembly of the denture teeth to the denture base.

TrueDent dentures are printed monolithically, the base and teeth printed together as a single part, each in their respective shade. This monolithic 3D printing ensures that no teeth debonding will occur with TrueDent dentures.

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11. Can TrueDent dentures be relined and repaired?

Yes. TrueDent dentures may be repaired and relined with commonly used materials in both a dental lab and a dental clinic.

Examples of relining materials that have been successfully tested:

- GC RELINE™ by GC
- GC RELINE™ II Soft by GC
- COE-SOFT™ by GC
- BOSWORTH TRUSOFT™ by Keystone
- Rodin® Soft Reline

Repair materials for TrueDent dentures:

Any auto-polymerizing resin or cold-cure acrylics that are common in the lab and in the dental clinic.

12. How should TrueDent dentures be stored outside of the mouth?

TrueDent dentures should be emerssed in either water (tap or distilled) or a denture cleaning solution.

13. How should TrueDent dentures be cleaned?

Similar to any other full dentures:

- It is recommended to clean the dentures after every meal or at least twice a day with a specialized denture brush or a soft-bristled toothbrush.
- Do not use regular toothpaste to clean the dentures.
- Rinse the denture under running water to remove loose debris.

Following the manufacturer's care instructions prevents food debris retention, germ accumulation, bad odors, and staining. It also helps maintain the dentures' color and aesthetics.

* TrueDent dentures are dentures printed from TrueDent resin following the manufacturer's instructions.

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