



VITA Machinable Polymers

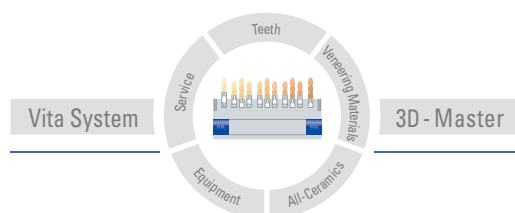
# VITA CAD-Temp<sup>®</sup> for inLab<sup>®</sup>

Composite blocks made from acrylate polymer for the fabrication of long-term temporary restorations



Working Instructions

Date of issue: 07-07



**VITA**

The material	4
Functions, characteristics, advantages	5
Indication and requirements for processing	6
Procedure	7
Polishing	10
Individualizing the shade	11
Clinical aspects	15
Recommended tools and materials	17
Package sizes and assortments	18



Sirona inLab system



Sirona inLab MC XL system



VITA CAD-Temp is also perfectly suited for processing in the Sirona CEREC chairside systems (fig. CEREC MC XL).

### **Information about the Sirona CAD/CAM systems is available from:**

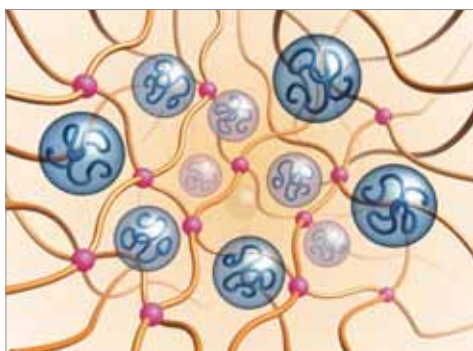





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## VITA CAD-Temp® for inLab® – The material

The VITA CAD-Temp blocks consist of a unique fiber-free, homogeneous, high-molecular and cross-linked acrylate polymer with microparticle filler, the so-called MRP material.



-  PMMA pearls, swelled by monomer
-  cross-linked monomer
-  inorganic microparticle filler polymerized into polymer network

In the MRP material (Microfiller Reinforced Polyacrylic) developed by VITA, inorganic microfillers are polymerized into the network and a completely homogeneous, methyl methacrylate-free material is obtained by the unique NPV repressing technique of VITA, which exhibits superior material quality and outstanding abrasion resistance.





### Physical properties\*

Properties	Unit of measure	Value
Flexural strength	MPa (Nmm <sup>-2</sup> )	80
Modulus of elasticity	MPa (Nmm <sup>-2</sup> )	2800
Inorganic filler content	percent by weight	14
Water absorption	complies with EN ISO 10477 Polymer based crown and bridge materials	
Solubility	complies with EN ISO 10477 Polymer based crown and bridge materials	
Color stability	complies with EN ISO 22112 Artificial teeth for dental prostheses	

\* The technical/physical values are typical measuring results and refer to internal samples and measurements carried out with measurement equipment available on site. If samples are prepared using different methods and measurement equipment, other measuring results may be obtained.

### The shade concept

VITA CAD-Temp is available in the following 4 VITA SYSTEM 3D-MASTER shades for VITA CAD-Temp (=“T”) in size CT-40 (15.5 x 19 x 39 mm):

0M1T*	1M2T	2M2T	3M2T
			

\* For the reproduction of bleached teeth

### **Advantages:**






- Very high material homogeneity thanks to the industrial polymerization process.
  - Methyl methacrylate-free composite, hence no irritation of the gingiva and the pulp by residual monomers.
  - Thanks to the omission of manual mixing or a cartridge system, mixing errors and polymerization shrinkage are avoided. This way high process reliability is ensured.
  - Well-balanced combination of tensile strength and elasticity for the clinical use and the specific indication.
  - High dimensional stability since the material features considerably higher strength than conventional composite materials for chairside temporary restorations.
  - Temporary restorations made from VITA CAD-Temp can be removed from the die several times without the risk of fracture.
  - Excellent abrasion resistance.
  - No wedging in undercuts as it is found when using plastic materials.
  - No time-consuming removal of excess material.
  - No generation of polymerization heat inside the mouth (exothermics).
  - Can be perfectly milled with the diamond tools of the inLab or CEREC system (approx. 15 - 18 min per unit).
  - No swelling even during extended residence time in the mouth.
- 
- Lasting color stability and esthetics.
  - Natural translucency and fluorescence.
  - Radiopaque.
  - Superior polishing characteristics.
  - Can be individualized with the light-curing veneering composite VITAVM LC.
  - CAD/CAM manufacturing ensures simple and quick reproducibility of the temporary restoration.
  - Excellent esthetic results can be achieved with reduced amount of work.
  - All provisional cements can be used for cementing.

### **Temporary restorations made from VITA CAD-Temp provide the following functions:**

- Prophylactic functions:
  - avoiding the movement of abutment teeth
  - protection of tooth substance against bacterial, toxic and thermal effects
- Diagnostic and esthetic functions:
  - checking occlusion, phonetics, vertical dimension and esthetic result

## VITA CAD-Temp® for inLab® – Indication and requirements for processing

VITA CAD-Temp is used for the fabrication of multi-unit, fully or partially anatomical long-term temporary bridge restorations **with up to 2 pontics** using the inLab or CEREC milling systems of Sirona. The bridge block can also be used for the fabrication of temporary crowns in the batch grinding technique (not possible with the MC XL CAD/CAM systems). The light-curing veneering composite VITAVMLC is used for building up or individualizing the shade of the restorations.

Indication	 Anterior crown	 Posterior crown	 Anterior bridges	 Posterior bridges	 Drilling templates
<b>VITA CAD-Temp for inLab</b>	•	•	•	•	•

- recommended

### Requirements for processing

- **General requirements:**

The VITA CAD-Waxx Starter Set from Sirona is required for processing VITA CAD-Temp in the inLab and CEREC systems (not in the inLab MC LX and CEREC MC XL systems!). This set (Prod. No. 6094713) can be purchased from selected dental dealers and includes a modified tank with a reinforced filter system. Ground polymer particles may cause clogging of the cooling and lubrication circulation system if the standard tank with the simple filter system is used.

When filling the tank, a reduced quantity of 5 ml of DENTATEC liquid can be added for grinding VITA CAD-Temp blocks.

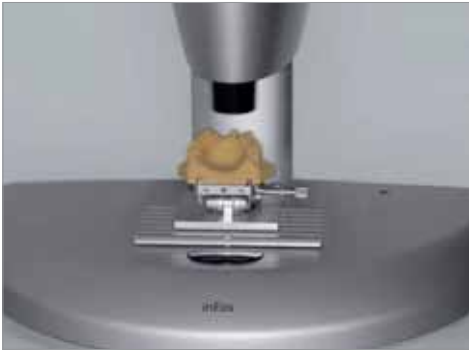
- **Hardware requirements**

VITA CAD-Temp can be processed in all inLab, inLab MC XL and CEREC MC XL systems and in CEREC systems from serial no. 5000 or higher.

- **Software requirements**

VITA CAD-Temp can be milled from version V 3.01 of Sirona's 3D software after installing the "Extended material selection".





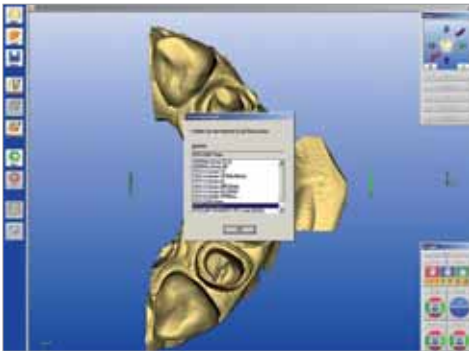
### Simple processing – step by step

Place the model made from plaster suitable for scanning on the scan holder of the inEos system and carry out the scan process.\*

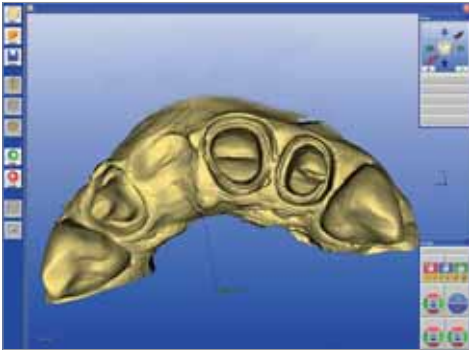
\* To ensure perfect and economic processing, we recommend to carry out the scan process using the inEos system. The extremely short scanning times between 10 sec (single tooth scan) and 30 sec (bridges with 3-4 units) guarantee faster and trouble-free workflow. Additionally, the fabrication of a duplicate model is no longer required.



Optical impression of the model using the inEos system.



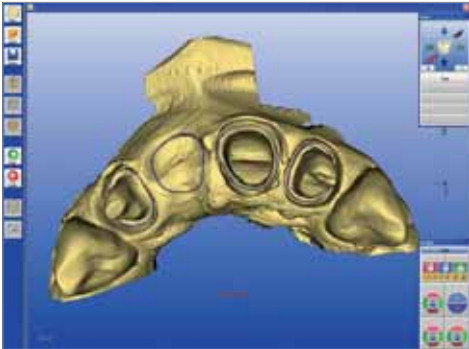
Select VITA CAD-Temp in the material selection menu.



Designing (CAD) a fully anatomical long-term temporary bridge restoration using the inLab 3D software.

**Note:**

Use design method "bridge reduced" to be able to check the connector areas.



**Important:**

The following geometries or minimum wall thickness must be adhered to:

**Connector areas:**

**Anterior bridges**

with one pontic  $12\text{ mm}^2$   
with two pontics  $12\text{ mm}^2$

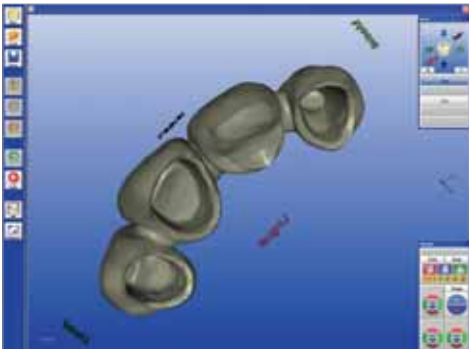
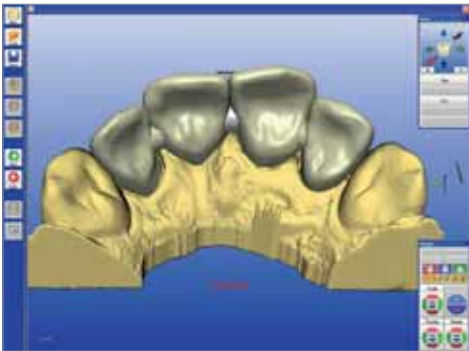
**Posterior bridges**

with one pontic  $12\text{ mm}^2$   
with two pontics  $16\text{ mm}^2$

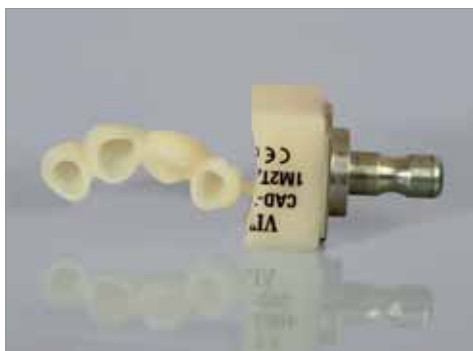
**Minimum wall thickness**

occlusal:  $1.5\text{ mm}$  the central fissure  
circumferential:  $0.8\text{ mm}$

**Stability and function always take priority over esthetics!**



Clamp in and mill the VITA CAD-Temp block CT-40.



After milling (CAM) the lug is cut off using a fine cross-cut tungsten carbide bur.

If white spots, which were caused by the diamond tools, can be seen on the surface after milling, these spots can be easily removed with a tungsten carbide bur without affecting the quality of the product.



**⚠ Important:**

*Generally, fine-cut tungsten carbide tools are better suited for processing polymer materials than diamond grinding tools.*



Checking the occlusion/articulation



CAD-Temp long-term temporary restoration on the working model.

## VITA CAD-Temp® for inLab® – Polishing

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Restorations made from VITA CAD-Temp can be prepolished with a suitable silicone polisher and a small goat-hair brush. Standard acrylic polishing agents that are also suitable for intraoral use.

Avoid creating excessive heat.

### **⚠ Important:**

*Careful polishing is absolutely necessary to achieve a perfect result and avoid accumulation of plaque and the related negative effects on the shade.*



Completed temporary bridge restoration on the working model.

## VITA CAD-Temp® for inLab® – Individualizing the shade with VITAVM®LC



To achieve enhanced esthetic appearance, the shade of temporary restorations made from VITA CAD-Temp can be individualized with the light-curing microparticle composite VITAVM LC especially in the translucent incisal area of anterior restorations or in the vestibular area of posterior restorations. Even thin layers of VITAVM LC allow to achieve very good results.



The VITAVM LC TEETH INDIVIDUALIZATION KIT, Prod. No. CVLCTIK is available for individualization.

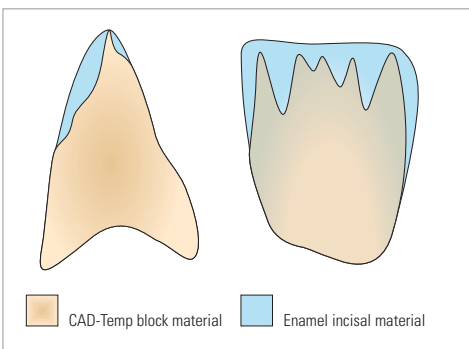
Please observe the information in the Working Instructions No. 1200E.



Controlled grinding or reducing of border areas is the precondition for a smooth transition between the VITA CAD-Temp temporary restoration and the light-curing microparticle composite VITAVM LC.



To ensure reliable bonding of VITA CAD-Temp and VITAVM LC, fine-cut tungsten carbide burs should be used.



### **⚠ Important:**

*Reduction of VITA CAD-Temp:*

*Temporary anterior restorations in the incisal area:  
max. 0.5 mm.*

*Temporary posterior restorations in the vestibular area:  
max. 0.3 mm*



The ground surface must be carefully cleaned and wetted with VITAVMLC MODELLING LIQUID to achieve reliable bonding to the VITA CAD-Temp base material.



Individualizing is easier if a small quantity of VITAVMLC MODELLING LIQUID is added onto the modelling instrument.

**⚠ Important:**

*The liquid must not be used to dilute the materials.*

*VITAVMLC MODELLING LIQUID irritates eyes, skin and respiratory system. Avoid contact with the skin. Work under extraction system.*



### Individualizing the shade

Depending on which type of individualization is to be achieved, the suitable shade is applied:

Ten different VITAVMLC PAINT materials are available for this purpose. For fixation of the materials, intermediate polymerization must be carried out.

For information on polymerization and hazard information refer to the Working Instructions for VITAVMLC, No. 1200E.

**⚠ Important:**

*VITAVMLC PAINT must not be on the surface and must be completely coated with dentine or enamel materials. When applying the materials, air inclusions must be avoided.*



**Note:**

*The total layer thickness of the restoration individualized with VITAVMLC should not be more than 0.5 mm for anterior restorations and 0.3 mm for posterior restorations to ensure sufficient stability of the temporary restoration.*



Apply a small quantity of VITAVMLC ENAMEL, EFFECT ENAMEL or NEUTRAL in the upper third of the veneer surface (Incisal or vestibular area). Then final polymerization is carried out.

**Important:**

*Before performing corrections with VITAVMLC materials, the surface of the temporary restoration must be cleaned and wetted with MODELLING LIQUID.*



### Polymerization

Information on polymerization and a list of suitable polymerization units can be found on page 21 of the Working Instructions for VITAVMLC (No. 1200E).

Intermediate polymerization can be carried out any time during layering.



Fine-cut tungsten carbide burs must be used for corrections of contours during individualization.



### Polishing

See information on page 10.

## VITA CAD-Temp® for inLab® – Cleaning



Leaving the completed restoration in the ultrasonic unit over an extended period may affect the quality of the material or bonding of VITAVMLC to VITA CAD-Temp.

We recommend a short residence time of approx. 1 minute.

Content of the alkaline cleaning solution: max. 10 %

Temperature: max. 40 °C.

Cleaning with steam results in heat and compressive stress and must generally be avoided.



Completed VITA CAD-Temp temporary bridge restoration individualized with VITAVMLC on the working model.





VMK bridge 12-22 prior to the fabrication of the restoration.



Preparation after removal of the VMK bridge.



Digital shade measurement with the VITA Easyshade system.



Shade taking with shade tabs of the VITA SYSTEM 3D-MASTER Toothguide.



Application of the temporary adhesive cement.



Temporary restoration being seated.



Removal of excess material.



Temporary bridge made from VITA CAD-Temp on teeth 12-22.

Basically, all provisional cements/adhesive materials are suitable. Translucent materials allow to achieve improved esthetics. If the definitive restoration is to be cemented adhesively, eugenol-free cementing materials must be used. Please observe the processing instructions and indications of the respective manufacturers.



The final result is esthetically pleasing.









- Texturmarker (SW-Dental)
- Veneering material (C&B material) for individualization:  
VITAVMLC TEETH INDIVIDUALIZATION KIT, VITA Prod. No. CVLCTIK
- Fine and coarse cross-cut tungsten carbide burs
- Polishing materials, also for intraoral use  
e.g. Dia Glace (Yeti)  
Opal polishing paste (Renfert)  
Dental Diamond Stick (Shofu)  
Prisma Gloss (Dentsply)
- Provisional, eugenol-free cementing materials  
e.g. Provicol QM (Voco)  
Systemp.link (IvoclarVivadent)  
RelyX Temp NE (3MEspe)  
Prevision Cem (Heraeus Kulzer)  
Freegenol (GC)  
Temp Bond Clear (KerrHawe)

**⚠ Note:**

*Please observe the instructions for use and indications of the manufacturers of the products listed above.*

# VITA CAD-Temp® for inLab® – Package sizes and assortments

## VITA CAD-Temp

Shade		Designation	Size	Content	Prod. No.
0M1T		CT-40	15.5 x 19 x 39 mm	2 pieces / <b>Standard package</b>	EC40M1TCT402
1M2T		CT-40	15.5 x 19 x 39 mm	2 pieces / <b>Standard package</b>	EC41M2TCT402
2M2T		CT-40	15.5 x 19 x 39 mm	2 pieces / <b>Standard package</b>	EC42M2TCT40
3M2T		CT-40	15.5 x 19 x 39 mm	2 pieces / <b>Standard package</b>	EC43M2TCT402
0M1T		CT-40	15.5 x 19 x 39 mm	10 pieces / <b>Large package</b>	EC40M1TCT4010
1M2T		CT-40	15.5 x 19 x 39 mm	10 pieces / <b>Large package</b>	EC41M2TCT4010
2M2T		CT-40	15.5 x 19 x 39 mm	10 pieces / <b>Large package</b>	EC42M2TCT4010
3M2T		CT-40	15.5 x 19 x 39 mm	10 pieces / <b>Large package</b>	EC43M2TCT4010



VITA CAD-Temp, standard package



VITA CAD-Temp, large package

## VITA VM<sup>®</sup>LC TEETH INDIVIDUALIZATION KIT, Prod. No. CVLCTIK

Quantity	Content	Material
10	2 g	PAINT PT1 – 19
1	2 g	WINDOW WIN
3	4 g	EFFECT ENAMEL EE3, EE6, EE9
1	4 g	NEUTRAL NT
2	4 g	ENAMEL ENL, END
1	30 ml	MODELLING LIQUID
1	piece	Brush holder
1	pack	Disposable brush tips, 50 pcs



## VITA VM<sup>®</sup>LC MODELLING LIQUID



**Irritant**

Irritates eyes, skin and respiratory system.

Avoid contact with the skin.

Work under extraction system.

**Storage information:** Do not store above 25 °C.

Do not expose to direct sunlight.

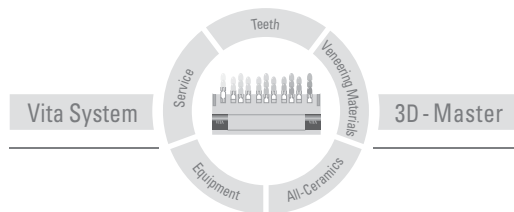
**Please refer to the safety data sheet  
for more detailed information!**

Wear suitable protective goggles/face mask,  
protective gloves and protective clothing when working.


Work under an extraction unit.



With the unique VITA SYSTEM 3D-MASTER all natural tooth shades are systematically determined and completely reproduced.



**Please note:** Our products should be used according to the working instructions. We cannot be held liable for damages resulting from incorrect handling or usage. The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of applications. We cannot accept any liability if the product is used in conjunction with porcelains and equipment from other manufacturers which are not compatible or not authorized for use with our product. Furthermore, our liability for the correctness of this information is independent of the legal ground and, in as far as legally permissible, is limited to the invoiced value of the goods supplied excluding turnover tax. In particular, as far as legally permissible, we do not assume any liability for profit loss, for indirect damages, for consequential damages or for claims of third parties against the purchaser. Claims for damages based on fault liability (culpa in contrahendo, breach of contract, unlawful acts, etc.) can only be made in the case of intent or gross negligence. The VITA Modulbox is not necessarily a component of the product. Date of issue of these working instructions: 07-07

VITA Zahnfabrik is certified according to the Medical Device Directive and the following products bear the CE mark  0124 :

**VITA CAD-Temp® for inLab®**  
**VITAVM®LC**

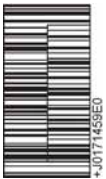
US 5498157 A · AU 659964 B2 · EP 0591958 B1

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# VITA

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