

# OrthoEpoxy GreenLine – 617HG5

Application and processing instructions

## Technical information 7.2.7



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## 1 Introduction

This technical information supports you with the processing of the epoxy resin.

This document is directed to trained O&P professionals. It is a prerequisite that the qualified personnel are trained in the handling of the various materials, machines and tools.

This technical information does not claim to be exhaustive. Reading this technical information does not substitute reading the instructions for use for all required products.

### 1.1 Applications

The material has a range of applications:

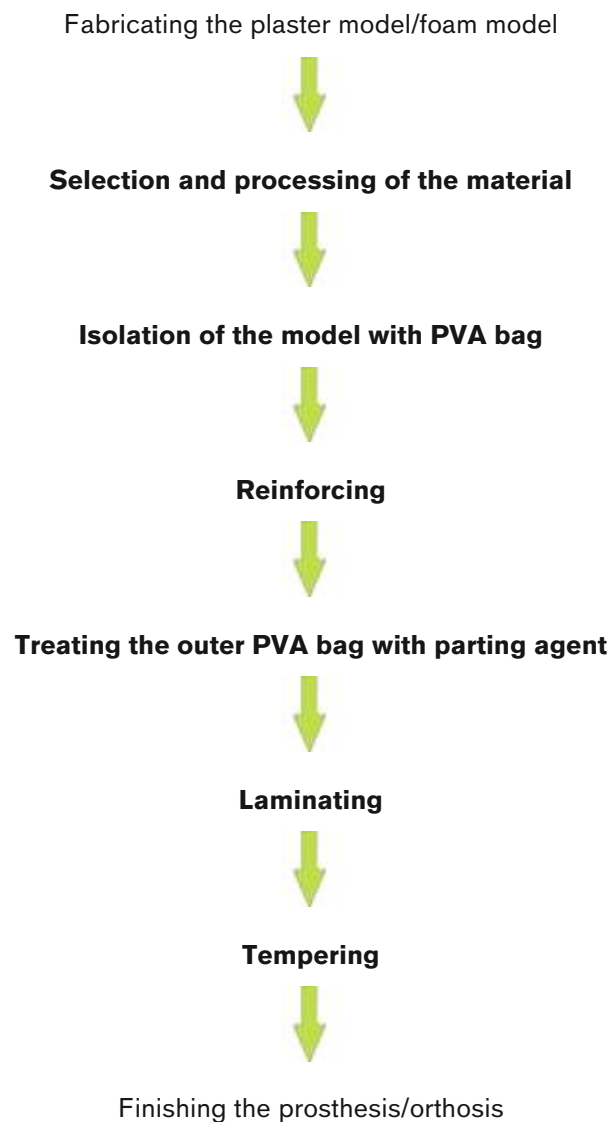
Application examples
For lightweight, thin-walled yet stable laminates in prosthetics and orthotics
Orthotic laminates: AFO, KAFO
Prosthetic laminates: TF, TH, TR

**Storage information:** Store the material at max. 25 °C.

**Colour information:** The product may be subject to colour variations due to natural raw materials.

### 1.2 Flowchart

The entire process is shown in the following flowchart. All work steps described in this document are highlighted in bold.



## 2 General safety instructions

**NOTICE**

**Increased moisture absorption of the laminate due to contact with water**

- ▶ The lamination resin is not suitable for the fabrication of waterproof devices.

## 3 Preparation

The following preparations must be made in order to work effectively:

- Collecting the tools and materials
- Performing preparatory work

### 3.1 Collecting the tools and materials

The materials and tools used in the photos within this technical information are listed in the tables below. The O&P professional assumes full responsibility for the use of any other materials.

Tools	
Designation	Reference number
Latex-free examination glove	641H9*
Heating cabinet	701E90*
Two-way suction pipe	755X123*

Materials	
Designation	Reference number
Double-sided PVC adhesive tape	616F10*
Pigment pastes	617Z*
OrthoEpoxy GreenLine resin	617HG5*
OrthoEpoxy GreenLine hardener	617PG5*
Orthopox woven carbon fibre	616G12=H5.*
Orthopox woven flex	616G181=H5.2
Perlon stockinette	623T3*
Spray adhesive	636K40*
Parting agent	633T25=0.5

### 3.2 Plaster model requirements

The plaster model must meet the following requirements:

- ▶ Plaster model must be completely dry.

### 3.3 Foam model requirements

The foam model must meet the following requirements:

- ▶ The foam model must have a minimum weight per unit volume of 100 kg/m<sup>3</sup>.

## 4 Procedure

The processing of OrthoEpoxy GreenLine is illustrated with an example:

- Processing using a plaster model

All relevant processing techniques are demonstrated in the example.

## 4.1 Processing of OrthoEpoxy GreenLine resin

### 4.1.1 Isolation of the model with inner PVA bag



**NOTICE: Excessive moisture of the bag impairs the curing of the epoxy resin.**

- 1) Pull a soaked bag over the model and tie it off on the suction pipe.
- 2) **Optional:** Use parting agent
  - Bonding of the bag to the cured laminate can be reduced by using the 633T25=0.5 parting agent.
  - Apply a sparing spray to the suctioned foil bag.

### 4.1.2 Reinforcing



For better adhesion of the first reinforcement layer on the PVA bag:

- 1) Apply the 636K40 spray adhesive to the PVA bag and the reinforcement layer.

**Optional:**

Pull 1 layer of perlon stockinette over the model and apply the pre-treated reinforcement layer (616F10 double-sided PVC adhesive tape/636K40 spray adhesive).

- 2) Apply additional required reinforcement layers to the model.

### 4.1.3 Treating the outer PVA bag with parting agent



**NOTICE: Excessive moisture of the bag impairs the curing of the epoxy resin.**

Apply parting agent to the side of the PVA bag facing the laminate. This makes it easier to separate/remove the bag from the cured laminate.

- 1) Place the soaked bag on a clean surface.
- 2) Spray the PVA bag with parting agent all around.
- 3) Turn the bag inside out and pull it over the model.

### 4.1.4 Laminating



Mix and process the lamination resin.

**Mixing ratio:**

- 100 parts 617HG5\* lamination resin
- 40 parts 617PG5\* hardener

**Optional:**

- Max. 3 parts pigment paste

**INFORMATION:**

**When colouring the lamination resin, only use colour additives for epoxy resins.**

Processing times	
Processing time at room temperature:	Approx. 30 min.
Start of jellification after:	Approx. 45 min.
Partial curing after:	Approx. 12 h

### 4.1.5 Tempering

**CAUTION**

**Complete curing of the lamination resin only by tempering**

- ▶ Cure the laminate for 12 hours, followed by tempering.

Tempering in the heating cabinet
Without skin contact: 1 hour at 100 °C
With skin contact: 10 hours at 100 °C



**Processing tips:**

- If possible, remove both PVA bags prior to tempering. This reduces adhesion to the laminate.
- Use the 743Y30\* parallel adapter and the 743Y56\* alignment insert to secure the orthotic joints in a parallel position during tempering.
- When positioning the laminate in the oven, pay attention to the position of the model to maintain dimensional stability.

**Optional:**

- Leave the laminate on the plaster model/foam model in order to maintain the component's dimensional stability during the tempering process.



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