primotec

PRODUCT CATALOG

- primopattern
- primopoly
- primosplint
- primobase
- primotray
- metaconSystem
- metablue
- metalight
- phaser
- Joker
- quinto
- Twister

ADVANCED LABORATORY SYSTEMS

www.primogroup.de

PRODUCT
CATALOG

ADVANCED LABORATORY SYSTEMS

www.primogroup.de

primotec®

primopattern

light cured universal modeling resin

primopattern is an advanced, ready to use

one-component-material that burns out cleanly and completely.

primopattern is available as modeling gel and modeling paste

efficient modeling made easy

indispensable light cured material for all cases – for every lab

innovations by primotec






primopattern

Gel or Paste


EFFICIENT MODELING MADE EASY

uses

- **Implantology:**

modellations for casting or scanning of
- implant abutments
- implant bars
- implant superstructures
- tertiary constructions over Galvano mesiostructures

production of
- transfer- or insertion guides
- implant jigs, verification indexes, etc.

as well as connecting or fixing of single implant parts or segments

- **fixed restorations:**

modellations for casting, scanning or pressing of
- crowns and bridges
- understructures for zirconium copy milling machines
- Inlays and Onlays
- understructures for Galvano or Captek bridges

- **combined restorations**

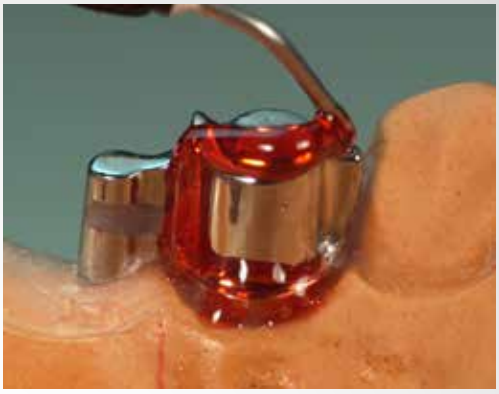
- primary and secondary telescopic or conus crowns
- individual attachments
- RSS secondary attachments, etc.

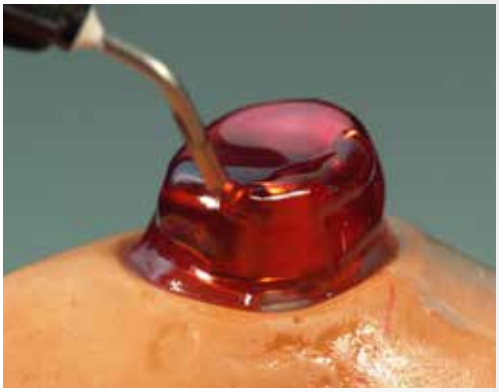
- **bite transfer and bite check (control)**

- transfer splints
- bite check splint
- stops and checkbites

- **further uses**

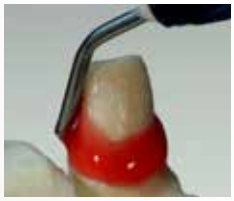
- retaining single parts or parts that needed to be separated for welding or soldering
- fixing of attachments
- general retaining or fixing of single parts or segments





handling tip

When the syringe is used with a lightly vibrating motion, the material becomes more flowable, when the vibrating motion is stopped, the Gel will stay as placed (thixotropic behaviour).



NEW

Also available in clear!

primopattern clear

advantages

primopattern Gel and Paste stand out due to the following product characteristics:

- ready to use one-component-material, light cured and thixotrop
- perfectly aligned viscosity of Gel and Paste for quick and precise application
- stays where placed – does not run – therefore very economical
- easy control of the applied thickness
- long working time (> 20 min.) – short curing time (< 5 min.)
- cures in most conventional light curing units (320nm-500nm)
- polymerisation neutral and absolutely dimensionally stable with great fitting properties
- no distortion, high surface hardness and great strength
- light cured cases can be lifted off easily and stress free
- easy to grind with carbide burs or rubber polishers
- burns out cleanly and completely
- can be used in conjunction with conventional waxes or light cured wax (metacon)
- does not contain MMA and peroxide and has no taste or smell

primopattern

LIGHT CURED
READY TO USE
DIMENSIONALLY STABLE

working procedure

First primopattern LC Gel is used to build up, light cure and

finish the single copings over the implant posts. Attention: the screw channels need to be closed (wax)

The bar segments will be built up with primopattern LC Paste.

To do so, an equivalent amount of Paste is pre-shaped into bar form with the fingers and placed

between the copings. Then the complete modellation is light cured and afterwards the bar is milled.

Any corrections or re-enforcements will be done with the Gel.

These corrections can be stabilized by pre-polymerising the

relevant areas with a handheld lab light.

technical tips

· application

For applying larger amounts of material at a time efficiently (i.e. for bars, pontics, etc.) use primopattern LC Paste.

use primopattern LC Gel for the more delicate works that require less layer thickness. In cases with larger volumes of primopattern material, cover the outer surfaces with a thin layer of conventional modelling wax before investing.

· light curing

primopattern cures in most conventional light curing units that supply a wave-length spectrum of 320nm-500nm.

Most suitable are the Metalight light curing units (primotec), as they are equipped with a special cooling system for most gentle polymerisation.

average polymerisation times in light curing units equipped with:

- UV/UV-A lights (i.e. metalight): 3,5 – 5 minutes

- halogen lights: 2 minutes

- strobo lights (i.e. UniXS): 90 seconds

ORDERING INFO

Item #		Item
PA100		**primopattern LC Gel (5x3g)** light cured universal modelling resin gel
PA200		**primopattern LC Paste (30 g)** light cured universal modelling resin paste
PA300		**primopattern LC Gel Clear (5x3g)** light cured universal modelling resin gel clear
PA501		**PE-case insert** for two models (without case and models)

primopoly

polyurethane model and die material kit

in general polyurethane is the most

accurate, strongest and cleanest

die material on the market.

No more broken dies or dull edges

extremely precise and strong die material

innovations by primotec

NO MORE BROKEN DIES OR DULL EDGES

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primopoly

uses

- fabrication of models for long span bridges, superstructures and inlay, onlay preparations
- » excellent for scanning, no scanning spray needed
- shoulder and partial crown preparations
- duplicate dies to make porcelain butt margins
- dies that are very difficult to pour without breaking
- small lower anterior cases
- optimal for grinding on Zirconium because water does not effect the model

advantages

- no noticeable shrinkage or expansion
- clean and easy to work with
- absolutely water resistant
- very thin in fluidity and easy to pour
- cures in only 1 hour
- easy to trim and saw
- holds the sharpest edges and flows into the smallest cavities

technical tips

For best results measure out base and hardener by weight instead of ml

For polyether and polyvinal impression materials spray “Primopoly release agent“ onto the impression and let it dry. This will prevent any sticking to the impression.

science

Primopoly is a polyurethane die materal. In general polyurethane is the most accurate, strongest and cleanest die material on the market; much more so than traditional die stone and epoxy.

EXTREMELY PRECISE AND STRONG DIE MATERIAL

working procedure

Primopoly is a 2 component system, just mix the base material with the hardener and then you`re ready to pour.

The Primopoly base material is white. The color can be changed to blue or apricot by adding Primopoly coloring paste (included in the kit).

ORDERING INFO

Item #		Item
PY-KIT		**primopoly Kit** · primopoly base: 660 g (3 x 220 g) container, with an empty plastic bottle with lever cap · primopoly hardener: 100 g (1x) container, with an empty glass bottle with a spout · primopoly coloring paste: 8 g · accessories: 4 small and 2 large wooden spatulas, mixing bowls (3 x 30 ml + 1 x 50 ml) · indicate desired color – blue or apricot – when ordering
PR01		**primopoly release agent** - 2 oz. Spray bottle

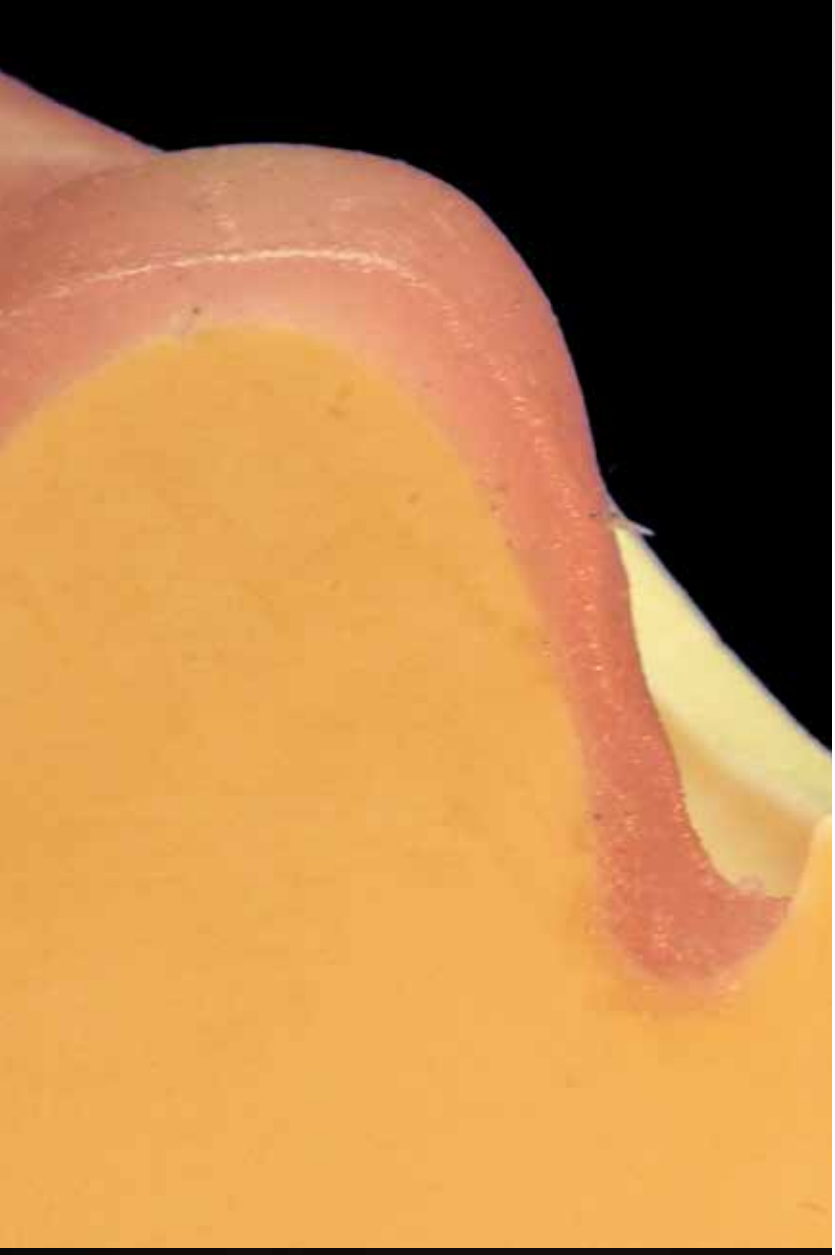
primobase

high strength light cured base plate material

the new chemical composition of primobase substantially reduces the stickiness commonly known with this type of materials and greatly increases the curing and fitting properties

ONLY 1.2 MM THICK LIGHT CURED BASE PLATES

innovations by primotec



uses

- full and partial denture bite registration
- denture set up and try in
- temporary partials (flippers)

advantages

- only 1.2mm thick, so hardly any need to adjust and/or shorten denture teeth to match the given vertical dimension during the set-up
- same strength as conventional double the thickness impression tray materials
- extremely precise – to an extent that the base plate with the set-up teeth “adheres” to the palate during the try-in (suction effect)
- does not require a second curing cycle off the model upside down
- cures in most conventional light curing units (do not use strobe lights!)

technical tips

Use a bit of Metatouch (IM200) finger and instrument separator on your fingertips to smoothen the primobase surface after adaptation

For the most precise fit use the Metavac vacuum suction device. This will ensure that the base plate is fully pressed against the model during the light curing process.

- 1.2 MM THICK
- EASY HANDLING
- NOT STICKY
- GREAT FIT
- EASY CURING

working procedures

1. Apply separator to the model **(preferably Metatouch IM200 – see "ordering info Metacon").**
2. Adapt the base plate to the model with your fingers and/or instrument .
3. For an even more precise fit use the Metavac suction device. This will ensure maximum precision. **(see "ordering info Metacon").**
4. Cure for 6 minutes – no second curing cycle off the model needed.
5. Remove base plate and finish it..

ORDERING INFO

Item #		Item
TP100		**primobase** light cured base plate material, 50 pieces

primotray

light cured custom impression tray material

offers the same high end material quality as primobase

but in 2.2mm thickness for custom impression trays

- 2.2 MM THICK
- EASY HANDLING
- NOT STICKY
- GREAT FIT
- EASY CURING

ORDERING INFO

Item #		Item
TP200		**primotray** light cured custom impression tray material, 50 pieces

innovations by primotec

primosplint

light cured composite splint material

in general light cured composite is the most precise,

distortion-free and antiallergenic material for

night guards and more

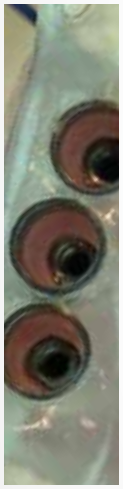
easy, precise, versatile, fast

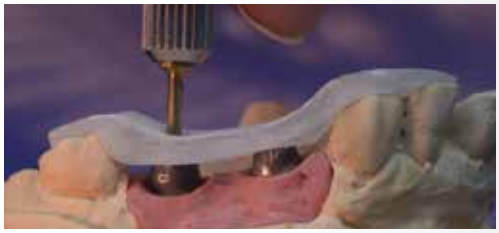
**light cured composite rods, MMA and peroxide free –
for function therapy bite splints and many more applications.**

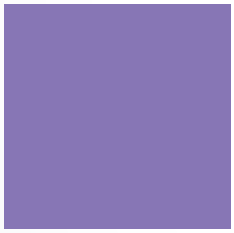
innovations
by primotec

EASY
PRECISE
VERSATILE
FAST

light cured composite rods, MMA and peroxide free







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primosplint

uses

- implant surgical guides
- night guards
- **» function therapy bite splints**
- CT scanning guides
- implant x-ray guides
- implant jigs and verification indexes
- transfer and insertion guides
- PIB – Procera implant bridges
- checking and insertion guides for veneers

advantages

- very quick and easy to work with
- modelling playdough like consistency at room temperature – no heat needed
- cures reliably in most conventional light curing units
- extremely precise, no noticeable shrinkage, expansion or distortion
- MMA and peroxide free – lowest allergic potential for the patient
- fully autoclavable – no distortion on implant surgical guides during steam autoclaving
- can be easily bonded to other materials (PMMA-acrylic or suck down matrix)
- no taste or smell and easy to repair

technical tips

When opening a new stick of Primosplint gently knead it for about 10 to 15 seconds to soften up the material. This will make the material softer and easier to work with.

For maximum clarity lightly sandblast the finished splint (approx. 110 micron aluminium oxide, 30 PSI) inside and outside. Then apply one thin layer of primoglaze on the inside, blow off any access and apply two thin layers on the outside. Light cure according to the instructions.

If adding Primosplint to a suck down matrix, make sure that the surface is roughened well enough before applying Primostick bonder.

Do not use strong strobe lights for curing.

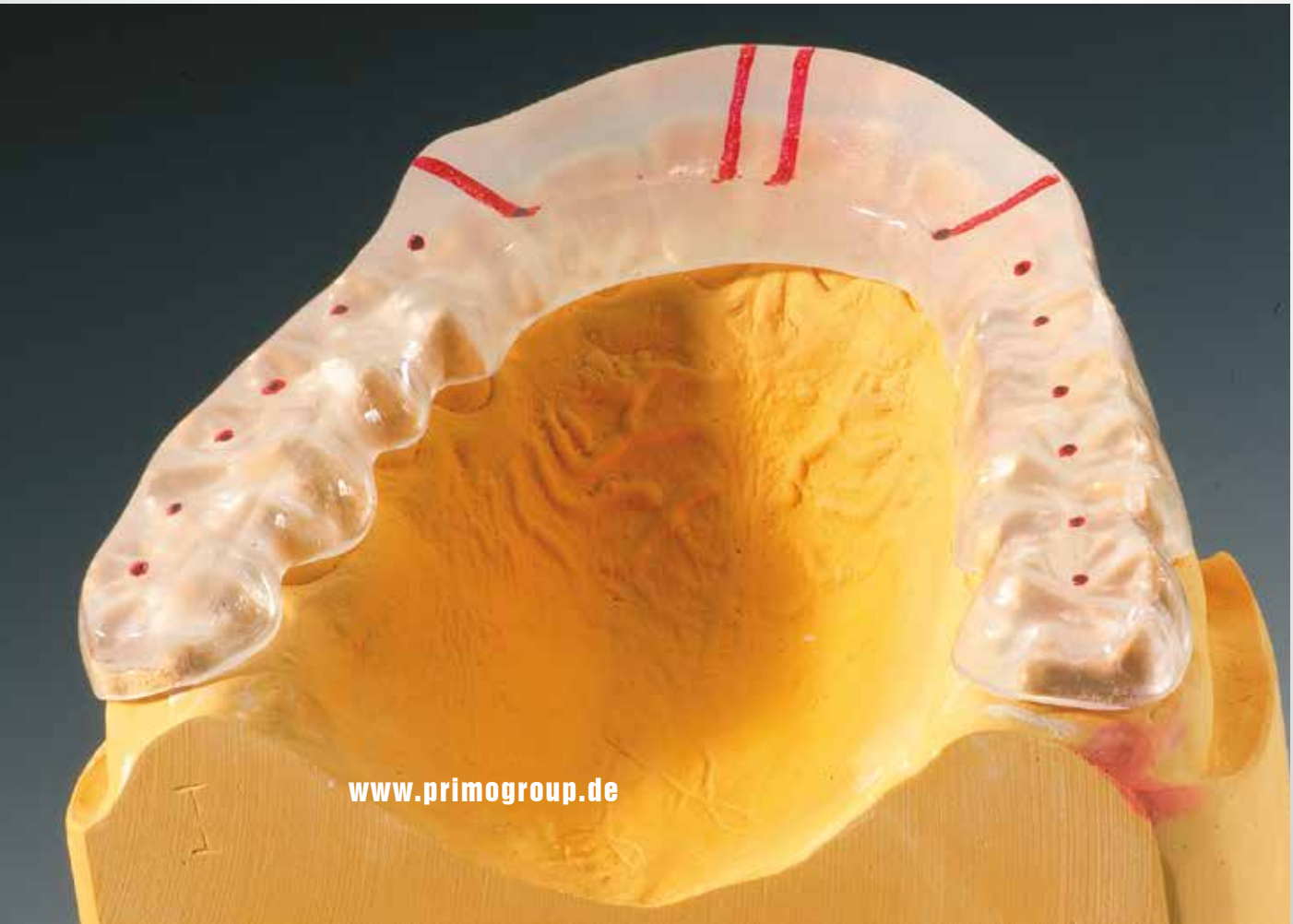
Any further technical questions –
please call **+49(0) 61 72 - 99 770 - 0**

science

Primosplint is a thixotropic material, meaning the more energy put into it, the softer and more pliable it gets.

Being a light cured composite, Primosplint has the lowest polymerization shrinkage of any material and the best dimensional stability. This means that the result is a most precise passive fit after light curing.

Primosplint provides the highest strength without any brittleness. It protects the natural dentition as well as the TMJ as the material is “abrasion-optimised”. Only premature contacts will wear faster, consequently the TMJ will not be stressed unnecessarily. This leads to guaranteed therapy results satisfying the patients needs.



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JUST A FEW STEPS TO PERFECT RESULTS!!!

Finished Case

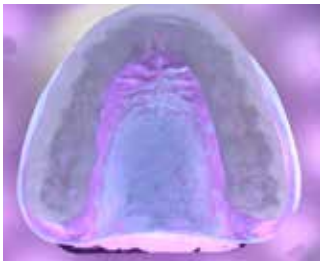
working procedure

primosplint - light cured composite in rod shape

easy adaptation at room temperature (no heat needed)

establish centric and disclusion

polymerisation in one of the metalight units…



…or in most conventional UV-A curing lights

lift-off the model

no shrinkage, no rocking, easy to finish and glaze

verify occlusion and glaze or polish

primosplint

ORDERING INFO

primosplint Starter Kit

Item #		Item
PS-KIT		**Primosplint PS-Kit1** – one each of: PS 100, box with 12 primosplint rods PS 202, bottle of light cure bonding material PS 203, bottle of stone model separator PS 204, bottle of light cure glaze lacquer PS 205, bottle of cleaning liquid IM 200, instruments and finger separator

primosplint refill components

Item #		Item
PS 100		**Box with 12 rods of Primosplint** – light cure composite material
PS 202		**10 ml bottle primostick** – light cure bonding material
PS 203		**50 ml bottle primosep** – stone model separator
PS 204		**10 ml bottle primoglaze** – light cure glaze lacquer
PS 205		**50 ml bottle primoclean** – cleaning liquid
IM 200		**Metatouch** – Instruments and fingers separator, 43g jar

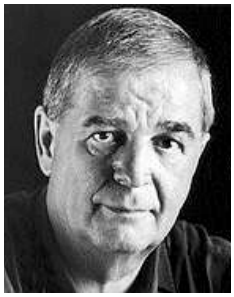
primosplint

publications

- **Implant Cases Made Easy**
  by Christina Ketzinger CDT
  and Andreas Hoffmann MDT
  published in Spectrum dialogue
  Vol. 7 No. 8

- **primosplint: for faster, easier splints**
  by Andreas Hoffmann MDT
  published in Dental Technologies No. 71

Find these and more publications as well as the Material Safety Data Sheets (MSDS) under **www.primogroup.de** or call primotec Germany at **+49(0) 61 72 - 99 770 - 0** for your free printed copy.



Dr. Diether Reusch

Privatpraxis für Zahnmedizin,
Westerburg, Germany

"Especially for our CMD therapy patients, primosplint offers us the needed perfect passive fit to ensure best treatment results. To easily verify occlusal contacts and disclusion we prefer the primosplint surface finish with lesser translucency."

metacon

the light cured WAX

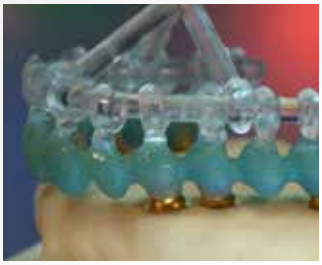
the very unique chemical formula of the Metacon wax ideally combines waxes, acrylics and photo-polymerising elements. Thus the material handles like wax before - and like acrylic after light curing.

speed up production

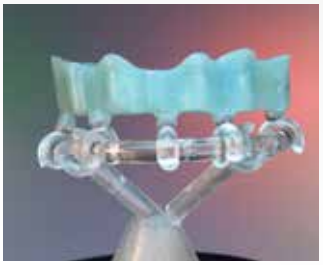
the Metacon light cured wax system offers substantial quality and time saving benefits for the full range of dental applications

innovations by primotec

metaconSystem



implant bridge



implant bar

tertiary structure modelled...

...and cast

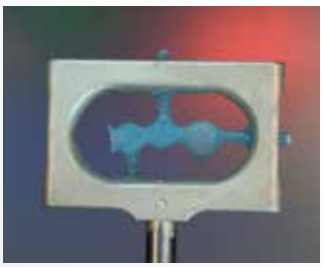
implant structure light cured and...

...metal try-in

crown- and bridgework

pressable ceramics

scanning, i.e. Procera



scan frame Cercon, Zirkon, Ceramill

lower partial with clasps

two lower partials in one ring!

uses

the full range of dental applications:

- crown and bridge restorations

» **implant bars and bridges**

- modellations for pressable ceramics
- combination cases with attechments
- partial dentures with clasps
- full upper palate plates

without duplicating material and refractory model.

advantages

- eliminates refractory models
- no need for duplicating materials
- more precise than conventional waxing methods
- substantial time and cost saving
- handles like wax before it is cured
- after it is cured, it handles like acrylic
- does not show any shrinkage or distortion after curing
- the material is strong yet flexible
- polymerized Metacon wax has a memory
- can be trimmed before investing
- burns out cleanly and completely
- does not expand in the ring
- available as modelling wax and as preformed patterns

- **metalight**
  light curing units
  mini, trend, classic

technical tips

For best temperature control rather wax up with an electric wax spatula than with an instrument and Bunsen burner. Alternatively Metacon can be kneaded “cold” as it offers perfect modelling consistency just slightly above room temperature. This method is even more productive.

To easily lift partials off the model after light curing always use the Metacon system separators and follow the instructions.

Do not try to wax up all details. It is much more productive to light cure the material first, then create the final shape details in the acrylic stage with grinding tools.

For best results always light cure the material in primotec’s metalight curing units Do not use any light curing units that generate heat inside the curing chamber and/or any strobe lights.

Any further technical questions – please call **+49(0) 61 72 - 99 770 - 0**

science

The Metacon light cured wax is a unique chemical composition of cracked carbon chains (acrylic) with photo initiators attached to both ends of the carbon chain pieces. These conditioned acrylic parts are then mixed with specially formulated waxes. Metawax modelling wax and Metaform preformed wax patterns are chemically equal but have a different density.

www.primogroup.de

SPEED UP PRODUCTION

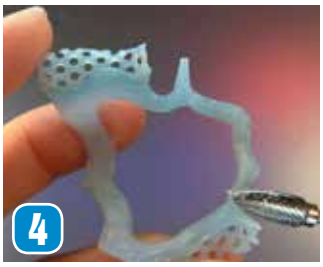

Finished Case

working procedure

after survey, design and block out apply the Metaseal separator

Metaform preformed patterns are available as clasps, stipple sheets, retentions, bars, etc.

for perfect adaptation the Meta-vac device is used



after light curing to acrylic the Metacon material can be trimmed

wax up completed, ready for sprueing and investing

when using the Metaring investing system three partials can easily be cast in one ring

for best fitting the investment material expansion needs to be adjusted 10% up

three partials, one button and minimum investment material used

metaconSystem

publications

- **There are simpler ways …**
  by Joachim Mosch CDT
  and Andreas Hoffmann MDT
  published in Spectrum Dialogue

- **The Metacon System – Part 1/2**
  by Bettina Cortés CDT
  published in Spectrum Dialogue
  Vol.6 No.9

Find these and more publications under **www.primogroup.de** or call primotec Germany at **+49(0) 61 72 - 99 770 - 0** for your free printed copy.

training courses

On a regular basis, various Metacon system training courses are organized in primotec's teaching facilities in Germany and in the USA. In addition, many primotec distribution partners worldwide offer different Metacon courses with their domestic specialists. For more information, please contact primotec Germany or call your local primotec partner.

ORDERING INFO

metaconSystem preformed patterns and peripherals

Item #	Item
KB-KIT	**Crown & Bridge base kit** one each of: GK300, GK400, IM200, IM300, MW100, PP151 
MG-KIT	**Partials & Full Plate base kit** one each of: BP300, IM200, IM300, GK300, KP100, PP3 RP200, RP400, SK100, VB100 Metacool ES100 not available in the USA 
MC-SET-110	**Metacon full size starter kit** for all applications – one each of: Metalight Classic QX1, MV100, MP100, MG100, KD100,BP100, BP200, BP300, GK200, GK300, IM200, IM300, KP100, KP400, MQ100, PP151, PP301, RP100, RP200, RP400, VB100 Metacool ES100 not available in the USA 
TZ-KIT	**Vacuum-Suction kit** one each of: MV100, MP100, MG100, KD100 

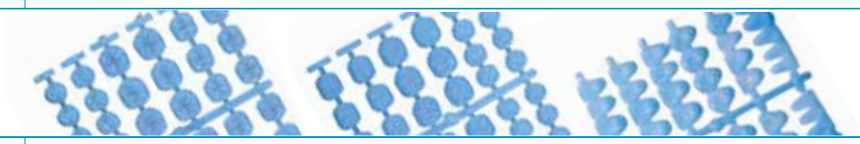
ORDERING INFO

metaconSystem preformed patterns

Item #	Item
Clasps	
KP100	**Metaform premolar clasp** (4 sheets, 104 pieces)
KP200	**Metaform molar clasp** (5 sheets, 140 pieces)
KP300	**Metaform ring clasp** (5 sheets, 130 pieces)
KP400	**Metaform straight clasp large** (5 sheets, 180 pieces)
KP500	**Metaform straight clasp medium** (5 sheets, 180 pieces)
KP600	**Metaform roach clasp** (5 sheets, 100 pieces)
Sheets	
PP101	**Metaform stipple sheet** – 0,35 x 67 x 130 mm (6 sheet)
PP201	**Metaform stipple sheet** – 0,45 x 67 x 130 mm (6 sheet)
PP301	**Metaform stipple sheet** – 0,55 x 67 x 130 mm (6 sheet)
PP401	**Metaform stipple sheet** – 0,65 x 67 x 130 mm (6 sheet)
PP105	**Metaform rougher stipple sheet** – 0,35 x 67 x 130 mm (6 sheet)
PP205	**Metaform rougher stipple sheet** – 0,45 x 67 x 130 mm (6 sheet)
PP305	**Metaform rougher stipple sheet** – 0,55 x 67 x 130 mm (6 sheet)
PP405	**Metaform rougher stipple sheet** – 0,65 x 67 x 130 mm (6 sheet)
PP151	**Metaform smooth sheet** – 0,55 x 67 x 130 mm (6 sheet)
PP251	**Metaform smooth sheet** – 0,80 x 67 x 130 mm (6 sheet)
PP351	**Metaform smooth sheet** – 1,40 x 67 x 130 mm (6 sheet)
PP451	**Metaform smooth sheet** – 1,80 x 67 x 130 mm (6 sheet)
Lingual bars	
BP100	**Metaform lingual bar swung** (5 sheets, 40 pieces)
BP200	**Metaform lingual bar swung with retention** (5 sheets, 20 pieces)
BP300	**Metaform lingual bar straight drop shape** (40g)
BP400	**Metaform lingual bar straight trapezium** (40g)
BP500	**Metaform bar for upper open palate plates** (5 sheets, 100 pieces)
Retentions	
RP100	**Metaform mesh retention for toothless jaws** (5 sheets, 10 pieces)
RP150	**Metaform loop retentions** (5 sheets, 10 pieces)
RP200	**Metaform mesh retentions** (5 sheets, 5 pieces)
RP300	**Metaform retention comb shape** (5 sheets, 45 pieces)
RP350	**Metaform double comb shape retention** (5 sheets, 40 pieces)
RP400	**Metaform retention hole shape** (5 sheets, 45 pieces)

ORDERING INFO

metaconSystem preformed patterns and peripherals

Item #	Item
Sprues 	**Rods and half round sticks** 
GK100 GK200 GK300 GK400 GK500 GK600	**Metaform sprue sticks round** – 1,5 mm (15g) **Metaform sprue sticks round** – 2,5 mm (30g) **Metaform sprue sticks round** – 3,5 mm (53g) **Metaform rods** – 6 mm (60g) **Metaform half round sticks** – 1,6 mm (16g) **Metaform half round sticks** – 2,2 mm (22g)
Occlusal surfaces & backing plates 	
FP100 FP200 FP300	**Metaform upper occlusal surfaces** (3 sheets, 120 pieces) **Metaform lower occlusal surfaces** (3 sheets, 120 pieces) **Metaform backing plate** (3 sheets, 120 pieces)
MW100 	**Metawax** modelling wax (20g)
IM200 	**Metatouch** finger and instrument separator (40g)
IM300 	**Metaseal** stone model and die separator (40g)
VB100 	**Metabond** connecting bonder (10ml)
ES100 	**Metacool – not available in the USA –** cooling spray (2 tins à 150 ml)
SK100 	**Silikobold** modelling instrument – features rounded smooth, rounded stippled and flat sides (perfect for Metacon system)
MV100 	**Metavac** vacuum-suction device
MP100 	**Metapump** hand vacuum pump
MG100 	**Metagran clear acrylic grains** (1 sheets, 120g)
KD100 	**Metatex latex covers** (1 pack, 36 pieces)

metablue

light cured Metacon system modeling composite

metablue is a light cured modeling composite gel from the syringe,
that burns our cleanly and completely and is aligned specifically
to be used with the metacon light cured wax system.

quick modeling directly from the syringe

with metablue the metacon system becomes even easier in handling with even more perfect results

innovations by primotec

QUICK MODELING DIRECTLY FROM THE SYRINGE

uses

- individual implant abutments
- secondary parts of combined cases, such as telescopic or conus crowns, interlocks, RSS, millings, individual attachments, etc.
- tension free connection of Metacon implant bars, bridges or partial segments
- smoothening and/or sealing of ground Metacon surfaces
- fixing of retention beads on secondary telescopic or conus crowns
- easy attaching of the Metacon sprues to the modelled case

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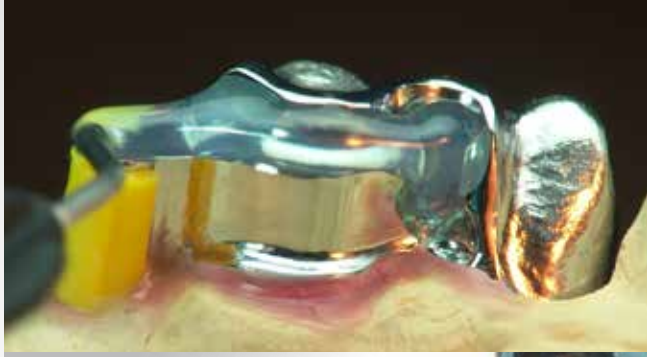
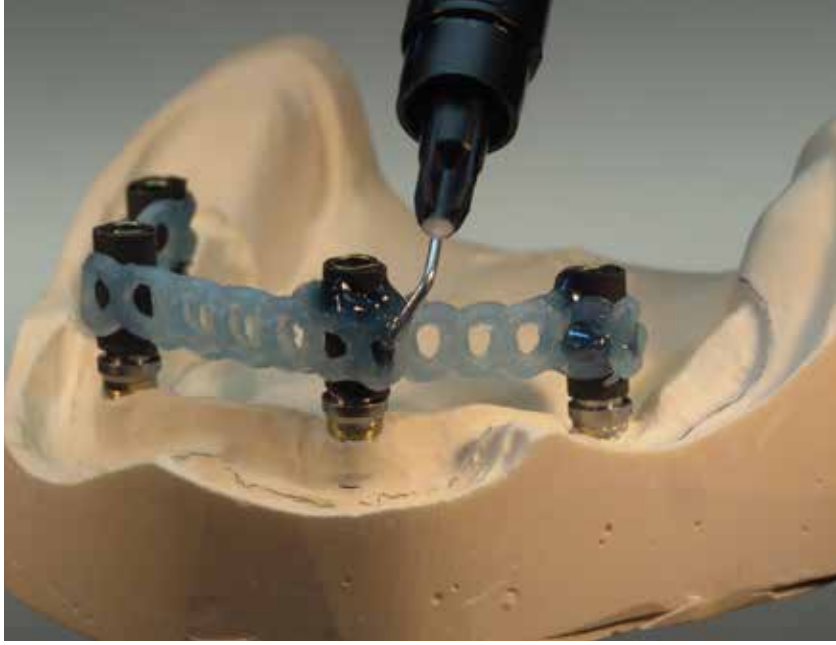
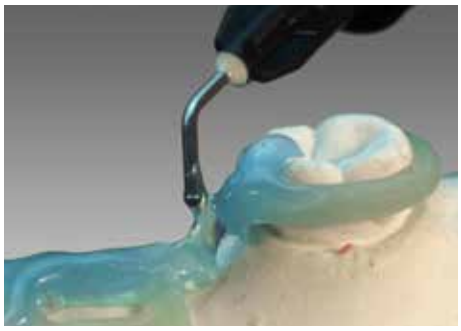


advantages

- ready to use, one component material from the syringe
- burns out cleanly and completely
- very good and precise modeling characteristics
- connects directly to the light cured Metacon wax
- is processed "cold" – no danger of thermal tension when connecting Metacon segments
- no separator needed on zirconium, metal or porcelain surfaces
- no danger of "melting through" on the block-out or relief wax (in case of partials)
- long working time (>20 min.), short light curing time (<5 min.)
- absolutely precise after polymerisation – no noticeable shrinkage or distortion
- secondary parts can be lifted off without any problem
- easy to grind with conventional carbide burs or universal rubber polishers





ORDERING INFO

Item #		Item
MB100		**metablue** light cured Metacon System modeling composite, 4 syringes at 3g/each, 12 hollow needle tips

metalight

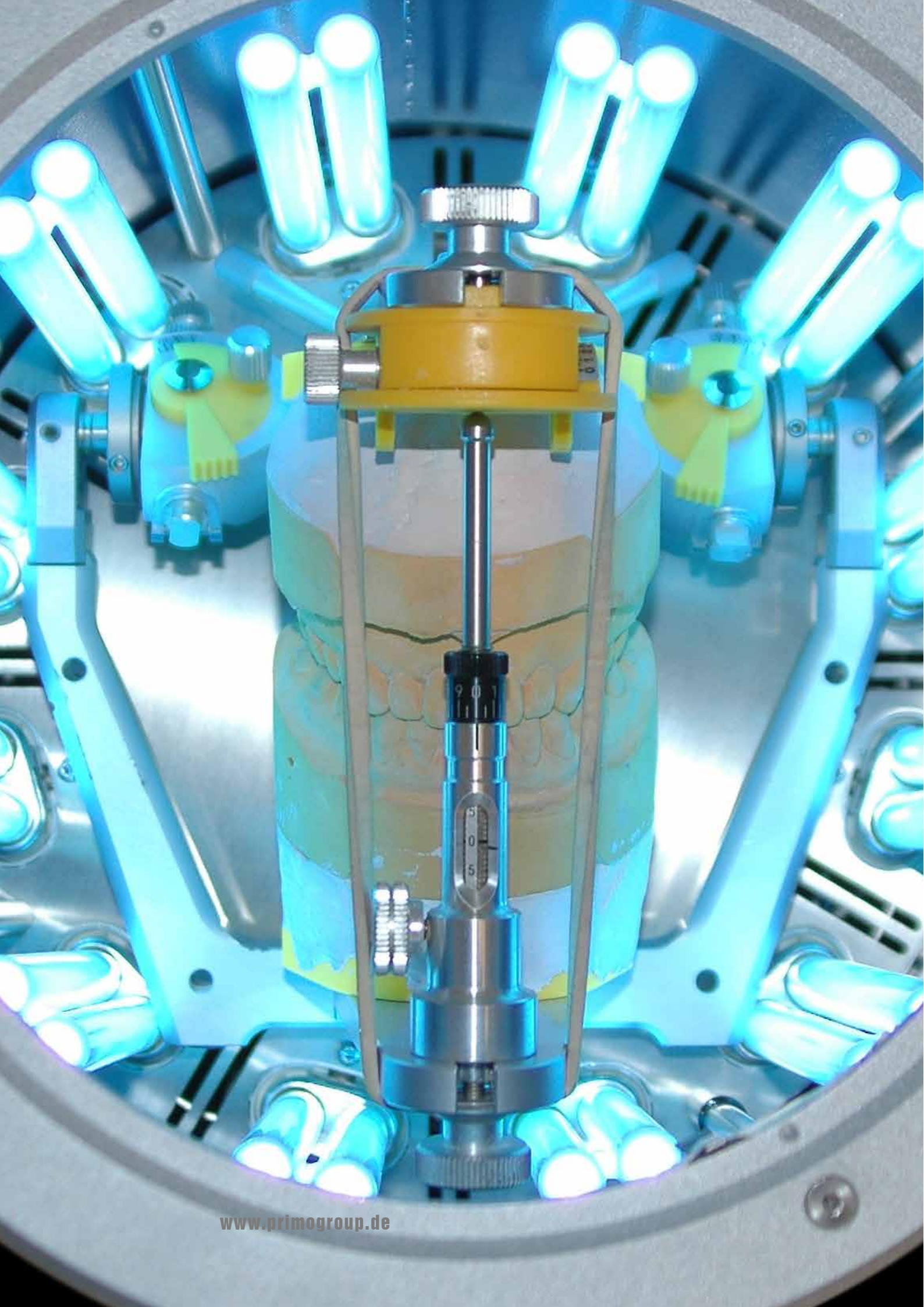
broadband light curing units

gentle and distorion free polymerisation of all light cured dental materials was the defined goal for developing the metalight curing units

distortion free light curing units

innovative cooling system for stress free light curing

innovations by primotec



metalight

uses

cures all Primotec light cured materials, including:

- Metacon light cured wax
- primopattern light cured universal modeling resin
- primosplint composite material for night guards and more
- primobase light cured base plate material
- primotray custom impression tray material
- most other light cured dental materials

advantages

- distortion free curing due to constantly low polymerization temperature
- innovative cooling system with fine dust filter
- Made in Germany with two years warranty (excluding bulbs)
- comfortable and easy to use
- UV filters allow direct observation of the light curing process
- advanced Alutec Design with highest quality components
- stainless steel inside, multi color coated V2A steel housing, laser cut and CAD/CAM milled aluminium parts for long lasting durability

- light cured primosplint

technical tips

Since the light curing process is cool and soft, extended curing time does not negatively influence the curing result

For most reliable light curing results replace the bulbs after every 1000 hours.

background

The Metalight produces gentle and distortion free polymerization for all light cured dental materials. This is done with a high tech cooling system that provides a stable temperature just slightly above room temperature.

The light bulbs cover a spectrum range of 320-500nm.

DISTORTION FREE LIGHT CURING UNITS

metalight mini

Metalight mini – is the smallest and most cost effective Metalight model. It is optimal for use directly at the work bench, which increases efficiency and avoids wait times at the central laboratory light curing unit. The chamber accommodates up to two stone models.

metalight trend

Metalight trend – is more spacious than the Metalight mini and is equipped with an push button operating panel.

There are three easy touch buttons for 5, 10 and 15 minute polymerization cycles. The chamber provides sufficient space for the metavac suction device, up to 4 models and taller models with plaster bases.

metalight classic

Metalight classic – provides the largest polymerization chamber, easily fitting any full size articulator. Twelve lights combined with special paint inside the chamber provide ultimate light power within the spectrum of 320-400nm (optionally 320-500nm). It also has three easy touch buttons for 5, 10 and 15 minutes polymerization cycles. The curing process starts automatically once the top is placed on the unit. A built in filter protects the chamber and cases from dust during operation.

ORDERING INFO

Item #	Item
ML120	**metalight mini** – light curing unit
ML110	**metalight trend** – light curing unit
ML100	**metalight classic** – light curing unit
ML800	**metalight bulb** – from 320 to 400 nm
ML801	**metalight bulb** – from 400 to 500 nm

* for further information on the metalight units also ask for our separate brochure

phaser

pulsed micro arc welding units

the primotec phaser welders based on pulsed micro arc technology are optimized for easy, fast and reliable welding of all types of dental welding jobs

laser quality welding at a fraction of the cost

able to weld ALL dental alloys, including Palladium-Silver, even easier, even more gentle and even more versatile.

innovations by primotec

R & D keeps going; by introducing the third generation of phaser micro arc welding units since 2003, a new milestone in dental welding technology is set.

easiest operation for best results – the new phaser welders define the "gold standard" in dental welding – no matter if it is for new restorations or for repairs.

LASER QUALITY WELDING AT A FRACTION OF THE COST

- **dental world convinced**
  originally developed to make dental welding accessible to a wide range of users. Due to its, compared to laser welders, considerably less costly pulsed micro arc technology, phaser welding has meanwhile become **the** dental joining technique of choice worldwide.

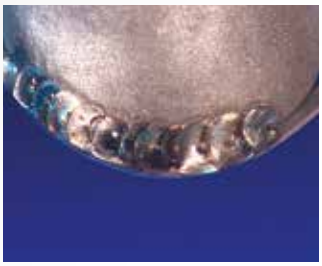
- **newly designed platform**
  latest developments in electronics and control engineering helped designing a completely new device platform to further optimize phaser welding in all regards. This new device platform virtually allows any manipulation of the electric arc that brings the energy to the workpiece, thus creating the welding spot.

- **even better results**
  the impulse modulation could be further refined and combined with a high-frequency overlapping that functions like a micro vibration. Comparable to dental stone on a vibrator, this high frequency overlapping provides a higher density in the welding spot combined with a smoother welding surface, thus increasing the welding quality. By applying this new technology, micro cracks when welding critical alloys have become a thing of the past.

- **explicitly extended uses**
  due to the application of these latest technologies the spectrum of uses could be explicitly extended. Contact welding, pin welding and micro welding for orthodontic applications are some of the key words. In addition now even the electric arc diameter can be constricted in order to obtain the best welding results especially in very tight and hard to get to areas.

- **easiest operation**
  the operation concept is designed in a way that only the alloy type that shall be welded and the energy level (micro, fine, medium, strong) need to be chosen. So, even an inexperienced user can weld safely from the start. The phasers naturally still provide a multitude of individual adjustment possibilities, which experienced technicians like to use to bring their welding results to perfection. Still, even with the standard settings very good results can be obtained.

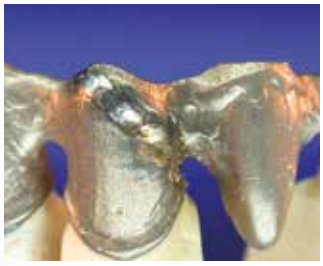
orthodontics



margin extension

hole in crown

contact point



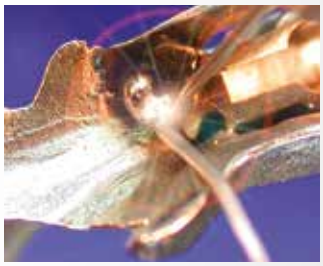
bridge

hybrid welding

cast bridge element to Captek or electroformed coping

implant cases

secondary crown to partial



attachment to partial

partial extension

repair of broken clasp

repair of broken sublingual bar

wide spectrum of uses

The primotec phaser pulsed micro arc welding units can weld

- all dental welding jobs, no matter if it is for new restorations or for repairs
- all dental alloys and mono metals such as Titanium
- different alloy combinations such as precious to cobalt-chrome (Hybrid)
- many welding tasks on orthodontic appliances

easily, safely and most reliably.

The 13 preset programs of the new phaser welding units cover all current types of alloys and welding tasks in the dental field. Alloys, commonly known as difficult to weld, such as Palladium-Silver are now perfectly pre-programmed and no longer critical.

advantages

Operation and control

easiest operation due to

- turn and push controller with just one main menu
- 13 preset welding programs
- 4 preset energy levels

This means:
just select the alloy type and energy level and start welding safely and reliably. So, very good welding results can be achieved almost automatically, even with critical alloys.

For experienced welders:
Power and pulse duration are freely adjustable for a perfect control of the welding spot diameter and penetration depth.

7 free programmable spaces to save individual program settings

Programs

Precious | Semi-Precious | Palladium-Silver
Palladium-Base | Hybrid | Cobalt-Chrome
Nickel-Chrome | Titanium | Contact Welding
Pin Welding | plus Ortho

Energy levels

micro | fine | medium | strong

The primotec phaser is the most sold pulsed micro arc welding unit for dental technology worldwide

advantages

phaser-technology

- The only dental welding unit that combines four different welding modes: pulse arc, micro arc, contact and pin welding
- Further improved pulse shaping technology for even stronger and cleaner welds
- First time applied for dental welding: high frequency pulse overlapping for even smoother and denser welds
- Three different ignition modes = soft – normal – deep for optimized welding spot size
- Most reliable ignition in the micro level. At the same time high power reserve at the high end.
- A high pulse frequency of 2 Hertz allows fast welding where it makes sense.
- Very clean and oxide free welds due to the Argon gas being led precisely to the welding area right through the handpiece.
- Maximum flexibility as the handpiece can be either free to move or fixed in the handpiece holding arm.
- High power LED lights provide a perfect shadow- and glare free illumination without heat development.

phaser-characteristics

- maintenance free
- super low running costs (just Argon gas and tungsten electrodes)
- very low gas consumption of only 2 l/min
- compact dimensions, small space requirements, low weight
- no audible noise during operation (no fan or pump)
- fast analysis – the service menu permanently
- checks all phaser functions
- extremely reliable
- Made in Germany
- two years full warranty

economical aspects

phaser welding helps to:

- increase quality and profits
- generate new business
- speed up turnaround time

innovations for a perfect workflow

- **The welding energy quality - pulse shape and HF overlapping**

With the greatly improved, new phaser pulse shaping technology the operational sequence of the welding impulse can be modified in steps as small as one millisecond. This way the welding power can be adjusted i.e. to slowly increase, to softly fade, or to sharply increase or decrease in defined steps during the set impulse duration.

The high-frequency overlapping of the welding impulse functions like a micro vibration. Comparable to dental stone on a vibrator, this high frequency overlapping provides a higher density in the welding spot combined with a smoother spot surface, thus increasing the welding quality.

The result: The combination of individually modulated pulse shape with high frequent overlapping vibrations guarantees gentle welding in accordance with the specific requirements of each alloy type. The welding energy no longer strikes the alloy abruptly and with full force, but just right. Critical alloys like Palladium-Silver, Cobalt-Chrome (depending on the carbon content) and other eutectic alloys, are now easy to weld, even for beginners. Solidification (micro) cracks inside the welding spot can easily be avoided. At the same time an even better penetration of the welding energy into the alloy is achieved.

Down to the smallest detail.
The high precision 10 x stereo microscope ensures the best possible viewing for every welding task.

• Contact welding

Welding without the tungsten electrode. To join two parts with this welding program, one part of the workpiece is connected to the anode (black cable) the other part to the negative pole (red cable).

When both parts are properly connected, they are brought into contact in the area where they should be joined. Then the welding impulse is triggered with the foot pedal, welding both parts together at the place they touched.

The result: Contact welding - also called resistance welding - offers completely new applications for any kind of fixing joints, especially for orthodontic welding jobs.

• Pin welding

Typical cases for pin welding are i.e. to directly weld a retention wire to a partial for an extension of one tooth, or to position a holder pin for the connecting clamp, if it can't be fixed to the case otherwise. For pin welding the handpiece is modified in a way that the pin can be shot right onto the case.

The result: pin welding is a very expedient completion of dental welding techniques, which is, at present, not available in any other kind of dental welding apparatus.

• Power and time

Due to the latest energy storage technology applied, the maximum power of both phasers could be increased by 30% each. At the same time the new machines are even more accurately adjustable not only over the full power range, but especially in the lower power regions. The time (impulse duration) can be adjusted very precisely in one millisecond steps.

The result: Both main energy parameters "power" and "time" can now be adjusted even more accurately. The effort to finish the welding area is further reduced.

• The micro range

The advanced electronics of the phaser mx2 makes sure that the arc is reliably ignited in the micro range even if minimal power and time settings are chosen.

The result: Even in the lowest energy areas, needed i.e. for thin crown margin extensions, small holes or orthodontic wires, continuously identical, fine spot welds can be created. At the same time the tungsten electrode lasts longer as, due to the refined power control, an accidental pre ignition with too much energy is no longer possible.

• The free storage space

Besides the 13 already preset welding programs, both new phaser models provide 7 free programmable spaces to save individual program settings.

The result: fast and easy saving of individual program settings. With a “fingertip” these programs are available for the same kind of welding job at any time.

• The impulse frequency

When set on “Auto” both phaser models switch to maximum impulse frequency (welds per second) depending on the chosen energy parameters. This frequency option allows very fast welding where needed.

The option “fixed-2sec.” provides one weld only every two seconds. This setting is very helpful on complicated and advanced cases where initially just one shot is indicated.

With the optional foot pedal the impulse is not triggered by touching the workpiece with the electrode, but only by pushing the pedal.

The result: the new phasers offer the adequate speed for every welding job.

• The ignition mode

Changing the ignition mode to “soft” makes the arc slightly wider. When mode is set on “deep”, the arc is tied up and the arc pressure is increased.

The result: The ignition mode “soft” makes sure that the electrode stays pointed and lasts longer. At the same time “soft” is gentler to the alloy.

The setting “deep” is the best for welding in deep areas such as between two crown margins from below. The ignition of the arc is placed directly in the depth and doesn’t revolve to the outer banks of the crowns on the left and right side.

• The handpiece

The handpiece has been newly designed to react even faster than before. As a result possible differences in the welding spot diameters are virtually eliminated. The chance of the electrode clinging to the work piece is almost none.

In addition the hand piece nozzle is now equipped with a special ceramic insert. This insert allows an even more precise and pointed gas jet to the welding area and helps reducing the Argon gas consumption to only 2 litres/ minute.

The result: The handpiece reacts even faster and more precise, the Argon gas jet to the welding spot is optimized and the gas consumption could be further reduced.

phaser

publications

- **Lightning in a bottle - Soldering and welding are not the same**

  by Joachim Mosch CDT,
  Andreas Hoffmann MDT
  and Dr. Michael Hopp
  published in dental dialogue USA

- **Plasma vs. Laser - Comparison of the material quality of welded dental alloys**

  by Prof. Dr Wolfgang Lindemann,
  Tübingen/Germany
  published in dental dialogue USA

Find these and more publications under **www.primogroup.de** or call primotec Germany at **+49(0) 6172 - 99 77 0-0** for your free printed copy.

training courses

- **Advanced phaser welding course**

  On a regular basis, various phaser welding training courses are organized in primotec's teaching facilities in Germany and in the USA. In addition, many primotec distribution partners worldwide offer different phaser courses with their domestic specialists.

  For more information, please contact primotec Germany or call your local primotec partner.

Mark Stueck CDT

Drake Dental Lab
Charlotte, NC

"We have been using the phaser mx everyday for 7 years now. It sits right next to our laser welder. Both machines are great but we find that the phaser gives us better welds on our partials and also for bridge work. Not to mention that it's maintenance free!"

technical tips

Especially Palladium-Silver alloys and Cobalt-Chrome alloys with relatively high carbon content are said to be difficult to weld. Because of the almost eutectic behavior of these alloy types, micro cracks in the welding spot tend to appear easily.

Due to the specially developed pulse shapes with HF overlapping for these alloy types this problem can now be considered as solved. However, if material needs to be added, the welding wire for Palladium-Silver alloys has to be of high gold content. As for Cobalt-Chrome alloys, it is a must to use machined carbon free wires only.

Titanium can only be welded to Titanium

Always remember that the weld or arc comes from the work back to the hand piece. The hand piece does not “shoot” a weld. When adding metal back always keep the welding wire between you and the electrode.

background

The primotec phaser is a pulsed arc micro welder developed to make dental welding accessible and affordable to all dental laboratories.

It provides the exact same quality welds as a traditional laser welder (see study). Argon gas flows through the hand piece and focuses on the welding area creating a clean and oxygen free environment, leading to stronger weld joints.

The welding or heat affected area is so small that it can easily be done next to acrylic or porcelain. Individually adjustable time and power allow exact control over the welding spot diameter and penetration depth. This allows for welding of all dental alloys.

working procedures

One of the great advantages of phaser welding over soldering is the very small heat affected zone which allows welding right next to porcelain or acrylic.

cut

weld

finished workpiece

ORDERING INFO

micro arc welding units & welding accessories

Item #	Item
mx2-1152 	**primotec phaser mx2-1152** **main controller unit** with power cable 230/115 Volt, integrated operating panel with turn and push button, handpiece with integrated gas flow and ceramic insert, gas hose (300cm), 10 pieces special tungsten electrodes, diamond disc with mandrel, brass brush, connecting cable with „alligator“ clamp, black 100cm, connecting cable with „al- ligator“ clamp, red 100cm **stereo microscope** with 10x magnification, fully automatic LCD-Shutter, swivel arm with table stand and front support, handpiece holding arm with high power LED lighting
mx0-090X 	**Gas-Connecting-Set (essential for handling)** 1 pressure reducer for Argon 4.6 including pressure gauge and gas flow meter (l/min.), 1 quick coupling for gas hose connection, 3m gas hose Ø 6,0mm
fs0-0600 	**Foot pedal** cable length: 185 cm recommended accessory
mx0-0550 	**Hand rests** pack of two, for more comfortable and relaxed welding recommended accessory
mx0-0100 	**Special tungsten electrodes - Standard** 10 pieces (0.6 mm in diameter)
mx0-0105 	**Special tungsten electrodes - Ortho** 10 pieces (0.5 mm in diameter)

ORDERING INFO

welding accessories

Item #	Item
mx0-0160 	**Brass brush** for fast and easy cleaning of the welding area
mx0-0200 	**Connecting cable black (+)** with „crocodile“ clamp, 100cm
mx0-0205 	**Connecting cable red (-)** with „crocodile“ clamp, 100cm
mx0-0210 	**Flexcontact connecting cable** black, cable length 100 cm
mx0-0244 	**Pin welding set** includes: connecting cable 75 cm, adapter cable 13 cm, handpiece adapter and 10 pins 1.3 mm
mx0-0247 	**Pin welding pins** 10 pieces (1.3 mm in diameter)
mx0-0250 	**Solder cross tweezers** cable length 70 cm
mx0-0300 	**Flat pointed pliers** cable length 70 cm
mx0-0512 	**Nozzle with ceramic insert** for phaser as2 / mx2 handpiece
mx0-0520	**Collet chuck** for all handpieces (ec1 /mx1 / as1 / mx2 / as2)
mx0-0530 	**Tightening nut** for all handpieces (ec1 /mx1 / as1 / mx2 / as2)
mx0-0150 	**Diamond disc** diameter 19 mm, shaft 2.3 mm, for sharpening the tips of the special tungsten electrodes

Joker

the welding assistant

the Joker is a unique special steel tool

designed to increase every day welding

productivity and quality

no more distortion or stress in weldings

perfect passive fit for all welded cases at any time

innovations by primotec

NO MORE DISTORTION OR STRESS IN WELDINGS

advantages

- eliminates the chance of distortion
- takes stress out of the weld
- improves the alloy grain structure in the welding zone
- eliminates laborious alternate welding and its constant side changing
- saves time and increases productivity
- individually adjustable to fit all restorations
- once the initial fixing spots are placed, the welding can be finished off the model
- provides more relaxed working conditions and better results automatically
- can be used with any dental welder (phaser or laser)
- supplied with two already cast cobalt-chrome tips plus 12 plastic tips

uses

eliminates distortion when welding

- sectioned implant borne bars
- bridges of any size
- extensions on cobalt chrome partials
- broken sub lingual bars
- any other cases that require perfect passive fit
- can be used on any dental alloy
- fixing any parts to be welded in a stable position

science

Without the sectioned parts to be welded being firmly secured, the molten alloy welding spot, when cooling down, will always shrink towards the center of the mass, thus pulling the sectioned parts inwards and up.

When the parts are secured with the Joker, the direction of shrinkage is guided downwards, which is the only direction that does not negatively influence the fit.

working procedure

cast the provided plastic tips in the alloy you use. This ensures that no other metal...

...impregnates the parent metal. Already cast CoCr tips are included.

screw the tips made of the same alloy as the work piece into the Joker

adjust the tips to either side of the case.

fix the tips with 1-2 spot welds each to the workpiece.

now go ahead and weld the joint distortion free.

ORDERING INFO

Item #		Item
MX0-0330		**Joker** - Joker - 2 cast cobalt-chrome tips - 12 plastic tips - phaser connection cable with plug - Instruction manual

quinto

the third hand

the quinto is a very precise yet simple
solution for fixing even the most complex
dental restoration on the model

no more rocking or seesaw-effects

5 differently angled arms allow for holding any type of case perfectly in place

innovations by primotec

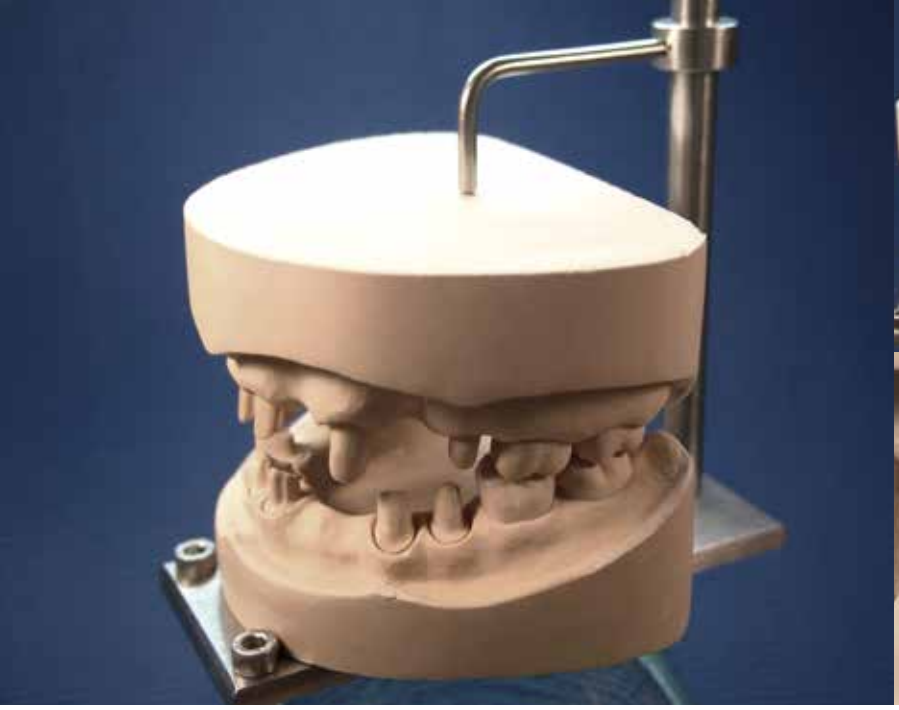
NO MORE ROCKING OR SEESAW-EFFECTS

uses

- secures even the most complex restorations simply and precisely on the model
- holds multiple pieces of a sectioned bridge in place for welding
- helps adhering an electroformed gold structure produced over an implant bar to the tertiary superstructure of the denture base
- makes it easy to position a cobalt chrome denture base extension
- ensures centric fixing of a pair of models before mounting on an articulator

advantages

- eliminates the chance of rocking or see-sawing on all different cases
- keeps both hands free for holding or adjustments
- distortion-free uniform hardening of sticky wax or hot melt adhesive
- no problems with mounting on an articulator
- no waiting while materials set, the technician is free for other tasks.
- saves time and increases productivity
- individually adjustable to fit all types of restorations
- can be directly grounded with the phaser welding unit



working procedure

place the model on the Quinto base and press the small 90° angle arm against the model securing the model to the base

depending on the type of restoration, use any of the other arms to secure the sections on the model

now you can weld, glue or do anything with the case and have both hands free.

ORDERING INFO

Item #		Item
QU100		**Quinto** - model base with vertical holder bar - clip-arm 1, fixing the model - clip-arm 2, one flat angle - clip-arm 3, two flat angles - screw-joint-arm 1, one 90 angle - screw-joint-arm 2, two 90 angles

Twister

the “hands-free” air gun

compressed air passed through the Twister‘s flexible stainless steel hose cools both, restorations and grinding tools. At the same time, Twister keeps the workbench clean and dust-free.

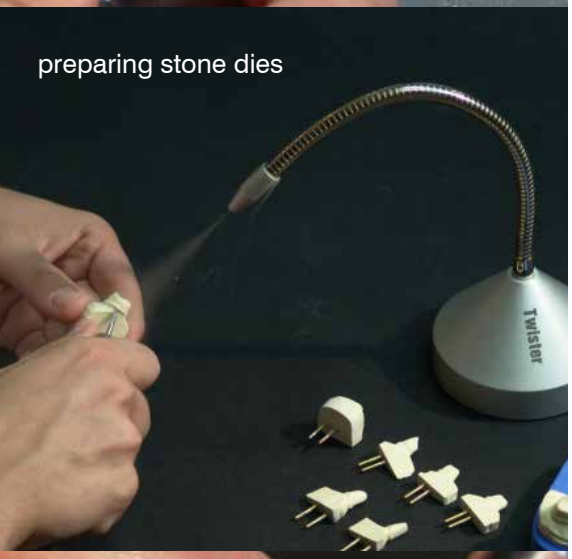
no more overheating

of restorations, grinding tools or fingers

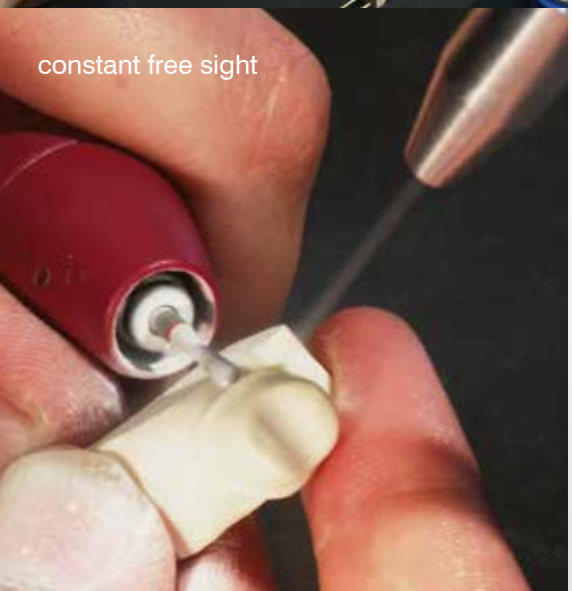
innovations by primotec

cutting Titanium
– **Twister OFF**

cutting Titanium
– **Twister ON**



preparing stone dies



constant free sight

background

At low pressure, the Twister is ideal for use when exposing preparation margins on stone dies. Also it speeds up drying and spreads liquids evenly.

When cutting off sprues or finishing/polishing inlays, the Twister is adjusted to high pressure, thereby cooling restoration, cutting disc or polisher and the technicians fingers.

Used with the workbench suction unit, the Twister provides a significant health benefit, as the dust is blown directly into the suction vent. The Twister is Made in Germany with the highest quality, specially coated aluminium and stainless steel components.

uses

- adjustable compressed air directly on the spot
- ideal for exposing preparation margins on stone dies
- speeds up drying and spreads liquids evenly
- cools restorations during the grinding process

advantages

- continuously adjustable air flow
- flexible stainless steel hose keeps air perfectly on the working spot
- no more overheating of restorations, grinding tools and fingers
- no more “water dipping” for cooling needed
- constantly clear view of the working area
- dust is blown directly into the suction vent providing significant health benefit and also keeps the workbench clean and dust free.
- save space on the work bench

www.primogroup.de

SIMPLY CONNECT THE TWISTER TO COMPRESSED AIR AND YOU`RE READY TO WORK. NO OVER-HEATING OF RESTORATIONS OR BURS

ORDERING INFO

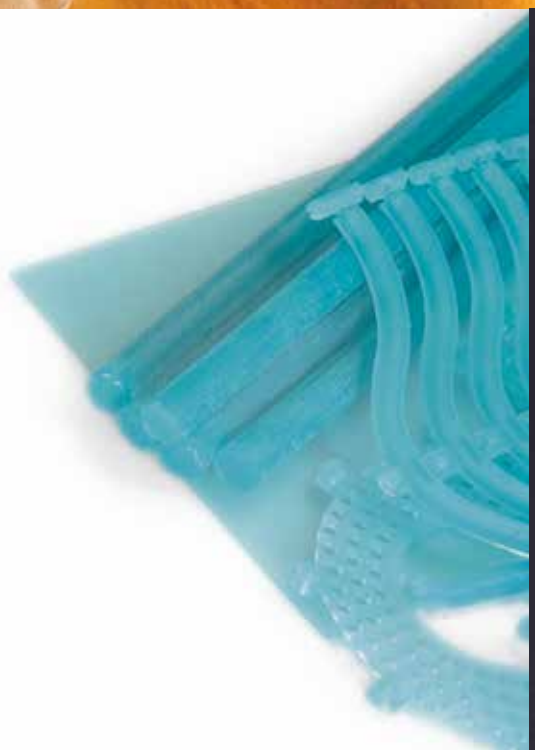
Item #		Item
TW100		**Twister ONE** Manual, continuous adjustment of compressed air through a ball valve

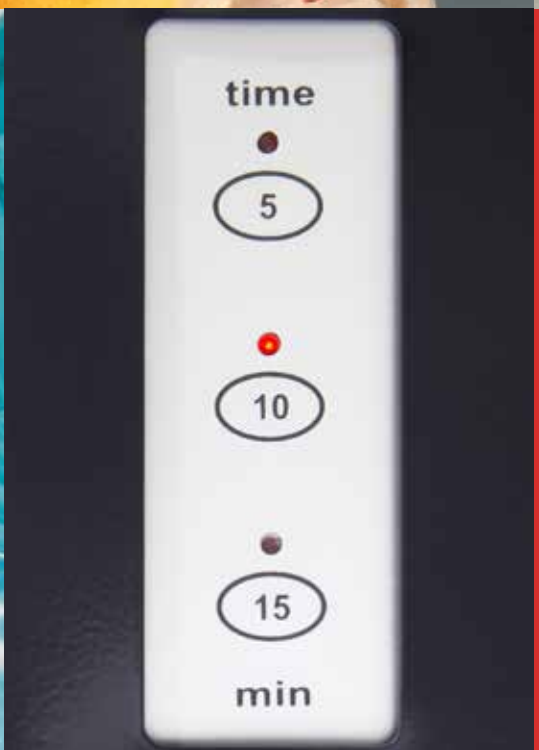

primo
metalight classic
primotec


5
10
15


primopattern LC Paste


primotec

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ADVANCED LABORATORY SYSTEMS

ADVANCED LABORATORY SYSTEMS

primotec®

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