



**NEXT LEVEL
3D
PRINTING**

M-PRINT

ADDITIVE MANUFACTURING



OUTSTANDING RESULTS WITH **M-PRINT** 3D DENTAL RESINS

HIGHCLASS . BIOCOMPATIBLE . MADE IN GERMANY

From the scanning process to the CAD of models, splints or try-ins, up to the subtractive or additive manufacturing of aids or dentures - with Merz Dental your entry into the digital workflow is flexible and tailored to your needs. Profit from more precise results, increased process reliability and more efficiency. Add innovative 3D printing liquids to your proven workflows.

FAST . EASY . RELIABLE

As an expert in the field of prosthetics and dental acrylics, with many years of experience in the digital dental process chain, Merz Dental now also developed modern manufacturing of 3D printing liquids for the dental workflow.

Coordinated components of hardware, software and materials form a complete solution for the flexible, simple and reliable production of a wide variety of workpieces or medical devices. In terms of precision, accuracy of fit and stability, Merz Dental 3D printing resins meet the highest requirements.





READY 2 PRINT

- ✓ **Free of fillers and suspended matter**
for maximum precision and accuracy of fit
- ✓ **Free of color pigments**
for maximum sedimentation stability
- ✓ **Homogeneous formulation**
for maximum stability and fracture toughness
- ✓ **No deposit during the entire production time**
No shaking necessary before use!



- ✓ Overview of compatible 3D printers
- ✓ Print parameters
- ✓ Examples of data records

www.merz-dental.de/en/digital-solutions

385 nm



Rapid-Prototyping

M-PRINT Proto

Light-curing acrylate-based premium resin for the additive manufacturing of objects of all kinds.

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Printing from 25 µm to 100 µm layer thickness
- ✓ High shape and edge stability for best results of filigree structures and objects
- ✓ High dimensional stability and warp resistance for precise, warp-free objects
- ✓ Maximum surface hardness for mechanical stress without changes in shape



Your
time-saver

Your
creativity

R₂P
Ready 2 Print

Areas of application

- 3D printed objects of all kinds

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	920 ± 100 mPa·s	ISO 3219
End product		
Flexural strength	108 ± 4 MPa	ISO 178
Modulus of elasticity	3000 ± 100 MPa	ISO 178
Glass transition	93 °C	ISO 11357
Vickers hardness	20 ± 1 HV0,2	ISO 6507-1*

*based on

DELIVERY FORM

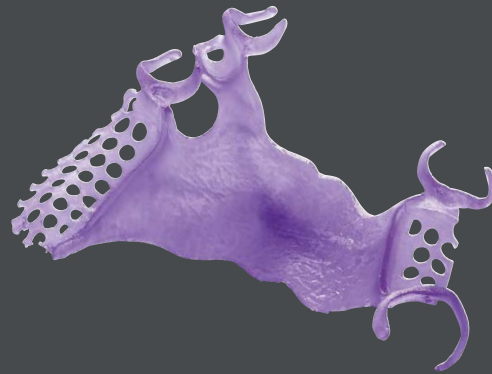
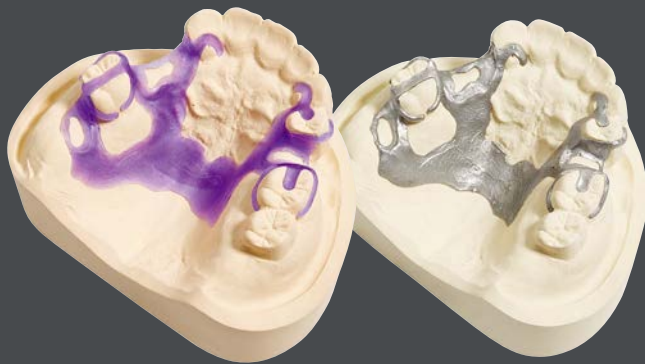
1000 g
1000 g

COLOR

● clear
● cobalt-blue

REF

1084025
1084026



Cast Objects

M-PRINT Cast

Burn-out, light-curing acrylate-based premium resin for the additive manufacturing of objects in the press and model casting technique.

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Burns-out without residue (< 0.1 %), even with large volume parts
- ✓ Warp-free, even with large-volume (voluminous) objects
- ✓ Matched to phosphate-bonded investment materials
- ✓ High strength, shape and edge stability, best drawing accuracy for filigree structures
- ✓ The finest structures thanks to layer thicknesses of up to 25 µm - precise reproduction with the finest surface structure



Designed for tray-based photopolymerisation at 385 nm

Finest
structures

Burns-out

R₂P
Ready 2 Print

Areas of application

- Cast objects of all kinds
- Applicable in the conventional as well as in the speed casting process for press ceramics e.g. veneers, inlays or onlays

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	1000 ± 200 mPa·s	ISO 3219
End product		
Flexural strength	104 ± 3 MPa	ISO 178
Modulus of elasticity	2900 ± 200 MPa	ISO 178
Glass transition	86 °C	ISO 11357
Ash content	< 0,1 %	ISO 3451-1*

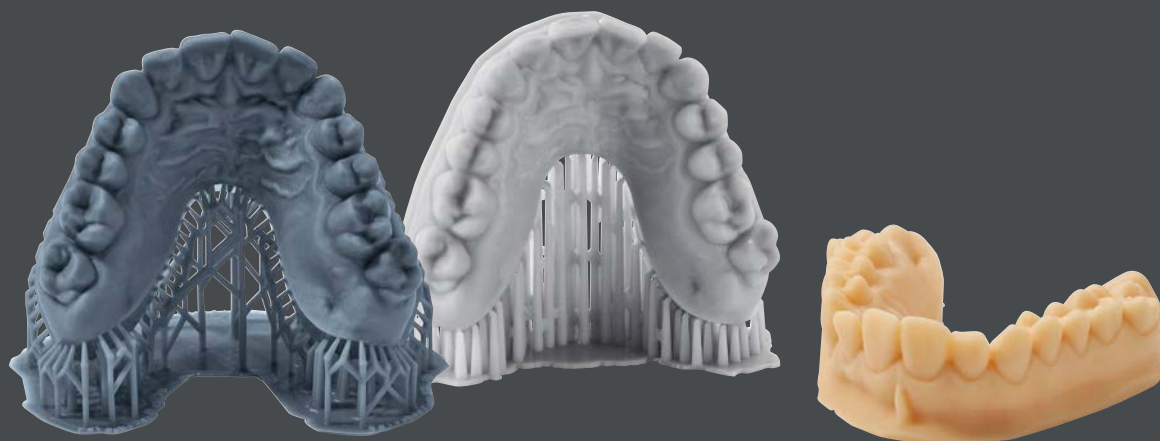
DELIVERY FORM
1000 g

COLOR
● purple

REF
1084010

*based on

385 nm



Production of Models

M-PRINT Model

Opaque, light- and moisture-stable, light-curing 3D printing resin for the production of very precise, true-to-detail master, stump and / or functional models with finest and smooth surface structure.

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Very dimensionally stable, precisely grindable
- ✓ Preparation lines optimally visible through opacity
- ✓ High construction precision - for an excellent fit of model stumps
- ✓ High efficiency - thanks to the low-viscosity setting of the resin for lower material consumption and short post-processing

Without
fillers &
pigments

High
Precision

R₂P
Ready 2 Print

Areas of application

- Models
- Model stumps
- Models for splints and functional models

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	950 ± 100 mPa·s	ISO 3219
End product		
Flexural strength	68 ± 2 MPa	ISO 178
Modulus of elasticity	1600 ± 100 MPa	ISO 178



DELIVERY FORM

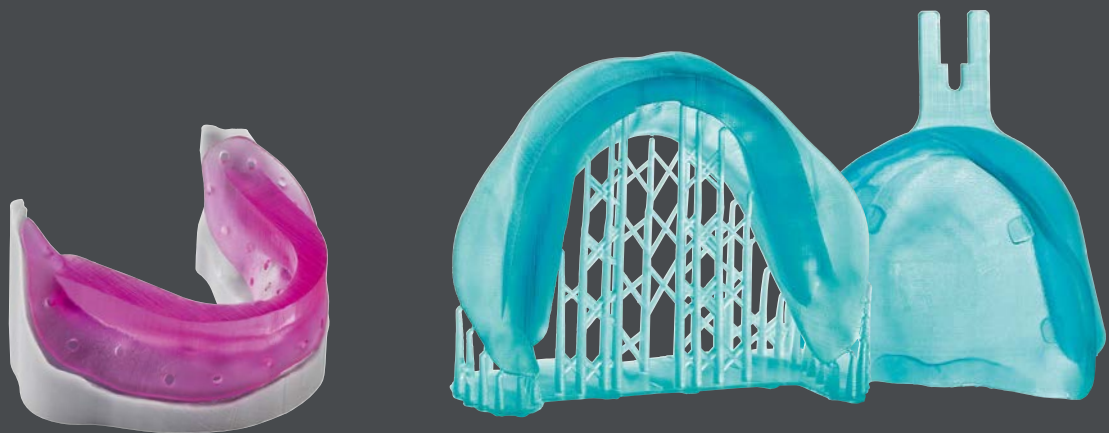
1000 g
1000 g
1000 g

COLOR

● ash-gray
● taupe-gray
● sand

REF

1084017
1084018
1084020



Individual Impression Trays



M-PRINT Tray

Light-curing, biocompatible 3D printing resin for the production of individual functional trays and impression trays, bite registration, transfer keys and base plates.

Medical
Device Class
I

Layer
thicknesses
up to
150 µm

R₂P
Ready 2 Print

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Biocompatibility tested according to EN ISO 10993-1
- ✓ High dimensional stability and warp resistance for exact, distortion-free impressions
- ✓ Odorless and tasteless
- ✓ Retention holes can be planned in advance in the CAD modeling
- ✓ Effective, as it is optimised for high printing speeds and high layer thicknesses of up to 150 µm

Areas of application

- Individual functional trays and impression trays
- Bite registrations
- Transfer keys
- Base plates

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	900 ± 100 mPa·s	ISO 3219
End product		
Flexural strength	116 ± 10 MPa	ISO 10477
Modulus of elasticity	2900 ± 300 MPa	ISO 10477*
Glass transition	91 °C	ISO 11357

*based on

DELIVERY FORM

1000 g
1000 g

COLOR

• aqua
• hot-pink

REF

1084035
1084036



Designed for tray-based photopolymerisation at 385 nm

385 nm



Try-ins

M-PRINT TryIn

Light-curing, biocompatible 3D printing resin for the production of try-ins for the intraoral check-up of digitally designed dentures.

Medical
Device Class
I

Matched to the
production of
digital dentures
with the Baltic
Denture System

R₂P
Ready 2 Print

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Biocompatibility tested according to EN ISO 10993-1
- ✓ For realistic assessment of fit, phonetics and aesthetics prior to final construction
- ✓ Suitable for checking bite registration and occlusion functionality
- ✓ Available in the colors ivory and gum for monochrome try-ins or aesthetic bicolor
- ✓ Odorless and tasteless

- ✓ High precision - for excellent fit of denture base and arch
- ✓ Precisely grindable for patient-specific adjustments by the dentist

Areas of application

- Try-in for removable full and partial dentures
- Correction impression and bite registration



DELIVERY FORM	COLOR	REF
500 g	ivory	1084046
1000 g	ivory	1084047
500 g	gum	1084048
1000 g	gum	1084049



Drilling templates

M-PRINT Surgical guide

Biocompatible, liquid, light-curing acrylate-based premium resin especially tailored for surgical drilling templates for exact contouring in the area of drill sleeves.

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Biocompatibility tested according to EN ISO 10993-1
- ✓ Dimensionally stable, for the exact positioning and fixation of the drill sleeves, for safe insertion in the patient
- ✓ Very good precision and a perfect fit for the respective bone and soft tissue conditions
- ✓ Warp resistant, for the surgically precise and safe insertion of dental implants
- ✓ Color ice blue for visual control in the work area
- ✓ Easily polishable
- ✓ Mucous membrane friendly

Medical
Device Class
I

Without
fillers &
pigments

R₂P
Ready 2 Print

Areas of application

- Drilling templates for the surgically precise and safe insertion of dental implants
- Positioning templates

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	830 ± 100 mPa·s	ISO 3219
End product		
Flexural strength	100 ± 8 MPa	ISO 10477
Modulus of elasticity	2600 ± 200 MPa	ISO 10477*
Glass transition	96 °C	ISO 11357

*based on

DELIVERY FORM
1000 g

COLOR
ice-blue

REF
1084040



Designed for tray-based photopolymerisation at 385 nm

385 nm



Sterilisable drilling templates

M-PRINT Surgical guide HT

Biocompatible, liquid, light-curing acrylate-based premium resin especially tailored for sterilisable surgical drilling templates for exact contouring in the area of drill sleeves.

Medical
Device Class
I

Without
fillers &
pigments

R₂P
Ready 2 Print

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Biocompatibility tested according to EN ISO 10993-1
- ✓ Dimensionally stable, for the exact positioning and fixation of the drill sleeves, for safe insertion in the patient
- ✓ Very good precision and a perfect fit for the respective bone and soft tissue conditions
- ✓ Warp resistant, for the surgically precise and safe insertion of dental implants
- ✓ High rigidity, low deformation due to a very high modulus of elasticity
- ✓ Steam sterilisable up to 273.2 °F (134 °C)

- ✓ Color spring green for reliable visual control of the correct fit through good contrast in the oral cavity
- ✓ Easily polishable
- ✓ Mucous membrane friendly

Areas of application

- Sterilisable drilling templates for the surgically precise and safe insertion of dental implants
- Sterilisable positioning templates

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	650 ± 100 mPa·s	ISO 3219
End product		
Flexural strength	130 ± 5 MPa	ISO 10477
Modulus of elasticity	3150 ± 130 MPa	ISO 10477*

*based on

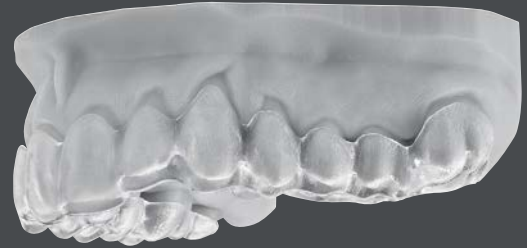
DELIVERY FORM
1000 g

COLOR
● spring-green

REF
1084041



Designed for tray-based photopolymerisation at 385 nm



Occlusal splints and bite splints

M-PRINT Splint

Biocompatible, light-curing premium acrylate-based resin for the additive manufacturing of occlusal / bite splints of all kinds.

Medical
Device Class
IIa

Unlimited
wearing time

R₂P
Ready 2 Print

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Biocompatibility tested according to EN ISO 10993-1
- ✓ Tasteless, high wearing comfort for high patient satisfaction
- ✓ Medical Device Class IIa - can permanently remain in the mouth
- ✓ High precision for a perfect fit
- ✓ Color stable, permanently clear
- ✓ Dimensionally stable
- ✓ Easily polishable

Areas of application

- Occlusal splints and bite splints of any kind
- Bleaching trays

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	825 ± 100 mPa·s	ISO 3219
End product		
Flexural strength	70 ± 6 MPa	ISO 20795-1
Modulus of elasticity	1800 ± 200 MPa	ISO 20795-1
Glass transition	93 °C	ISO 11357
Vickers hardness	20 ± 1 HV0,2	ISO 6507-1*

*based on

DELIVERY FORM
1000 g

COLOR
• clear

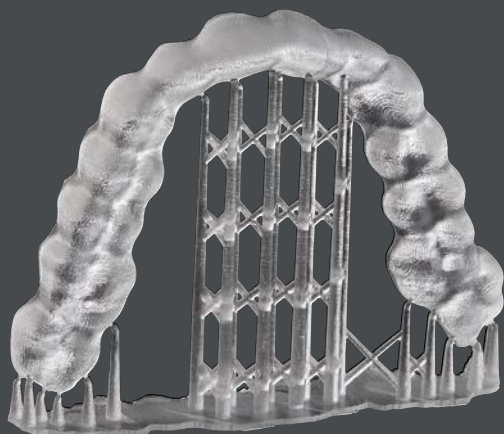
REF
1084050

CE 0482



Designed for tray-based photopolymerisation at 385 nm

385 nm



Flexible occlusal splints / bite splints

M-PRINT Splint flex

Biocompatible, light-curing premium acrylate-based resin for the additive manufacturing of flexible occlusal splints / bite splints of all kinds.

Medical
Device Class
IIa

Unlimited
wearing time

R₂P
Ready 2 Print

Product benefits

- ✓ **R₂P** - no shaking necessary
- ✓ Biocompatibility tested according to EN ISO 10993-1
- ✓ Medical Device Class IIa - can permanently remain in the mouth
- ✓ Increased wearing comfort thanks to pleasant flexibility
- ✓ High precision for a perfect fit
- ✓ Color stable, permanently clear
- ✓ Dimensionally stable
- ✓ Easily polishable

Areas of application

- Flexible occlusal splints and bite splints of any kind
- Bleaching trays

Material properties

Property	Value	Test Method
Acrylate mixture		
Viscosity	700 ± 100 mPa·s	ISO 3219



CE 0482

Designed for tray-based photopolymerisation at 385 nm

DELIVERY FORM
1000 g

COLOR
● clear

REF
1084051

M-PRINT	Areas of application	MDC*	Color	Viscosity	Flexural strength	Module of elasticity	Glass transition	Vickers hardness	Wave-length	Layer thickness
 Proto	<ul style="list-style-type: none"> 3D printed objects of all kinds 	–	<ul style="list-style-type: none"> clear cobalt-blue 	920 ± 100 mPa·s	108 ± 4 MPa	3000 ± 100 MPa	93 °C	20 ± 1 HV0,2	385 nm	25 µm 50 µm 100 µm
 Cast	<ul style="list-style-type: none"> Cast objects of all kinds 	–	<ul style="list-style-type: none"> purple 	1000 ± 200 mPa·s	104 ± 3 MPa	2900 ± 200 MPa	86 °C	–	385 nm	25 µm 50 µm 100 µm
 Model	<ul style="list-style-type: none"> Models Model stumps Models for splints and functional models 	–	<ul style="list-style-type: none"> ash-gray taupe-gray sand 	950 ± 100 mPa·s	68 ± 2 MPa	1600 ± 100 MPa	–	–	385 nm	25 µm 50 µm 100 µm
 Tray	<ul style="list-style-type: none"> Individual functional trays and impression trays Bite registrations Transfer keys Base plates 	I	<ul style="list-style-type: none"> aqua hot-pink 	900 ± 100 mPa·s	116 ± 10 MPa	2900 ± 300 MPa	91 °C	–	385 nm	50 µm 100 µm 150 µm
 TryIn	<ul style="list-style-type: none"> Try-in Correction impression Bite registration 	I	<ul style="list-style-type: none"> ivory** gum** 						385 nm	50 µm 100 µm
 Surgical guide	<ul style="list-style-type: none"> Drilling templates Positioning templates 	I	<ul style="list-style-type: none"> ice-blue 	830 ± 100 mPa·s	100 ± 8 MPa	2600 ± 200 MPa	96 °C	–	385 nm	25 µm 50 µm 100 µm
 Surgical guide HT	<ul style="list-style-type: none"> Sterilisable drilling templates Sterilisable positioning templates 	I	<ul style="list-style-type: none"> spring-green 	650 ± 100 mPa·s	130 ± 5 MPa	3150 ± 130 MPa	–	–	385 nm	25 µm 50 µm 100 µm
 Splint	<ul style="list-style-type: none"> Occlusal / bite splints Bleaching trays 	Ila	<ul style="list-style-type: none"> clear 	825 ± 100 mPa·s	70 ± 6 MPa	1800 ± 200 MPa	93 °C	20 ± 1 HV0,2	385 nm	25 µm 50 µm 100 µm
 Splint flex	<ul style="list-style-type: none"> Flexible occlusal / bite splints Bleaching trays 	Ila	<ul style="list-style-type: none"> clear 	700 ± 100 mPa·s	–	–	–	–	385 nm.	25 µm 50 µm 100 µm

* Medical Device Class

** planned

PRINTER COMPATIBILITY OVERVIEW



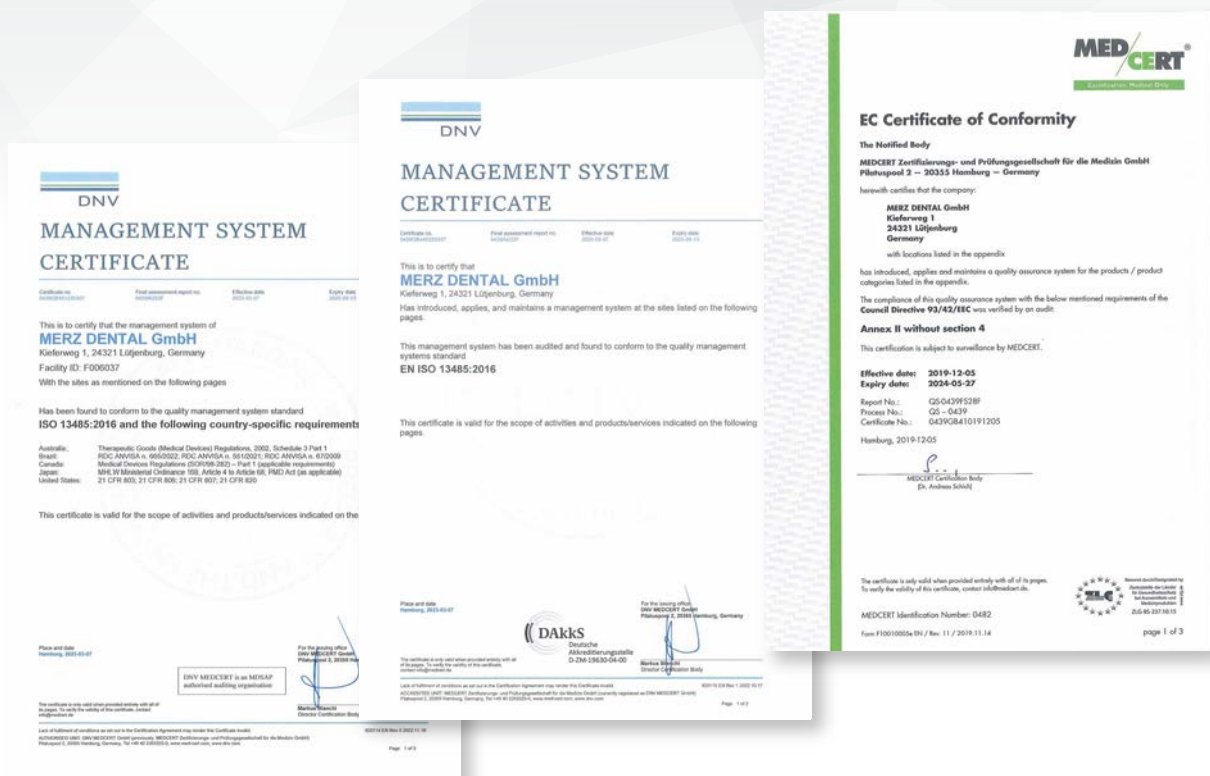
M-PRINT 3D printing liquids are generally compatible with DLP printers with a wavelength of 385 nm. Print parameters are available for the following printers.

Updated overview available at www.merz-dental.com

EU Medical Device Class				<div><div>✓</div> available print parameters</div> <div><div>●</div> parameters under evaluation</div>								
M-PRINT				REF	<div></div> <div>Nexa3D XiP</div>	<div></div> <div>Carima Carima IMD</div>	<div></div> <div>W2P SolFlex / SolLab</div>	<div></div> <div>VOCO SolFlex 170 / 350 / 650</div>	<div></div> <div>Rapid Shape D20+ / D30+</div>	<div></div> <div>Asiga MAX / MAX X / PRO 4K</div>	<div></div> <div>Ackuretta FreeShape 120</div>	<div></div> <div>DEKEMA trix print²</div>
TECHNICAL RESINS	Proto	clear <div></div>	1084025	●	✓	✓	✓	✓	●	✓	✓	✓
		cobalt-blue <div></div>	1084026	●	✓	✓	✓	✓	●	✓	✓	✓
	Cast	purple <div></div>	1084010	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Model	ash-gray <div></div>	1084017	✓	✓	✓	✓	✓	●		✓
			taupe-gray <div></div>	1084018	✓	✓	✓	✓	✓	●		✓
			sand <div></div>	1084020	✓	✓	✓	✓	✓	●		✓
MEDICAL RESINS	I Tray	aqua <div></div>	1084035	✓	✓	✓	✓	✓	✓	✓	✓	
		hot-pink <div></div>	1084036	✓	✓	✓	✓	✓	✓	✓	✓	
	I Surgical guide	ice-blue <div></div>	1084040	●	✓	✓	✓	✓	✓		✓	
		spring-green <div></div>	1084041	●	✓	✓	✓	✓	●	✓	✓	
	IIa Splint	clear <div></div>	1084050	●	✓	✓	✓	✓	✓	✓	✓	
		clear <div></div>	1084051	●	✓	✓	✓	✓	✓	✓	✓	

Users are responsible for using the product themselves. Merz Dental assumes no liability and/or guarantee for the use of non-system components and/or components that have not been tested or for incorrect results, as the manufacturer has no influence on processing. Any claims for damages that may still arise relate exclusively to the value of our products. The company and product names of third parties mentioned are trademarks or registered trademarks of the respective manufacturers. Quoting such designations without reference to a trademark or similar (registered and/or protected) should not be considered an infringement of the intellectual property rights of these designations, nor should they be regarded as damaging to the companies that own these rights.

Reliable . Innovative . Proven



Merz Dental is certified according to EN ISO 13485 and offers therefore the security and advantages of a future orientated quality management system.





www.merz-dental.com

Merz Dental GmbH Kieferweg 1 · 24321 Lütjenburg, Germany · Tel +49 (0) 4381 / 403-0 · Fax +49 (0) 4381 / 403-403

The illustrations may differ from the original product in terms of color reproduction. Printing errors reserved.