Completion of Digital Dentistry

ODS
ONE DIGITAL SYSTEM

DENTAL MATERIALS GUIDE

For The Future (3D Printing)

ISO 13485 GMP KFDA CE

ODS is…

ODS is a company specializing in photo curable resin for a dental 3D printer with the world's best technology. Since 2015, ODS has been developing dental resins that dentists need in the clinical practice and are suitable for the needs of the global market. Finally the dental resin that is completely harmless to the human body, which was only considered a dream, has become a reality. In the future, ODS will do its best to complete the digital workflow in dentistry

Business Areas

Development and manufacturing of dental materials for 3D printer
Development of UV light curing machine / Development and service of digital workflow in dentistry

ODS
ONE DIGITAL SYSTEM

History

2021
Acquisition of manufacturing certification for Light-cured denture base resin, Orthodontic device resin, Crown resin, Scan Cure
2020
Selected by the Ministry of SMEs and Startups as Pan-ministerial Full-Cycle K-Dental Project / ISO 13485: 2016 certification
2019
Medical device certification & permission / Permission to manufacture other prosthetic materials / manufacturing certification for temporary crown resin
2018
Acquisition of venture company certificate / Establishment of R&D department (expanded to corporate R&D center in 2020)
2017
Development of resin for 3D printer / Change of company name to ODS Co., Ltd.
Acquisition of excellent technology company certificate
2016
Relocation of manufacturing plant / Acquisition of GMP certificate
2015
Established as 'One Dental System Co., Ltd.' / Permission to manufacture medical devices by KFDA (No. 2603)


The future of digital dentistry is completed.
The completion of digital dentistry is to create a material that can completely replace natural teeth.
ODS DENTAL MATERIALS is making that dream a reality.

Features of ODS DENTAL MATERIALS

Low viscosity (1/10 to 1/14 level of viscosity compared to other materials)

Odorless, no skin trouble

3D printer for dentistry only

Excellent mechanical properties (strength + elasticity)

Realization of natural tooth color (Shade)

Abundant clinical test completion

Many domestic and foreign certifications (KFDA, FDA, CE, ISO, GMP)

135° High temperature sterilization (autoclave) possible (high heat resistance (up to 200 °))

Able to implement sophisticated shapes (hexa structure, etc.)

Advantages of Low-Viscosity Materials

No layer separation

No ball mill or no mixer required

Increased durability of sheets and 3D printer

Almost no material loss: up to 40% increase in production rate compared to high viscosity resin

Ease of use, such as cleaning (1/4 time and effort compared to high viscosity material)

Easy to add or subtract height and width of a resin during treatment (Light Curing)

No air bubbles due to water-like flow

Comparison of Low/High-Viscosity Materials

Other High Viscosity Materials		Low Viscosity Material(ODS)
Reuse takes a long time and is difficult due to the severe layer separation(deposition) of the material	Layer separation	There is no layer separation(deposition) of the material, so reuse is quick and easy!
Waste of materials remaining on the surface of containers, printouts, molding plates, trays and difficulty in cleaning them	Loss of material	Minimum material loss, with almost no residue left!
It is possible to print about 800~900 single crowns based on 1Kg.	Production rate	About 1,000 single crowns per 1Kg can be printed!
Frequent film replacement is required due to film damage that occurs at the moment of every print.	Durability of equipment	Almost no film damage during printing

Certifications/Patents/Permissions

ODS Co., Ltd. is a specialized company in the material field and has the most intellectual property rights such as domestic and overseas KFDA, FDA, CE certificates and patents.
– KFDA 9 product certification / – US FDA 1 product registration (8 cases in progress) / – European CE 2 product certifications (7 cases in progress) /
– Acquisition of 9 patents (4 cases in progress)

C&B Permanent A1, A2, A3 / Resin for permanent crown & Bridge

KFDA Certification / FDA, CE in Process

The dental polymer material for producing permanent prostheses such as permanent crowns & bridges manufactured by a 3D printer.

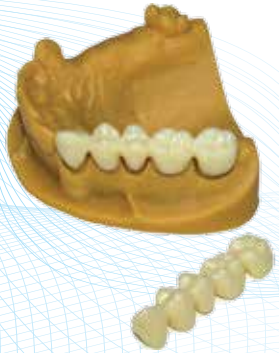
- Sophistication and accuracy (low viscosity)
- Securing stability against torsion, contraction and expansion
- Excellent strength
- Various colors (shades)
- 3D printer for dentistry only
- Realization of the strength of natural teeth by chemical bonding with resin cement
- From crowns to inlays, onlays and veneers

Properties	Value	Method
Bookfield viscosity at 23℃	80 ± 10 cPs	
Color	A1, A2, A3	
Hardness (Rockwell)	≥ HRR 115	ISO 2039-2
Flexural Strength	200 MPa	ISO 10477
Flexural Modulus	3,500~4,000 MPa	ISO 10477

C&B Temporary / Resin for temporary crown

KFDA, CE Certification / FDA in Process

The dental polymer material for producing temporary prostheses such as crowns & bridges until the permanent restoration is completed.



- 3D printer for dentistry only
- Excellent mechanical properties (high flexural and tensile strength)
- It is a resin for temporary crown and can be used for up to 30 days
- Realization of brightness of natural teeth
- Securing stability against torsion, contraction and expansion
- Sophisticated, accurate output
- Soft smell

Properties	Value	Method
Color	Ivory	
Hardness (Rockwell)	≥ HRR 120	ISO 2039-2
Flexural Strength	≥ 150 MPa	ISO 10477
Flexural Modulus	≥ 2,000 MPa	ISO 10477

DENTURE BASE / Light-cured denture base resin

KFDA Certification / FDA, CE in Process

The resin material for light-curing denture base manufactured using LCD/DLP 3D printer etc. as a dental polymer material for manufacturing denture base.

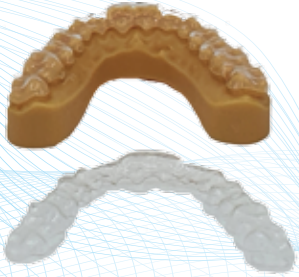
- 3D printer for dentistry only
- Excellent fit with sophistication and accuracy(low viscosity)
- Securing stability against torsion, contraction and expansion
- Realization of color uniformity (gum color)
- Excellent strength

Properties	Value	Method
Color	Light Pink	
Hardness (Rockwell)	≥ HRR 110	ISO 2039-2
Flexural Strength	≥ 105 MPa	ISO 20795-1
Flexural Modulus	≥ 2,100 MPa	ISO 20795-1

CLEAR / Resin for clear orthodontic appliance

KFDA Certification / FDA, CE in Process

Resin material for orthodontic appliances manufactured using 3D printers as a dental polymer material used for manufacturing devices used for orthodontic treatment and maintenance



- 3D printer for dentistry only
- Excellent transparency
- Shape stability
- No heat deformations(Stability maintained even in autoclave (135 ° high temperature sterilization))
- Thickness can be adjusted (Up to a minimum thickness of 0.1mm)
- Retaining shape-memory properties from temporary deformation (shape memory polymer)

Properties	Value	Method
Color	Clear	
Hardness (Rockwell)	≥ HRR 105	ISO 2039-2
Flexural Strength	≥ 85 MPa	ISO 20795-2
Flexural Modulus	≥ 1,600 MPa	ISO 20795-2

IBT or IDBS / / Resin for orthodontic material

KFDA Notification / FDA, CE in Process

It is called IBT (Indirect Bonding Tray) or IDBS (Indirect Bonding System) for orthodontics, and is a resin material for medical guides used to guide the attachment direction and location of orthodontic bracket

- Tenderness
- Excellent accuracy
- 3D printer for dentistry only

Properties	Value	Method
Color	Clear	
Tensile Sterength	10 ± 5 MPa	ISO 527-2
Elongation at break	50 ± 10 %	ISO 527-2

SG(Surgical Guide) / Resin for dental implant guide

KFDA Certification, FDA, CE Notification

Resin material used to create devices used to guide the path, location, and surgical site of implants or instruments using 3D printers

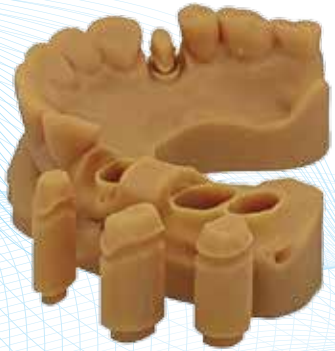
- Excellent mechanical properties
- Fast curing time
- Excellent hardness enables implant placement without metal sleeve (Sleeveless)
- It is odorless, so it can be used in any space
- Real-time confirmation of the treated area with excellent transparency (transparent when fully cured)
- Sophisticated and varied guide shapes (circle, hexagonal, etc.) and stability
- There is no risk of infection during surgery as it can be autoclaved

Properties	Value	Method
Color	Clear	
Hardness (Rockwell)	≥ HRR 115	ISO 2039-2
Flexural Strength	≥ 100 MPa	ISO 20795-1
Flexural Modulus	≥ 2,100 MPa	ISO 20795-1

MODEL / Resin for high-precision dental model

No certification required

Resin material suitable for high-precision dental model that clearly expresses the fine details of the tooth surface. It can be replaced for all work using existing gypsum models with high strength and low shrinkage and deformation



- 3D printer for dentistry only
- Excellent reproducibility
- Excellent-precision---〉95% or more of scanned data representation (depending on the resolution of the 3D printer)
- Excellent heat resistance---〉 Available as a transparent orthodontic model!
- Excellent output stability---〉Stable output even in low light

Properties	Value	Method
Color	Caramel	
Hardness (Rockwell)	≥ HRR 85	ISO 2039-2
Flexural Strength	≥ 85 MPa	ISO 178

CAST / Ash–Free resin for casting wax

No certification required

Ash–free resin material for dental 3D printers with high printing accuracy and speed, no deformation, to completely replacing the existing casting wax for metal casting

- 3D printer for dentistry only
- Excellent mechanical properties
- Good fit
- Ideal material for partial frames
- Fast curing, fast complete combustion (within approximately 3 hours)
- Easy casting as no residue remains after burning out (ASH–FREE)
- No residue after burning out differentiates it from other materials

Properties	value	Method
Color	Pistachio	
Hardness (Rockwell)	≥ HRR 120	ISO 2039–2
Flexural Strength	≥ 100 MPa	ISO 178


The beginning of digital dentistry is scanning
Digital dentistry starts with a complete oral scan. ODS SCAN CURE is the only product certified by KFDA for oral use.

SCAN CURE / Oral surface recognition improvement material

KFDA Certification / FDA, CE in Process

During intraoral scanning, Scan Cure is painted to the surface of the area to be scanned, a material that helps oral data to be scanned clearly and quickly without errors

Listed in International Academic Journals (Material)

- Influence of Applied Liquid-Type Scanning-Aid Material on the Accuracy of the Scanned Image
  (Approved by Seoul National University Dental Hospital / School of Dentistry, Seoul National University)
- Error analysis report of 3D tooth shape according to application method
  (Approved by Seoul National University Dental Hospital / School of Dentistry, Seoul National University)

- Safety without hazardous substances
- High accuracy due to uniform application
- Deep scan without material restrictions (Gold teeth, silver teeth, ceramic, zirconia)
- Excellent economy without no wasted material
- Long-term use and storage
- Reduction of scan time
- Water washable

Comparison of SPRAY TYPE and BRUSH TYPE

SPRAY TYPE	BRUSH TYPE
– Lumped together	– Applied with a uniform thickness
– Mixes with saliva and flows down	– Precisely applied (even in one part)
– Excessive use	– Use the least amount
– Nanoparticle size dust generatio	– No dust as liquid
– No KFDA (medical device) certification	– Acquired KFDA (medical device) certification
– No patent	– Patented

The beginning and completion of Digital Dentistry is with ODS Dental Materials

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