DENTAL PLUS

HIGH PERFORMANCE POLYMERE

FOR CAD/CAM AND INJECTION MOLDING SYSTEM

INSTRUCTION MANUAL

ZAHN • HEIL • KUNST • STOFFE

THE BIG DIFFERENCE

Different producion processes decide if carbon becomes coal or a diamant.

modern high performance polymere replace in the high technology like space, aircraft and vehicle manufacturing more and more the goup of metal.

High performance polymere gain in the dental technologie a higher ästhetik und a better comfort.

DentalPlus GmbH

Kohlgrub 5
83122 Samerberg • Germany

Telefon: +49 (0) 8032 / 989 20 07

Mo – Do von 09.00 –17.00 Uhr
Fr von 9.00 –14.00 Uhr

Fax: +49 (0) 8032/ 988 27 90

eMail: info@dentalplus.info

HIGH TECH IN DENTAL TECHNOLOGY.

Plastics technology has produced numerous Developments in recent years. Thereby the modern high-performance plastics also increasingly introduced into the world of medicine and especially dentistry.

Economic factors and problem awareness at Patients with respect to the mixing of metals in the mouth, support this change and the use of advanced plastics.

Most commonly so called PMMA plastics are applied in the dentistry and technology. This is a Hydrocarbon compound, which is available in a wide variety of quality levels.

Our expertise lies in the production of the material blanks. The technology, we have developed is advanced.The result is the special quality.

There are two basic methods of production of the blanks:

The **chemoplastic**, wherein a large plastic plate is shaped with powder and monomer. Similar to the powder-liquid method in dentistry.

The **thermoplastic**, wherein a granulate is plasticized by heat and is injected under high pressure into a mold.

Thermoplastic produced shaped bodies such as blanks, are characterized by extremely high homogeneity. By the high surface density these plastics are much more fracture stable (chemoplastic blanks at approx 1800-2400 MpA and thermoplastic blanks at approx 3000-3600 MpA).
Due to this high stability, it is possible, to produce plastic crowns and bridges for the permanent using (> 6 years).

In contrast to the chemoplastics, who show a higher content of residual monomers and may resalt in allergic or Health impairing reactions, thermoplastics haven't these problems due to the manufacturing process.

Modification of plastics by color pigments make the finishing easier and by fillers, such as glass, optimized thermoplastics (composites) meet the requirements for abrasion stability and surface hardness.

By CAD-CAM technology facilitate our specially designed plastic the work of a dental technician and provides special opportunities in patient care.

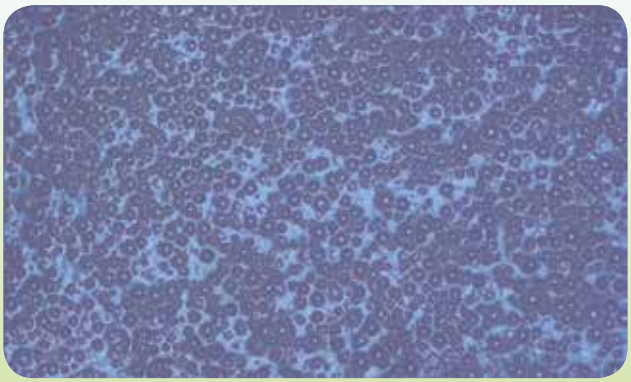
Our range offers numerous possibilities.
Let us surprise you.

Learn more about plastics by visiting our website at: **www.dentalplus.info**

Thermoplastic (high homogeneity)

E-module 3.000 - 3.600 MpA

- fracture stable
- plaque resistent
- dimensionally stable (> 6 years)



Chemoplastic (inhomogeneous structure)

E-module 1.800 - 2.400 MpA

- low fracture stability
- plaque susceptible
- premature aging due to higher water

Polyan Plus ®
(highly resistant to breakage)

chemical name

high performance-PMMA
Medical-grade

application area

- ☐ crowns and bridges
- ☑ model casting
- ☑ splint technique
- ☐ fullanatomic longterm interim prothetic
- ☐ framework
- ☑ total-/part denture

advantages

- abrasionsstabel
- extreme fracture stability
- plaque resistant und biokompatibel
- colorconstancy and high translucent
- high efficiency
- high flexural strengh

worth knowing

Prevent contact with alcohol (60-90%) over 3 min! Otherwise rist of craquelling crack.

rebasing, repairing, extension with cold polymerisaten possible, thermopastic repairing possible

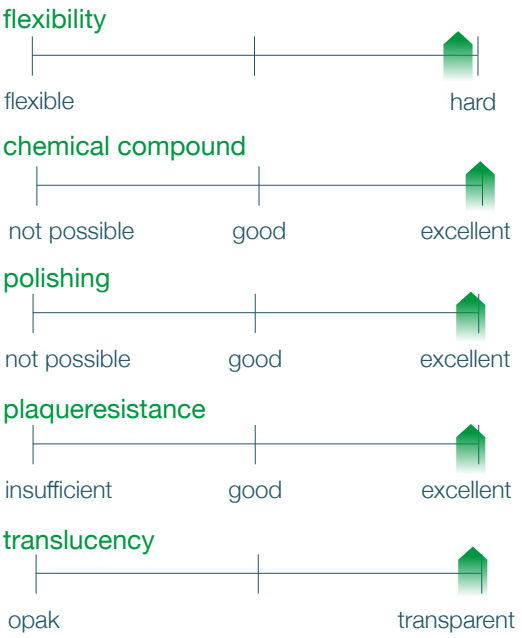
specifications

elasticity modulus	3370 MPa
tensile strength	76,3 MPa
breaking tension	70,3 MPa
flexural strength	120 MPa

handling injection molding

preheating cartouches	15 Min.
injection temperature	260°C
injection pressure	9 - 9,5 bar
holding pressure	1 Min.

indications



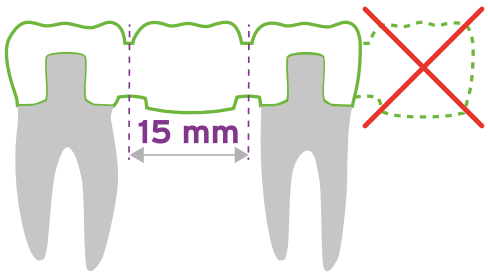
applications:

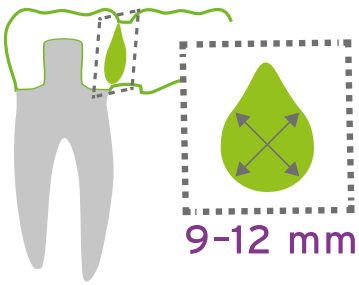
colors injection molding systems

clear • pink • EU65 • pink opal • pink veined

colors CAC/CAM

clear • pink opal • pink2





Dentalos Plus ®
(highly resistant to breakage)

chemical name

high performance-PMMA
Medical-grade

application area

- [x] crowns and bridges
- [ ] model casting
- [x] splint technique
- [x] fullanatomic longterm interim prothetic
- [ ] framework
- [ ] total-/part denture

advantages

- abrasionsstabel
- extreme fracture stability
- plaque resistant und biokompatibel
- colorconstancy and high translucent
- high efficiency
- high flexural strengh

worth knowing

Repairing, extensions, individuell characterize and very good to paint.

For strong crunching we recommend a thermoforming rail for the after abrasion protection.

Very good for crowns- and bridges technic für 6-8 years.

Prevent contact with alcohol (60-90%) over 3 min! Otherwise rist of craquelling crack.

specifications

elasticity modulus	3370 MPa
tensile strength	76,3 MPa
breaking tension	70,3 MPa
flexural strength	120 Mpa

handling injection molding

preheating cartouches	15 Min.
injection temperature	260°C
injection pressure	9 - 9,5 bar
holding pressure	1 Min.

indications

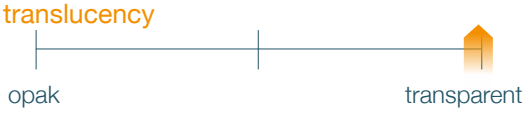
flexibility

chemical compound

polishing

plaqueresistance

translucency



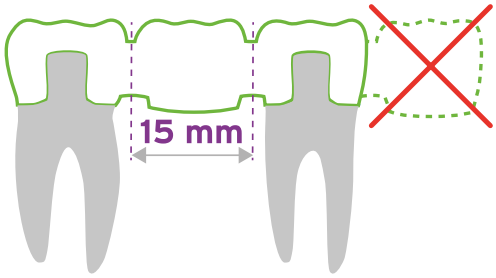
applications:

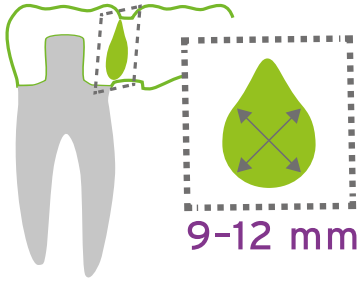
colors injection molding systems

A • A3,5 • B • B1 • B4 • C • C4

colors CAC/CAM

Monoblanc: A1 • A2 • A3 • A3,5 • B1 • B2 • B3 • C1 • C2 • C3 • bleach Multicolor: A1-A2 • A2-A3 • S1-A3,5 • A3-A3,5 • A2-A3 pink opal • B1-B2 • B2-B3 • B3-B4 • C1-C2 • C2-C3





Eldy Plus ®

chemical name

high performance-PET
Medical-grade

application area

- ☑ crowns and bridges
- ☑ model casting
- ☑ splint technique
- ☑ fullanatomic longterm interim prothetic
- ☐ framework
- ☑ total-/part denture

advantages

- highly resistant to breakage
- elastic material

worth knowing

Perfect material for flexible rails of all kinds and long-term temporaries.

***almost unbreakable**
Can be destroyed by improper handling.

specifications

elasticity modulus	1600 MPa
tensile strength	53 MPa
water absorption	0,5 %
flexural strength	80 Mpa

handling injection molding

preheating cartouches	15 Min.
injection temperature	270°C
injection pressure	7 - 8 bar
holding pressure	1 Min.

indications

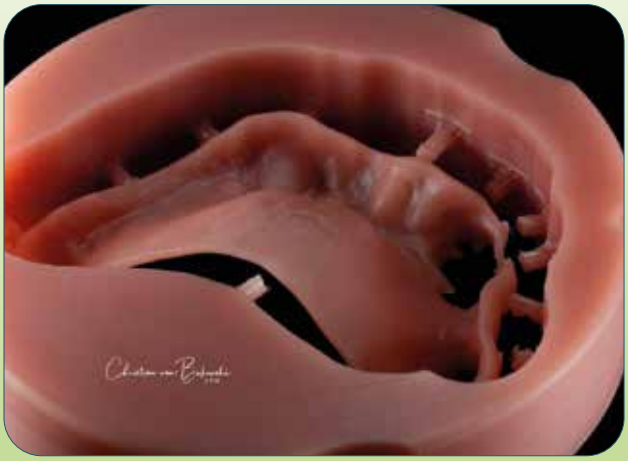
flexibility
flexible — hard

chemical compound
not possible — good — excellent

Ppolishing
not possible — good — excellent

plaqueresistance
insufficient — good — excellent

translucency
opak — transparent



applications:



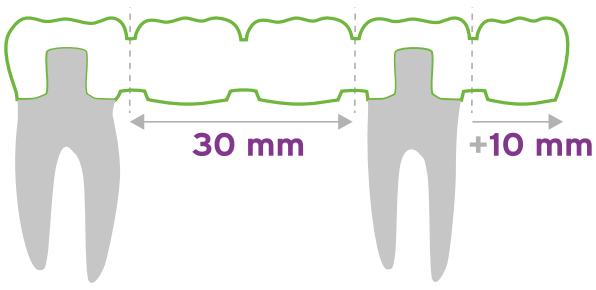


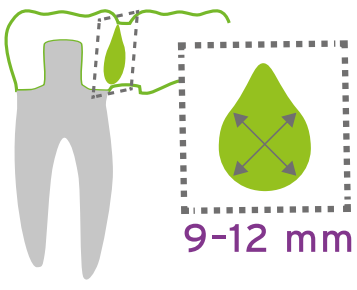

colors injection molding systems

A1 • A2 • A3 • A3,5 • pink • pink opal • pink2 • clear

colors CAC/CAM

Mono: A1 • A2 • A3 • A3,5 • pink2 • pink opal clear • B1 • B2 • B3 Multicolor: A2-A3,5 • A2-A3 • A1-A2 • B1-B2 • B2-B3 • C2-C3





Flexistrong Plus ®
(unbreakable *)

chemical name

high performance-PVDF
Medical-grade

application area

- ☑ crowns and bridges
- ☑ model casting
- ☑ splint technique
- ☑ fullanatomic longterm interim prothetic
- ☑ framework
- ☐ total-/part denture

advantages

- extreme fracture stability
- plaque resistant
- high translucent
- high chemical bond with other plastics
- veneering

worth knowing

Very high ästhetic translucenc. resistance to plaque depend on the patients care.

extreme fracture stability, high toughness, extrem less water absorptio.

***almost unbreakable**
Can be destroyed by improper handling.

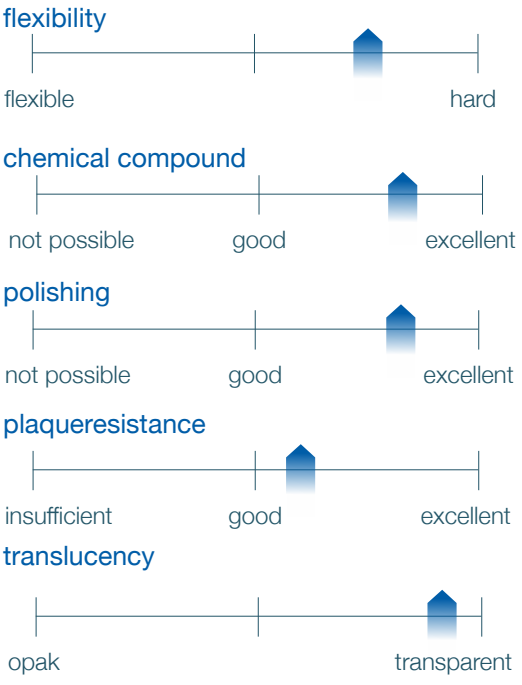
specifications

elasticity modulus	2000 MPa
tensile strength	90 MPa
ball indentation hardness	80 MPa
breaking tension	145°C
water absorption	<0,04%

handling injection molding

preheating cartouches	15 Min.
injection temperature	220°C
injection pressure	6 -7 bar
holding pressure	1 Min.

indications



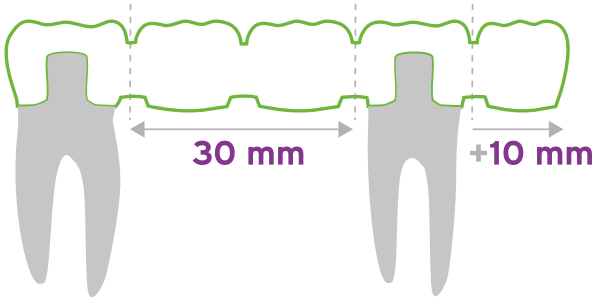
applications:

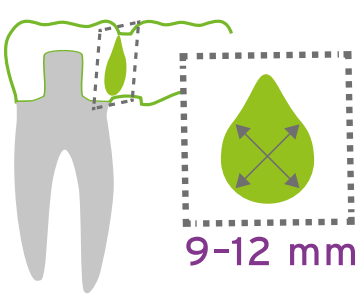
colors injection molding systems

nature • pink • pink opal • A2 • A3,5

colors CAC/CAM

nature • pink • A2 • A3,5





Polyflex Plus
(unbreakable *)

chemical name

High performance polymer of the PP/PE group
Medical-grade

application area

- ☐ crowns and bridges
- ☑ model casting
- ☑ splint technique
- ☑ fullanatomic longterm interim prothetic
- ☐ framework
- ☑ total-/part denture

advantages

- resistant to abrasion
- extreme fracture stability
- plaque resistant und biokompatibel
- colorconstancy and high translucent
- high efficiency
- hightensile strengh

worth knowing

Monolithic auter parts, unbreakable crown and bridges, flexible partial denture.

thermic reparing between Polyflex Plus® and Polyflex Plus® possible.

This plastic has an excellente power of resistance against tiredness.

***almost unbreakable**
Can be destroyed by improper handling.

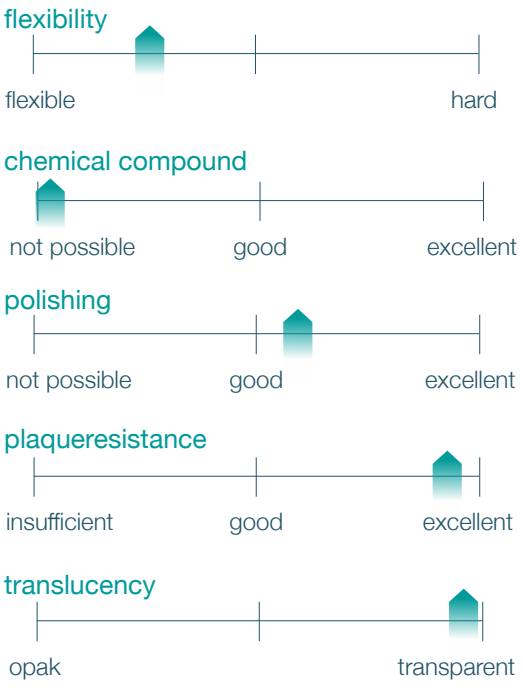
specifications

elasticity modulus	1450 MPa
tensile strength	80 MPa
Ball indentation hardness	not determined
water absorption	0,1 %

handling injection molding

preheating cartouches	15 Min.
injection temperature	210 - 220°C
injection pressure	6,5 - 7,5 bar
holding pressure	1 Min.

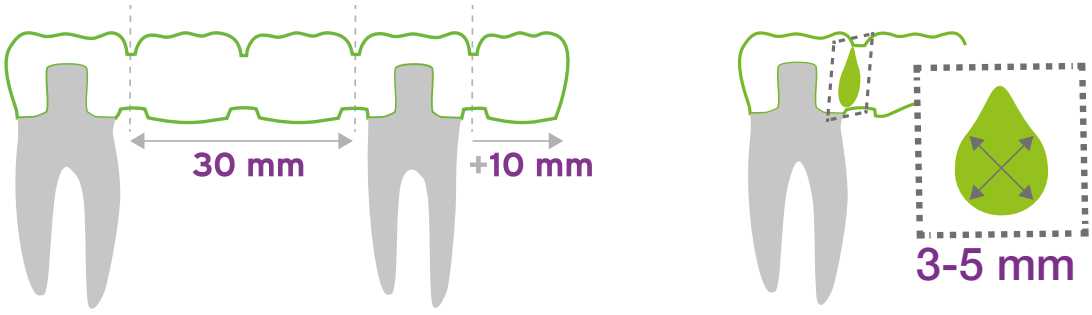
indications



applications:

colors injection molding systems

nature • pink • A



PEEK
(very high resistance to breakage)

chemical name

High performance polymer of the PEA group
Medical-grade

application area

- [x] crowns and bridges
- [x] model casting
- [ ] splint technique
- [ ] fullanatomic longterm interim prothetic
- [x] framework
- [ ] total-/part denture

advantages

- abrasionsstabel
- extreme fracture stability
- high flexural strengh
- plaque resistant and biocompatible
- colorconsistancy and high translucent
- high efficiency

worth knowing

The absence of transluzenz limit the application of PEEK. With an suitable sandwich-technique you can get with this material an extrem high fracture stability with high ästhetic.

Friktive elemets for telescop or bar technique find in this polymer a perfect realisation.

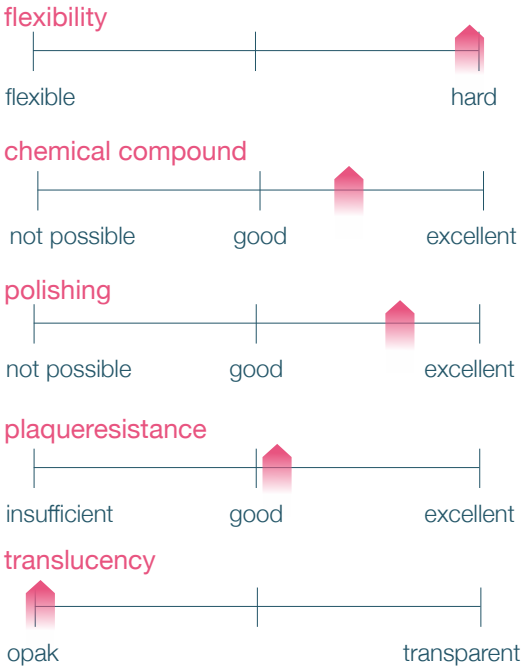
specifications

elasticity modulus	4000 MPa
tensile strength	180 MPa
ball hardness	230 MPa
water absorption	0,2 %

handling injection molding

preheating cartouches	15 Min.
injection temperature	400°C
injection pressure	9 bar
holding pressure	1 Min.

indications



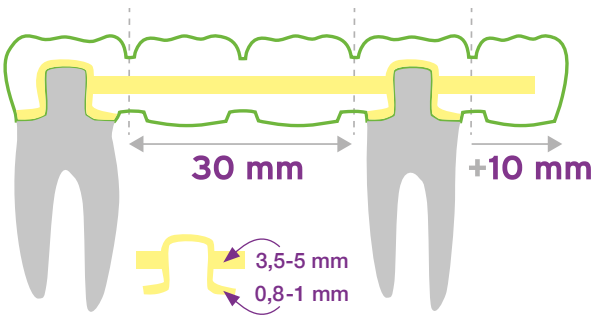
applications:

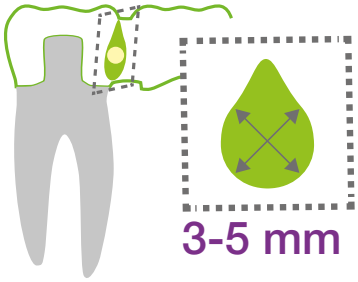
colors injection molding systems

A • pink

colors CAC/CAM

nature (light grey)





Flexiplast Plus
(unbreakable *)

chemical name

High efficiency polymer of nylon group
Medical-grade

application area

- ☐ crowns and bridges
- ☑ model casting
- ☐ splint technique
- ☑ fullanatomic longterm interim prothetic
- ☐ framework
- ☑ total-/part denture

advantages

- resistant to abrasion
- extreme fracture stability
- plaque resistant and biocompatible
- colorconsistancy and high translucent
- high efficiency
- high flexural strengh

worth knowing

The high plaque sensitivy and unsufficient chemical bond impair this body compatible plastic.

In this case we recommend Polyflex Plus®.

***almost unbreakable**
Can be destroyed by improper handling.

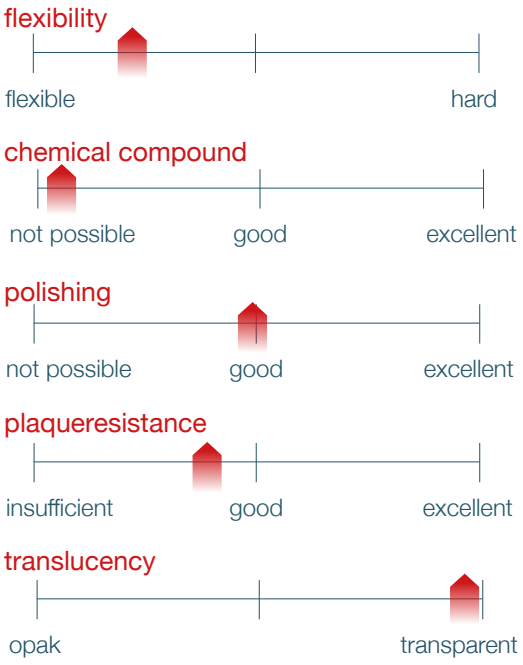
specifications

elasticity modulus	1400 MPa
tensile strength	55 MPa
water absorption	ca. 1,5 - 2 %
flexural strength	95 MPa

handling injection molding

preheating cartouches	15 Min.
injection temperature	220°C
injection pressure	6 -7 bar
holding pressure	1 Min.

indications



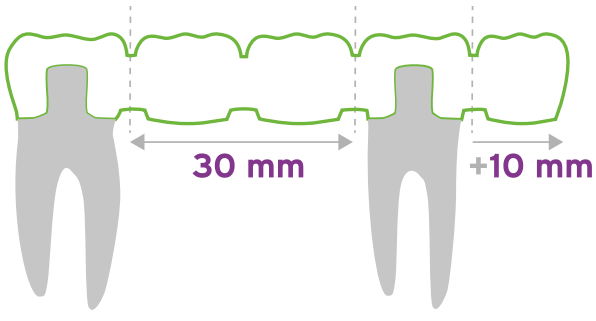
applications:

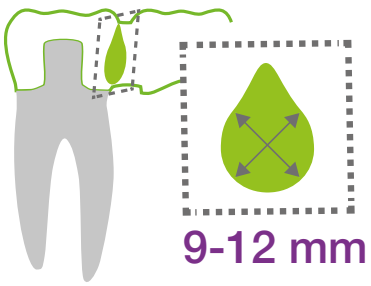
colors injection molding systems

nature • pink • B

colors CAC/CAM

no blancs





We effort to advise and inform you
very comprehensive.

Distributor:

DentalPlus GmbH

Kohlgrub 5 • 83122 Samerberg • Germany

Telefon: +49 (0) 8032 / 989 20 07
Fax: +49 (0) 8032/ 988 27 90

eMail: info@dentalplus.info

Mo – Do 09.00 –17.00 Uhr
Fr 9.00 –14.00 Uhr

Delivery ex works plus transport and packing.

We are grateful for the extensive range of footage the has been made available to us by very innovative collegues.