


3D PRINTING
WORKFLOW FOR

 **ceramill**®



CAUTION
The lid switch on this prototype unit has been disabled. Therefore, printing may occur while the lid is open. This creates a risk to the user of UV exposure and mechanical pinch hazards.
Only print while the lid is closed.

5100
Next Dent
FOR  **ceramill**

 3D SYSTEMS

REVOLUTIONARY HIGH-SPEED 3D PRINTING TECHNOLOGY MEETS CERAMILL SYSTEM

The revolutionary high-speed Figure 4™-3D printing technology with the industry's broadest portfolio of dental materials meets the Ceramill workflow.

The main focus in the development of the NextDent 5100 for the Ceramill 3D printing system was on the precise coordination between material, printer, fabrication software and post-processing. In addition to the already validated production chain from 3D Systems, the system is fully integrated into the dental workflow of the Ceramill system for the end customer. On the one hand, users can thus fall back on a validated production process; on the other hand, Ceramill "Integrated Indications" have already been adapted to the specific dental requirements of the Ceramill system and tested in terms of application technology.



- _High flexibility and production capacity due to high-speed Figure 4™ 3D printing technology**
- _Precise, reproducible and repeatable results through validated fabrication workflow**
- _Adapted to dentistry in the Ceramill workflow through "Integrated Indications"**

3D PRINTING - IT'S A WORKFLOW!

In order to achieve precise and reproducible results, an accurate process procedure is required for 3D printing. In the Ceramill system, a thoroughly tested and validated workflow helps to achieve exact and consistent results in everyday laboratory work.



NEXTDENT 5100 FOR CERAMILL - DENTAL 3D PRINTING REDEFINED

The NextDent 5100 for Ceramill 3D printer powered by revolutionary Figure 4™ technology combined with NextDent's for Ceramill 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.

- _High speed printing mode for high productivity and flexibility - thanks to Figure 4™ technology**
- _High precision and accurate printing results due to years of experience**
- _High ROI due to wide range of validated materials and low invest costs**

WIDE RANGE OF INDICATIONS AND MATERIALS FOR MAXIMUM ROI

INDICATION	MATERIAL	
Dental models	NextDent for Ceramill Model 2.0	INTEGRATED
Crowns, bridges, bars, partial dentures (for casting or pressing technique)	NextDent for Ceramill Cast	INTEGRATED
Temporary crowns, bridges, inlays, onlays, veneers	NextDent for Ceramill C&V MFH	INTEGRATED
Mock ups	NextDent for Ceramill Try-In	INTEGRATED
Prosthetic bases	NextDent for Ceramill Denture 3D+	INTEGRATED
Drilling templates	NextDent for Ceramill SG	VALIDATED
Individual trays	NextDent for Ceramill Tray	VALIDATED
Bite splints, therapeutic splints	NextDent for Ceramill Ortho Rigid	VALIDATED
Orthodontic transfer splints	NextDent for Ceramill Ortho IBT	VALIDATED
Flexible gingival masks	NextDent for Ceramill Gingiva Mask	VALIDATED



WORKFLOW ACCESSORIES - FOR TRUSTED AND REPRODUCIBLE RESULTS

ROLL IT - LC-3D MIXER

The LC-3D Mixer is a roller/tilting stirring device for stirring of 3D printing materials before use. Due to a defined mixing process with fixed stirring times it ensures stable material conditions before printing. Overall the best solution for constant and homogenous printing results.



CURE IT - LC-3D PRINT 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.

The new LC-3DPrint Box is integrated in the Ceramill process and ensures validated and constant results in the Ceramill process chain.



MATERIAL VARIETY OF 3D PRINT MATERIALS FOR INDIVIDUAL SOLUTIONS

The large selection of printable materials and the associated broad spectrum of dental indications ensure maximum flexibility and economical use of the NextDent 3D printer in everyday laboratory work. Many of the materials have already been intensively validated and thus fully integrated into the Ceramill CAD/CAM workflow - for maximum process reliability with reproducible results.



Model 2.0 3D print material for models

INTEGRATED

- _simple and fast fabrication of dental models
- _perfect fit of the restorations due to highest precision
- _high level of detail and surface quality

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Flexuralmodulus	≥ 1500MPa	1980	ISA 178
HardnessshoreD	≥ 80 ShoreD	84	ISO 178

Colors: ochre, peach, white, gray



Cast 3D print material for casting / pressing technique

INTEGRATED

- _High stability of the printed structures
- _burns out residue-free for optimum results

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Flexuralmodulus	≥ 1500MPa	1980	ISA 178
HardnessshoreD	≥ 80 ShoreD	84	ISO 178

Colors: Violet



Try-In 3D print material for try-ins

INTEGRATED

- _Best choice for checking digitally designed prosthetic bases with individually designed tooth setups
- _Biocompatible MD Class I material

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Flexuralmodulus	≥ 1500MPa	2043	ISO 20795-1
Biocompatibility	according to ISO Standard	comply	ISO 20795-1

Colors: T10, T11 and T12



Denture 3D+ 3D print material for denture bases

INTEGRATED

- _Significantly lower shrinkage than standard PMMA materials for best fit results
- _Available in different colors for individual results

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Ultimate flexural strength	≥ 65MPa	84	ISA 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	according to ISO Standard	comply	ISO 20795-1

Colors: Dark pink, light pink, pink opaque, red pink and translucent pink.



C&B MFH 3D print material for temporary crowns and bridges

INTEGRATED

- _High strength and wear resistance
- _Natural esthetics due to different colors and coordinated translucency

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Flexural strength	≥ 50MPa	107	ISA 10477
Sorption	≤ 60 µg/mm ³	54	ISO 10477
Solubility	≤ 12,5 µg/mm ³	5,9	ISO 10477
Biocompatibility	according to ISO Standard	comply	ISO 109993-1

Colors: BL, N1, N1.5, N2, N2.5, N3 and T1



SG (Surgical Guide)
3D print material for drilling templates

VALIDATED

- _ Easy insertion of the drilling sleeves due to highest precision
- _ Can be sterilized with standardized autoclaving protocols
- _ Biocompatible MD Class I material

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Ultimate flexural strength	≥ 50MPa	85	ISA 20795-1
Flexural modulus	≥ 1500MPa	2118	ISO 20795-1
Residual monomer	≤ 2,2% (w/w)	< 0,1	ISO 20795-1
Biocompatibility	according to ISO Standard	comply	ISO 10993-1

Color: orange translucent



Tray
3D print material for individual trays

VALIDATED

- _ Quality impressions with high precision in next to no time
- _ Compatible with all types of impression materials
- _ Biocompatible MD Class I material

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Ultimate flexural strength	≥ 50MPa	81	ISA 20795-1
Flexural modulus	≥ 1500MPa	2015	ISO 20795-1
Residual monomer	≤ 2,2% (w/w)	< 0,1	ISO 20795-1
Biocompatibility	according to ISO Standard	comply	ISO 10993-1

Colors: blue, pink



Ortho IBT
3D print material for orthodontic transfer splints

VALIDATED

- _ Easy positioning and application of orthodontic brackets due to precise and flexible splint material
- _ Biocompatible MD Class I material

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
ShoreA hardness	75-90	85	ISO 101392
Elongation at break	10-20%	17	ISO 527-1 ISO 527-2
Biocompatibility	according to ISO Standard	comply	ISO 10993-1

Color: transparent



Ortho Rigid
3D print material for splints

VALIDATED

- _ Fast fabrication of precisely fitting splints
- _ Biocompatible MD Class I material

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
Ultimate flexural strength	≥ 50MPa	78	ISA 20795-2
Sorption	≤ 32 µg/mm³	0.8	ISO 20795-2
Solubility	≤ 5.0 µg/mm³	0.8	ISO 20795-2
Residual monomer	≤ 5.0 % (w/w)	< 0,1	ISO 20795-2
Biocompatibility	according to ISO Standard	comply	ISO 10993-1

Color: blue transparent



Gingiva mask
3D print material for gingival masks

VALIDATED

- _ Easy fabrication of flexible parts such as gingival masks
- _ Best results in combination with Model 2.0

PROPERTY	REQUIREMENT	RESULT	ISO STANDARD
ShoreA hardness	60-75	1980	ISO 10139-2
Elongation at break	40-60%	53	ISO 527-1 ISO 527-2

Color: pink



AMANNGIRRBACH

AUSTRIA (HEADQUARTERS)

Amann Girrbach AG
Koblach, Austria
Fon +43 5523 62333-105
austria@amanngirrbach.com

GERMANY

Amann Girrbach GmbH
Pforzheim, Germany
Fon +49 7231 957-100
germany@amanngirrbach.com

NORTH AMERICA

Amann Girrbach North America, LP
Charlotte, NC, U.S.A.
Fon +1 704 837 1404
america@amanngirrbach.com

BRASIL

Amann Girrbach Brasil LTDA
Curitiba, Brasil
Fon +55 41 3287 0897
brasil@amanngirrbach.com

ASIA

Amann Girrbach Asia PTE LTD.
Singapore, Asia
Fon +65 6592 5190
singapore@amanngirrbach.com

CHINA

Amann Girrbach China Co., Ltd.
Beijing, China
Fon +86 10 8886 6064
china@amanngirrbach.com