

# thermopress 400

One system for five thermoplastic materials



Enhanced quality of life - Increased therapeutic success



## Enhanced quality of life

### Biocompatible solutions for metal-free dentures

Prostheses in the body should behave in the same way as the body parts they replace. Established denture materials such as metal, ceramic or zirconium dioxide, however, are harder than any substance contained within the body and therefore disrupt the natural processes contained within.

In contrast to this, thermoplastic dentures will not prevent any natural movement of the jaw. This prevents discomfort such as muscle and neck tension while protecting the natural tooth and bone tissue. In addition, loosening of the teeth can be prevented by using metal free clasps.

### The “oral battery” phenomenon

Electric currents can flow in the mouth especially between different metals (e.g. between gold and non-noble metals/ amalgam). As a result, metal ions are dissolved and absorbed into the body through ingestion. Use of thermoplastic materials eliminate this common problem.

#### Literature collection

\* Niedermeier W. Oral Galvanism - causes and consequences. ZWR 2015; 124 (12): 578-584

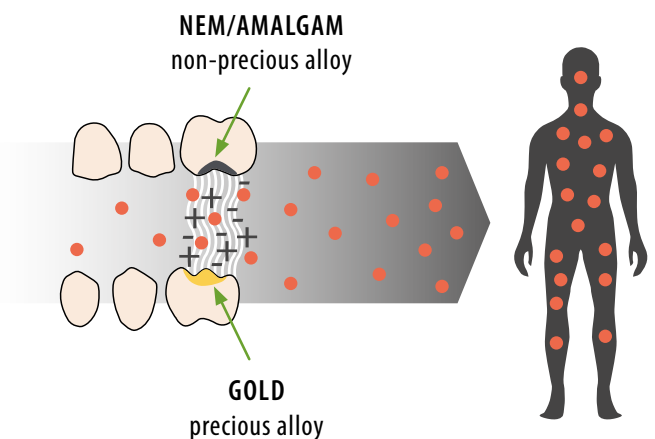
### Avoid allergy risks

Scientific studies\* have shown that metals present a risk of developing allergies within the oral mucosa. Metals release ions into the saliva that burden the immune system. Increasingly people will have a negative reaction to these materials, sometimes effecting the entire body.

However, some patients are also sensitive to dental plastics. The residual monomer content presents a problematic risk, especially in the case of chemoplastics. By contrast, the processing of Bredent's thermoplastics prevents the release of residual monomer.

### Aesthetics Plus

Tooth or gingiva-coloured plastics achieve a much more natural look than their metallic counterparts. For example, plastic clasp prostheses fit harmoniously within the overall appearance of the dentition and give a more natural appearance when speaking or laughing.



The “oral battery” dissolves ions from the alloy, which can then reach the entire body.

Bio Dentaplast  
Tooth Coloured Clasps

Aesthetic and  
biocompatibility



bre.flex 2<sup>nd</sup> edition pink veined

Mandible frame + gum

Smooth Surfaces  
Seamless  
Gum Colours

neo.lign  
Acrylic teeth

Function  
Biocompatibility  
Comfort

## Successful therapies

### One system - multiple indications

Bredent thermoplastics impress with their biocompatible properties as well as their simple and rapid processing. They can be used to treat sensitive and allergy-burdened patients with aesthetic, hypoallergenic dentures.

The efficient thermopress 400 injection moulding machine can be used for numerous indications and special solutions:

#### Bio Dentaplast

- > Clasped frameworks
- > Secondary construction for attachment cases
- > Secondary construction for telescopic cases
- > Secondary construction for bridge work
- > (therapeutic splints)

#### Bio Dentaplast 2

- > Therapeutic splints
- > Aesthetic splints
- > Secondary construction for attachment cases
- > Secondary construction for telescopic cases
- > Secondary construction for bridge work

#### bre.flex

- > Protective splints
- > Secondary construction for bridge work
- > Over denture
- > Full dentures implant-supported
- > Secondary construction for conical crowns

#### bre.flex 2<sup>nd</sup> edition

- > Protective splints
- > Non-metal clasped frameworks
- > Secondary construction for bridge work
- > Over denture
- > Full dentures implant-supported

#### Polyan IC

- > Therapeutic splints
- > Snoring-prevention splints
- > Full dentures without holding elements
- > Full dentures implant-supported



Aesthetic, almost invisible beauty & bite splints made of Bio Dentaplast 2.



## Product range

REF	Colour	QTY
540BA105	A1	1 x 500 g
540BA116	A1	20 x 16 g
540BA120	A1	20 x 20 g
540BA205	A2	1 x 500 g
540BA216	A2	20 x 16 g
540BA220	A2	20 x 20 g
540BA305	A3	1 x 500 g
540BA316	A3	20 x 16 g
540BA320	A3	20 x 20 g
540BB205	B2	1 x 500 g
540BB216	B2	20 x 16 g
540BB220	B2	20 x 20 g
540BB305	B3	1 x 500 g
540BB316	B3	20 x 16 g
540BB320	B3	20 x 20 g

## Colours



Tooth shade  
Dentine A1



Tooth shade  
Dentine A2



Tooth shade  
Dentine A3



Tooth shade  
Dentine B2



Tooth shade  
Dentine B3

## Literature collection

**Thermoplastic Temporary Protheses in Laboratory and Practice**  
International Dental Technology Magazine  
Dr. Jochen Mellinghoff MDT Franz Kreutle updated 18/04/2012





## Bio Dentaplast

Polyoxymethylene (POM/Acetal, semi-flexible)

### Advantages

- > biocompatible
- > monomer-free
- > non antagonistic
- > aesthetic
- > no metallic taste
- > good value for money
- > high wearing comfort
- > high fit accuracy and detail reproduction
- > optimal friction values
- > filigree designs possible (> 0.3 mm)
- > rapid, easy preparation
- > Teeth preparation and subsequent relining of saddles with cold polymerisate is possible

### Indications

- > **Clasp model casting:**
  - Mechanical retention for saddles + teeth
  - Monolithic preparation
- > **Secondary construction for attachment cases:**
  - With a frame or transpalatal arch
  - As a framework or monolithic
- > **Secondary construction for bridge work:**
  - tooth or implant-supported
- > **Secondary construction for telescopic cases:**
  - Provisional dentures
  - Tooth or implant-supported
  - With a ledge or tooth/implant supported
- > **(Therapeutic splints: Beauty & Bite)**
  - Bite raising / relocation
  - Temporary restoration, accompanying therapy





## Product range

REF	Colour	QTY
52BA1020	A1	2 x 20 g
52BA1028	A1	2 x 28 g
52BA2020	A2	2 x 20 g
52BA2028	A2	2 x 28 g
52BA3016	A3	2 x 16 g
52BA3020	A3	2 x 20 g
52BA3028	A3	2 x 28 g
52BA3520	A3,5	2 x 20 g
52BA3528	A3,5	2 x 28 g
52BA4020	A4	2 x 20 g
52BA4028	A4	2 x 28 g

REF	Colour	QTY
52BP2020	PC 20	2 x 20 g
52BP2028	PC20	2 x 28 g
52BTP016	TP	2 x 16 g
52BTP020	TP	2 x 20 g

## Colours



Tooth shade  
Dentine A1



Tooth shade  
Dentine A2



Tooth shade  
Dentine A3



Tooth shade  
Dentine A3,5



Tooth shade  
Dentine A4



PC20



transparent  
(clear)



## Bio Dentaplast 2

Modified dental polymer

### Advantages

- > expandable
- > expansion-free
- > functional and temporary restoration with only one splint
- > high added value
- > biocompatible
- > aesthetic
- > stable and durable
- > hard and soft relinable
- > suitable as a model casting base as well as for the direct injection of teeth

### Indications

- > **Therapeutic splints: Beauty & Bite**
  - bite raising/relocation
  - temporary restoration / accompanying therapy
  - 24-hour use possible
- > **Aesthetic splints: Beauty & Bite: inexpensive aesthetic correction of abrasions, tooth gaps, malpositioning of teeth, discolouration etc.**
- > **Secondary construction for telescopic cases:**
  - definitive
  - tooth/implant supported
  - with ledge or tooth/implant supported
- > **Secondary construction for attachments:**
  - with frame or transpalatal arch
  - as framework or monolithic
- > **Secondary frameworks for bar frames: tooth-supported or implant-supported**

### Beauty & Bite splint functional + aesthetic



The tooth-coloured Beauty & Bite splint blends harmoniously into the overall appearance of the dentition.

### Advantages

- > "non prep": no tooth preparation needed
- > aesthetic
- > functional splint + provisional restoration: high restoring force ensures optimum grip; 24-hour restoration for eating, sleeping, talking
- > gnathological therapy accompaniment: Bite raising, bite stabilisation
- > resistant material
- > acetal-free
- > expansion-free
- > inexpensive

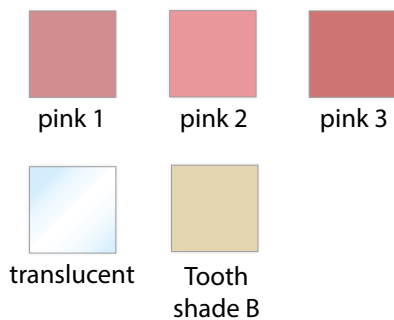




## Product range bre.flex

REF	Colour	QTY
5400F005	pink 1	1 x 500 g
5400F016	pink 1	20 x 16 g
5400F020	pink 1	20 x 20 g
5400F024	pink 1	20 x 24 g
5400F105	translucent	1 x 500 g
5400F116	translucent	20 x 16 g
5400F120	translucent	20 x 20 g
5400F124	translucent	20 x 24 g
5400F205	tooth shade B	1 x 500 g
5400F216	tooth shade B	20 x 16 g
5400F220	tooth shade B	20 x 20 g
5400F224	tooth shade B	20 x 24 g
5400F305	pink 3	1 x 500 g
5400F316	pink 3	20 x 16 g
5400F320	pink 3	20 x 20 g
5400F324	pink 3	20 x 24 g
5400F405	pink 2	1 x 500 g
5400F416	pink 2	20 x 16 g
5400F420	pink 2	20 x 20 g
5400F424	pink 2	20 x 24 g

## Colours bre.flex



## Product range bre.flex 2<sup>nd</sup> edition

REF	Colour	QTY
5400F505	pink 2	1 x 500 g
5400F516	pink 2	20 x 16 g
5400F524	pink A 2	20 x 24 g
5400F605	pink veined	1 x 500 g
5400F616	pink veined	20 x 16 g
5400F624	pink veined	20 x 24 g
5400F805	clear	1 x 500 g
5400F816	clear	20 x 16 g
5400F824	clear	20 x 24 g

## Colours bre.flex 2<sup>nd</sup> edition



## Literature collection

### Sensitisation test

Maximation test of Magnusson and Klingmann according to ISO 10993-10; Test slides 010915 - 30/2 bre.flex pink; **Result:** No reactions of any kind have been detected (12/06/2001).

### Test for cytotoxicity, L929 proliferation

According to DIN EN ISO 10993-5, -12, ISO 9363-1, LM SOP 4-06-01 Test slides bre.flex pink (Flexiplast pink); **Result:** In the case of the prosthesis material bre.flex (Flexiplast), no cytotoxic substance could be detected after 24 hours of continuous contact. The material exerts no cytotoxicity.





## bre.flex & bre.flex 2<sup>nd</sup> edition

Polyamide (PA/flexible bre.flex and semi-flexible bre.flex 2<sup>nd</sup> edition)

### Advantages

- > very good flow properties, even in very thin areas (as 0.5 mm)
- > non brittle
- > fracture resistant
- > friction + flexibility
- > high biocompatibility, as it is 100% residual monomer free
- > aesthetic
- > easy insertion / removal
- > high wearing comfort
- > lightweight
- > good value for money
- > low water absorption compared to nylon materials

### Indications

- > **Over denture:**
  - gingiva supported
  - tooth or implant retained
- > **Protective splints**
  - provisional restoration
  - sports mouthguard
  - protection from grinding and chipping
- > **Secondary design for bar constructions: tooth-supported or implant-supported**
- > **Final removable denture-implant supported**
- > **Metal free clasps using bre.flex 2<sup>nd</sup> edition:**
  - definitive
  - aesthetic
- > **Secondary construction for conical crowns (bre.flex):**
  - tooth/implant supported
  - with ledge or tooth/implant supported



Telescopic prosthesis made of bre.flex with neo.lign full teeth.



## Product range

REF	Colour	QTY
540PI005	transparent (clear)	1 x 500 g
540PI024	transparent (clear)	20 x 24 g
540PI030	transparent (clear)	20 x 30 g
540PI205	pink 2	1 x 500 g
540PI224	pink 2	20 x 24 g
540PI230	pink 2	20 x 30 g
540PI405	pink veined	1 x 500 g
540PI424	pink veined	20 x 24 g
540PI430	pink veined	20 x 30 g

## Colours



## Literature collection

### Sensitisation test

Maximation test of Magnusson and Klingmann according to ISO 10993-10; Project No.: 010915-30 / 3, Test Slides Polyan IC Medical Device Services, Report No.: 207050108

**Result:** No reactions of any kind have been found. 21/06/2001

### Review of modern denture base resins according to ISO 1567: 1999

Dr. Ernst Ulrich Rosenbauer, doctorate Nov. 2000; University of Cologne under Prof. Niedermeier

### Prostheses made of thermoplastic, injection moulding procedure in cartridge system

Dr. Karl Wirz; Womrath; published in the Dental Labor June 1993

### Different prosthesis manufacturing methods with special consideration of the thermoplastic method

Prof. Marx University Mainz; Reprint from Der Freie Zahnarzt; Issue 2/1983.

### Material-mechanical comparison of hypoallergenic denture base resins

Manar Izzuldin Jarkas acquiring a doctorate in September 2007

Martin-Luther-University Halle-Wittenberg  
Prof. Dr. med. dent. habil. Jürgen M. Setz



## Polyan IC

Polymethyl methacrylate (PMMA / the reference: hard, rigid, impact-resistant, biocompatible)

### Advantages

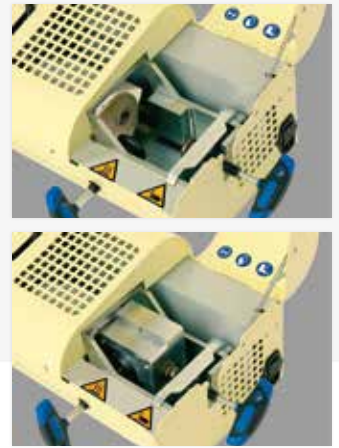
- > reproducible, fast material processing
- > low residual monomer content
- > highly cross-linked, dense material; low water absorption
- > high breaking and bending strength
- > reference for biocompatible total prosthetics
- > reference for implant-supported complete prosthetics
- > customisable
- > more biocompatible and more stable than heat-cured resin
- > high accuracy of fit with very good suction effect
- > colour stable

### Indications

- > **Full dentures without holding element: final removable dentures**
- > **Full dentures implant-supported: final removable dentures**
- > **Therapeutic splints:**
  - definitive
  - CMD therapy
- > **Removable snoring-prevention splints**



Removable full denture made of Polyan IC with neo.lign full teeth.



# thermopress 400

1 efficient injection moulding system – 5 biocompatible materials – infinite indications

## Many years of experience

For the development of the thermopress 400 injection moulding system, bredent exploit its long standing experience in plastic processing. The device ensures excellent material processing thanks to accurate pressure and temperature control.

## Compatibility for the patient

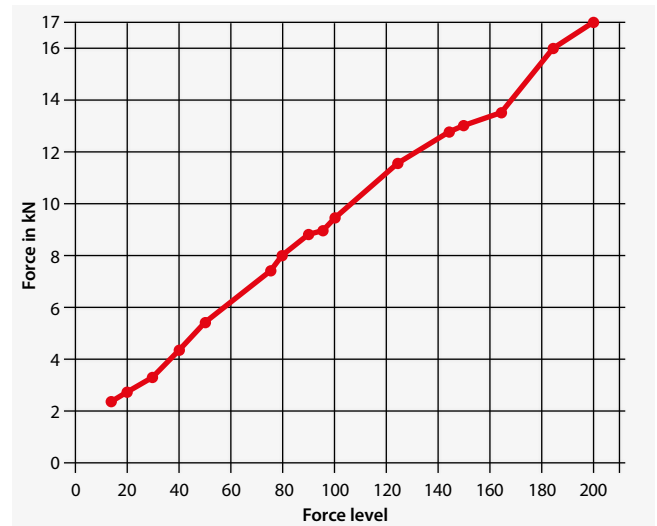
Because of its low residual monomer content, thermo-plastic dentures minimise the risk of allergies in the patient. All patients benefit from the high tolerability of the biocompatible, aesthetic and stable dentures. Not just those who are susceptible to allergic reactions.

## Processing and injection reliability

The compact, freely programmable injection moulding machine can be operated independently of an external source of compressed air. In a systematic manufacturing process, special cartridges filled with granules are used to prevent any negative influences. Contact allergies, such as those which can occur when processing chemoplastics, can be eliminated. This is because unlike chemoplastics (powder-liquid method, heat-curing resins), high-quality polymers have minimal or even no monomer content.

Because of its electric drive, the materials are injected with a uniform transmission of force. During the entire cooling process, the programmed level of force is maintained so that an optimum fit can be created and porosity prevented.

## thermopress 400 strength development



## Settings for the thermopress 400 Version 2.62

Embed- ding tech- nique	Material	Target temperature in °C	Heating time in min.	Pressing time in sec.	Speed	Force level	Cartridge temper- ature	Program slot in the device	Settings for compressed air operated injection moulding machines in bar
Cartridge	Polyan IC	250	10	60	6	200	40	1	9,5
	bre.flex	222	15	90	6	90	40	3	7,5
	bre.flex 2 <sup>nd</sup> edition	280	15	90	6	165	60	4	9,5
	Bio Dentaplast	220	15	120	6	80	40	5	7,5
	Bio Dentaplast 2	270	15	120	8	80	40	10	7,5
Muffle	Bio Dentaplast	220	15	240	2	60	20	8	
	Bio Dentaplast 2	270	15	120	8	80	40	10	





**Bio Dentaplast**  
Skeletal framework  
pressing

**Bio Dentaplast 2**  
Beauty & Bite splint

**bre.flex**  
Over denture

**bre.flex 2<sup>nd</sup> edition**  
Clasp prosthesis final  
+ aesthetic

**Polyan IC**  
Full denture without  
holding element

## Product range

thermopress 400 unit	REF
1 unit with power cord	11000400
2 allen keys	
1 cleaning brush	
1 special tool	

thermopress 400 accessory set	REF
1 Devesting Frame and Stamp	11000401
1 Cartridge Pliers	
1 Flask Hook with Allen key	
1Flask small (L: 122 mm, B: 102 mm, H: 72 mm)	
1 Thermopaste 400 - special paste for cartridges 50 g	

thermopress 400 accessories	REF
1 Devesting Frame and Stamp	14000904
1 Cartridge Pliers	14000906
1 Flask Hook with Allen key	14000912
1 Flask small (L: 122 mm, B: 102 mm, H: 72 mm)	1400N903
1 Flask large (L: 140 mm, B: 102 mm, H: 72 mm)	1400N905
1 Cleaning Brush	11000402
1 Thermopaste 400 - special paste for cartridges 50 g	54001051
Expando-Rock Set 5 kg expansion plaster, 500 ml Expandosol	5700ERS5

## System benefits

- > no additional equipment required
- > electric drive (no compressed air unit)
- > simple programming and operation
- > pre-installed injection moulding parameters for bredent thermoplastics
- > high, uniform force transmission during the injection process
- > high pressure for optimum fit
- > uniform heating of the thermoplastics
- > parallel operation of dual heating chambers

## Technical details thermopress 400

Width	650 mm
Height	250 mm
Depth	300 mm
Weight	40 kg
Volt	220 -230 V
Power	0,5-1,6 kW max. 2,2 kW



# Know-how thermopress 400

## Training

*Small jobs,  
great effect!*

In this two-day basic course, the participants will learn how the thermopress 400 injection moulding system is operated. They will be trained on the indications and contraindications of the individual materials, as well as given the opportunity to independently produce

allergy-free, metal-free frameworks and dentures. A Bio Dentaplast framework shall be produced. Take your first step into the world of allergy-free, thermoplastic materials. An excellent option for both you and your patients!

### Programme

#### 1. Theoretical part

- a) Intensive training in the handling of the thermopress 400 device
- b) Intensive system training: Material science, indications, processing
- c) Live demonstration of the working procedure

#### 2. Practical part

Production of a Bio Dentaplast framework.

### Target group



### thermopress 400 module 1 Basic course

<i>Place and speaker</i>	<i>Date / duration</i>	<i>Course number</i>
<b>In your lab or in Senden</b> ZT Wyatt Dawn ZTM Jens-Christian Fehsenfeld	<b>upon request</b> 2-day course 1st day: 8 am - 6 pm 2nd day: 8 am - 6 pm	<b>95000201</b>



Complete

# range of indications

Hints and tips from experienced experts. In this advanced course on the thermopress 400 system, a telescopic or attachment injection moulding base shall be processed. You shall acquire material and subject-related in-depth knowledge that will enable you to produce

high-quality and allergy-free frameworks and dentures. Let yourself be inspired by the many possibilities and the huge range of indications offered by the thermopress 400 system.

## Programme

### 1. Theoretical part

a) Advantages, b) Special features, c) Notes: Metal-free dentures for allergy patients, telescopic and secondary attachment frameworks constructed from thermoplastic material and wax modelling (sprueing techniques and polishing protocol)

### 2. Practical part

Manufacture of a secondary telescopic or framework attachment pressed in Bio Dentaplast.

## Target group



ADVANCED

## thermopress 400 Module 2 Advanced course

Place and speaker	Date / duration	Course number
In your lab or in Senden ZT Wyatt Dawn ZTM Jens-Christian Fehsenfeld	upon request 2-day course 1st day: 8 am - 6 pm 2nd day: 8 am - 3 pm	95000202

# thermopress 400

One system for five thermoplastic materials



## Scientific & clinical cases online



The online version of Scientific & Clinical Cases can be viewed by scanning the QR code or by visiting

[www.bredent-medical.com/en/scientific](http://www.bredent-medical.com/en/scientific)

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DENTAL INNOVATIONS  
SINCE 1974

**bredent**  
group