

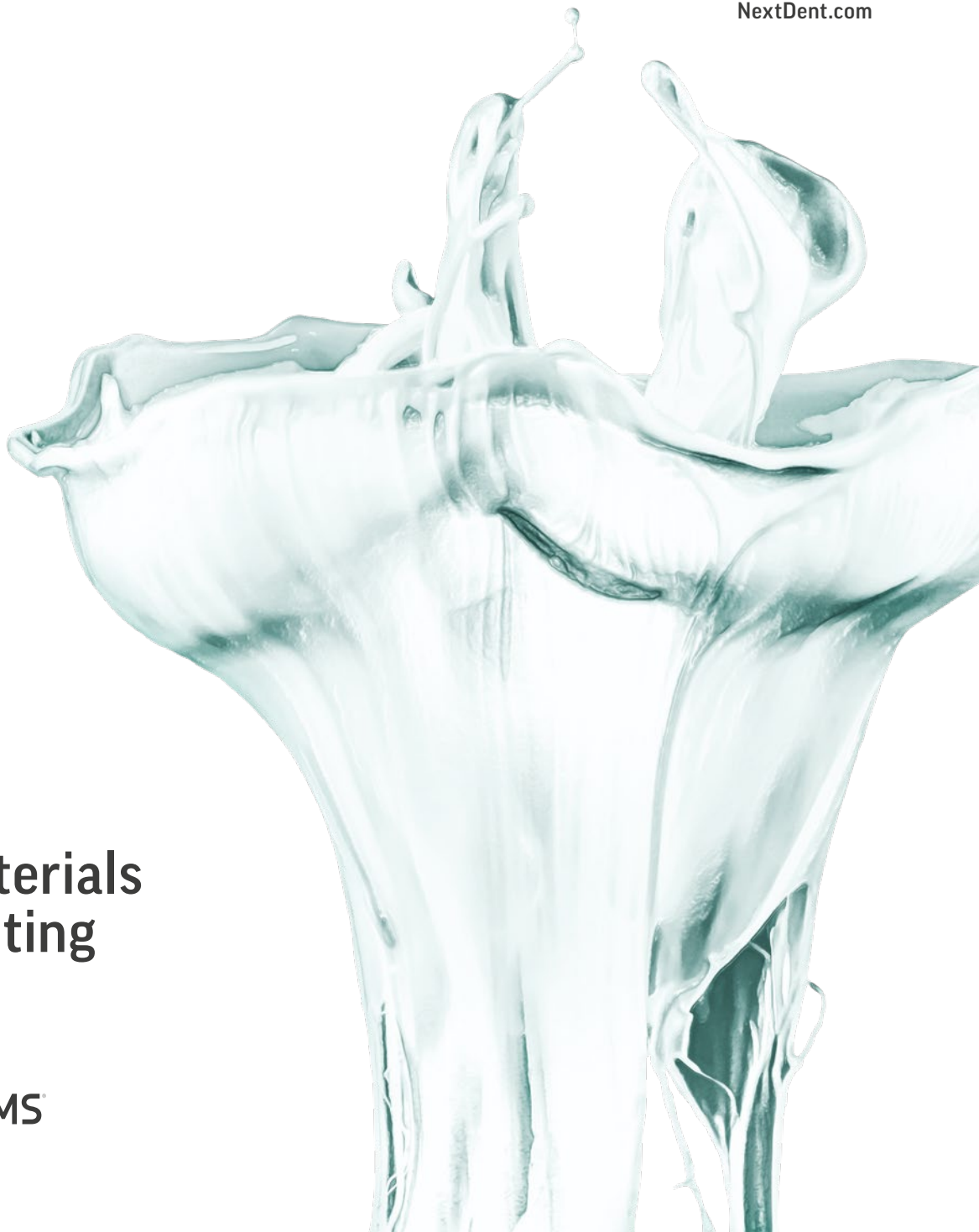
Next Dent

by  3D SYSTEMS

NextDent.com

Leading Dental Materials for 3D Printing

 3D SYSTEMS



Biocompatible 3D Printing Materials

Company

Nextdent B.V. was founded in 2012 in The Netherlands as a subsidiary company under Vertex Global Holding. The aim was to complement the dental materials portfolio of its affiliate Vertex-Dental B.V., which has a 79-year track record in research, development, regulatory and lean production of biocompatible dental materials. In January 2017, Vertex Global Holding merged with 3D Systems, a company that provides comprehensive 3D products and services, including 3D printers specifically designed for dental applications. Since the merger the unsurpassed NextDent product range is being developed, registered, produced and sold through Vertex-Dental B.V., Soesterberg, The Netherlands.

Our Mission

The combination of 3D Systems transforming Figure 4™ 3D printing technology and NextDent’s revolutionary materials will enable us to lead innovation in digital dentistry. We will leverage the unique opportunity to integrate our advanced materials and automated print workflows into transformative digital production solutions delivered to the dental practice and laboratory. Users of these solutions are able to produce trays, models, drilling templates, dentures, orthodontic splints, crowns and bridges with enhanced speed, precision and efficiency and lower cost compared to conventional procedures.

Certified and Biocompatible 3D Printing Materials

It is the sheer choice you have in printable materials for a wide range of dental applications that makes NextDent materials unique. Our products are classified in accordance with the medical device directive 93/42/EEC, making them suitable for local registrations as well. We offer material in a spectrum of colors, depending on the daily use and the preferences of our customers.

Experience You Can Count On

3D Systems has leveraged its 30 years of 3D printing experience in for the development of a number of dental 3D printers that offer high precision and detail resolution. They are used for the processing of different dental materials, from metal (CoCrMo alloy) to biocompatible resins. Our dental solutions are designed for use in dental laboratories, making production methods faster, easier and more effective.



Denture 3D+

NextDent Denture 3D+ is a biocompatible Class IIa material suitable for printing all types of removable denture bases. This material has significant lower shrinkage compared to standard PMMA denture base materials. Shrinkage can be compensated by using dental software resulting in excellent fitting denture bases. This material has excellent mechanical properties and is comparable to conventional denture base materials. Available in 5 new colors: Dark Pink, Light Pink, Opaque Pink, Red Pink and Translucent Pink.

Property	Requirement	Result	ISO standard
Ultimate flexural strength	≥ 65 MPa	84	ISO 20795-1
Flexural modulus	≥ 2000 MPa	2383	ISO 20795-1
Sorption	≤ 32 µg/mm ³	28	ISO 20795-1
Solubility	≤ 1,6 µg/mm ³	0,1	ISO 20795-1
Residual monomer	≤ 2,2 % (w/w)	<0,1	ISO 20795-1
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not induce any erythema or edema reactions	Comply	
	Not a sensitizer	Comply	
	Not cause systemic toxicity	Comply	

The material is available in 1 Kg containers.
* Expected Q2 2018.



C&B MFH

NextDent C&B Micro Filled Hybrid is a biocompatible Class IIa material* developed for crowns and bridges. The balance between inorganic fillers and the resin give the material its high strength and wear resistance. The material is easy to finish and polish, and can be stained with all types of composite staining kits. Due to the perfect balance between opacity and translucency the printed crown blends in perfectly between the existing teeth. Available in colors BL, N1, N1.5, N2, N2.5, N3 and T1.

Property	Requirement	Result	ISO standard
Flexural strength	≥ 50 MPa	107	ISO 10477
Sorption	≤ 60 µg/mm³	54	ISO 10477
Solubility	≤ 12,5 µg/mm³	5,9	ISO 10477
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not induce any erythema or edema reactions	Comply	
	Not a sensitizer	Comply	
	Not cause systemic toxicity	Comply	

The material is available in 1 Kg containers.
* Expected Q2 2018.



Try-in

NextDent Try-In is a biocompatible Class I material suitable for printing Try-In devices, a baseplate combined with the individual designed tooth setup, to check bite registration and occlusion. Available in colors TI0, TI1, TI2.

Property	Requirement	Result	ISO standard
Flexural modulus	≥ 1500 MPa	2043	ISO 20795-1
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not a sensitizer	Comply	

The material is available in 1 Kg containers.



Tray

NextDent Tray is a biocompatible Class I material designed to print individual impression trays. The material distinguishes itself through high printing speed and accuracy. NextDent Tray resin enables technicians to make even the most complex trays in a matter of minutes. The printed trays are rigid and suitable for all types of impression material, making high-quality, high-precision impressions possible. Available in colors Blue and Pink.

Property	Requirement	Result	ISO standard
Ultimate Flexural strength	≥ 50 MPa	81	ISO 20795-1
Flexural modulus	≥ 1500 MPa	2015	ISO 20795-1
Residual monomer	≤ 2,2 % (w/w)	<0,1	ISO 20795-1
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not a sensitizer	Comply	

The material is available in 1 Kg containers.



SG

NextDent SG is a biocompatible Class I material, developed for the printing of Surgical Guides for implant surgery use. Because of the high precision of this material it is easy to insert drill sleeves, directly after printing. Enabling even greater precision during surgery. The properties of NextDent SG will not change by using disinfectants. In addition, the material can also be sterilized using standard autoclave protocols. The use of an autoclave does not affect the dimensional stability, therefore NextDent SG can be used in every operating theatre. Available in color Translucent Orange.

Property	Requirement	Result	ISO standard
Ultimate Flexural strength	≥ 50 MPa	85	ISO 20795-1
Flexural modulus	≥ 1500 MPa	2118	ISO 20795-1
Residual monomer	≤ 2,2 % (w/w)	<0,1	ISO 20795-1
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not a sensitizer	Comply	

The material is available in 1 Kg containers.



Model 2.0

NextDent Model 2.0 is characterized by its high degree of accuracy, making this material suitable for detailed master prosthodontic and orthodontic models where high precision is needed. The models show highly visual details due to color and opacity and has an ideal surface for scan impressions. The accurate printed models are the perfect base for creating your dental work piece. Available in colors Oker, Peach, White and Grey.

Property	Requirement	Result	ISO standard
Flexural modulus	≥ 1500 MPa	1980	ISO 178
Hardness shore D	≥ 80 Shore D	84	ISO 178

The material is available in 1 Kg containers.



Gingiva Mask

NextDent Gingiva Mask is a flexible material that can be used in combination with the model material. This makes it possible to print parts of the model that need a certain flexibility, such as Gingiva Masks on implant models. Available in color Pink.

Property	Requirement	Result	ISO standard
ShoreAhardness	60 - 75	1980	ISO 10139-2
Elongation@ break	40 - 60 %	53	ISO 527-1 ISO 527-2

The material is available in 1 Kg containers.



Model Ortho

NextDent Model Ortho is a material suitable for printing models specifically used in 'Vacuum Molding' applications. This material is faster and easier to print compared to other model materials. This material can be printed faster compared to Model 2.0. Available in color Opaque Beige.

Property	Requirement	Result	ISO standard
Hardness shore D	≥ 80 Shore D	82	ISO 178

The material is available in 1 Kg containers.



Ortho Clear

NextDent Ortho Clear is a biocompatible Class IIa material for all types of splints and retainers. It is a clear and thereby aesthetically-pleasing 3D print material, characterised by high strength and fracture toughness. Available in color Clear.

Property	Requirement	Result	ISO standard
Ultimate flexural strength	≥ 50 MPa	70	ISO 20795-2
Flexural modulus	≥ 1300 MPa	1596	ISO 20795-2
Max. stress intensity factor	≥ 1,1 MPa m ^{1/2}	1,6	ISO 20795-2
Total fracture work	≥ 250 J/m ²	675	ISO 20795-2
Sorption	≤ 65 µg/mm ³	58	ISO 20795-2
Solubility	≤ 5,0 µg/mm ³	4,6	ISO 20795-2
Residual monomer	≤ 5,0 % (w/w)	<0,1	ISO 20795-2
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not induce any erythema or edema reactions	Comply	
	Not a sensitizer	Comply	
	Not cause systemic toxicity	Comply	

The material is available in 1 Kg containers.



Ortho Rigid

NextDent Ortho Rigid is a biocompatible Class IIa material developed for digital manufacturing of splints. In combination with suitable software, it is possible to easily design and print splints. Available in Transparent Blue.

Property	Requirement	Result	ISO standard
Ultimate flexural strength	≥ 50 MPa	78	ISO 20795-2
Flexural modulus	≥ 1500 MPa	2075	ISO 20795-2
Max. stress intensity factor	≥ 1,1 MPa m ^{1/2}	1,1	ISO 20795-2
Total fracture work	≥ 250 J/m ²	262	ISO 20795-2
Sorption	≤ 32 µg/mm ³	20	ISO 20795-2
Solubility	≤ 5,0 µg/mm ³	0,8	ISO 20795-2
Residual monomer	≤ 5,0 % (w/w)	<0,1	ISO 20795-2
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not induce any erythema or edema reactions	Comply	
	Not a sensitizer	Comply	
	Not cause systemic toxicity	Comply	

The material is available in 1 Kg containers.



Ortho IBT

NextDent Indirect Bonding Tray is a biocompatible Class I material for orthodontic applications. Making use of the right dental software, you can plan the exact location of orthodontic brackets and design the Indirect Bonding Tray. Due to the flexible characteristics of the printed indirect bonding trays, orthodontist can easily place all the brackets at once, saving time at the chair. Available in color Clear.

Property	Requirement	Result	ISO standard
Shore A hardness	75 - 90	85	ISO 10139-2
Elongation @ break	10 – 20 %	17	ISO 527-1 ISO 527-2
Biocompatibility	Non-cytotoxic	Comply	ISO 10993-1
	Non-mutagenic	Comply	
	Not a sensitizer	Comply	

The material is available in 1 Kg containers.



Cast

NextDent Cast is a easy burn out 3D printing material, residue-free and suited for all kinds of purposes. Whether you need a support structure, a frame or orthodontic devices. Simply design and print making use of our castable material and the investment material that is recommended. Casting the parts in the metal you require. Available in color Purple.

Property	Requirement	Result	ISO standard
Flexural strength	≥ 60 MPa	85	ISO 178
Flexural modulus	≥ 1500 MPa	2193	ISO 178
Hardness shore D	≥ 80 Shore D	83	ISO 178

TThe material is available in 1 Kg containers.



NextDent™ 5100

The NexDent 5100 3D printer powered by revolutionary Figure 4™ technology combined with NextDent’s broad portfolio of dental materials addresses multiple indications, resulting in unparalleled speed, accuracy, repeatability, productivity, and total cost of operation.

The NextDent 5100 facilitates high-speed 3D printing for production of dental appliances and sacrificial castings. This revolutionary solution features an industry-defining value proposition that combines best-in-class speed and performance at a price point that is accessible to virtually all labs and clinics.

The range of dental materials, advanced print technology and compatibility with leading dental software is transforming dental workflows, enabling dental labs and clinics to produce trays, models, surgical guides, dentures, orthodontic splints, crowns and bridges with enhanced speed, precision and efficiency and lower cost.

Specification	Value
Related voltage	110V100-240VAC, 50-60HZ, 4.0A
Fuse	T5A/250V
Dimension	W 70XL68XH 135 cm
Weight	35 Kg/54 Kg with pedestal



LC-3DPrint Box

The LC-3DPrint Box is a revolutionary UV light box, suitable for post-curing 3D printing materials. The new LC-3DPrint Box is equipped with 12 UV light bulbs strategically placed inside the box. This ensures that a product is illuminated from all sides, which results in a quick and uniform curing cycle. The spacious interior (ø 26 cm, H 19,5 cm) allows you to easily cure multiple products at once. In addition, the box has enough space to place an articulator inside. If necessary, the UV light bulbs can be changed easily.

The new LC-3DPrint Box allows you to post-cure NextDent 3D materials. Post-curing is required in order to obtain the final material properties. After the printing process the printed material is not yet fully cured and should be treated. First, the material needs to be cleaned in an alcohol bath followed by the post-curing cycle. Post-curing is an UV light treatment to ensure that NextDent materials obtain full polymer conversion, through this the residual monomer is reduced to a minimum and the highest mechanical properties are obtained. This procedure is a necessary step to produce a biocompatible end-product. Always follow the instructions for use relevant to the corresponding material.

Specification	Value
Related voltage	110V/230V, 50/60Hz, 2,6A/1,3A
Power consumption	10 W
Fuse	T2.0A, AC250V
Dimension	W 41 X L 44 X H 38 cm
Weight	22 Kg



LC-3DMixer

The LC 3D Mixer is a roller/tilting stirring device for stirring of 3D printing materials before pouring in the Resin Tray of the printer. Print resins must be stirred well. Handshaking is sometimes insufficient to keep the material 100% stirred. The NextDent LC-3D mixer keeps your NextDent 3D materials ready for use at any time at an optimum consistency.

Specification	Value
Related voltage	AC 100-240V, 50/60 HZ
Power consumption	10 W
Fuse	250V, T 2 A
Dimension	W 410 x D 270 x H 100 mm
Weight	4 Kg

Overview NextDent Materials



Denture 3D+
3D printing material
for printing denture bases



C&B MFH
3D printing material
for micro filled
crowns & bridges



Try-in
3D printing material
for try-in devices



Tray
3D printing material for
individual impression tray



SG
3D printing material
for surgical guides



Model 2.0
3D printing material for dental
models-high precision



Gingiva Mask
3D printing material
for gingiva mask



Model Ortho
3D printing material for
dental models for vacuum
casting applications



Ortho Clear
3D printing material
for splints and retainers



Ortho Rigid
3D printing material
for splints



**Ortho Indirect
Bonding Tray**
3D printing material
for indirect bonding tray



Cast
3D printing material
for casting technique
Residue-free
easy burnout material



NextDent 5100
NexDent 5100 3D printer
powered by revolutionary
Figure 4™ technology



LC-3DPrint Box
High-capacity UV
post curing unit



LC-3DMixer
Roller /Tilting mixer
for the mixing of
3D printing materials

Next Dent

by  3D SYSTEMS

NextDent.com

Vertex Dental B.V.
Centurionbaan 190
3769 AV Soesterberg
The Netherlands
+31 88 616 04 40
info@nextdent.com

BN201801UK