

TF Plaster Negative Preparation

(For internal use only)

Technical Information

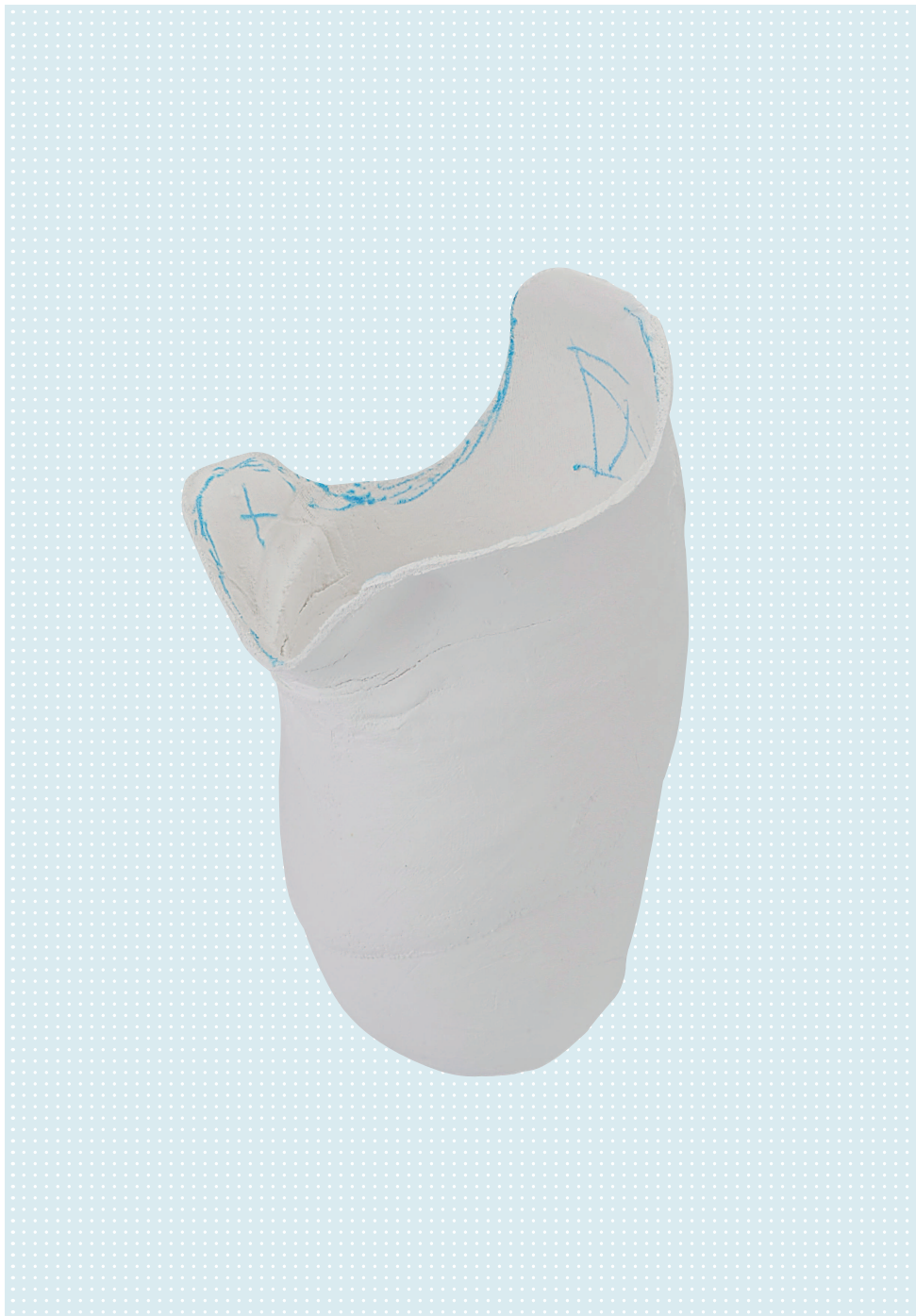


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1 Introduction

This technical information supports you in the fabrication of a plaster negative for transfemoral fittings. The instructions and images show fabrication without a liner. For fabrication with a liner the process has to be adapted accordingly.

This document is directed to trained prosthetists. 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. In addition to the work instructions in this technical information, please read the important information regarding safe processing in the respective instructions for use for the components and materials.

2 Preparation

2.1 Collecting the materials and tools

The required materials and tools are listed in the tables below. The tables contain the materials and tools shown in the photos within this technical information. The prosthetist assumes full responsibility for the use of any other materials.

Equipment, Measuring Devices and Tools	
Designation	Reference Number
LaserLine	743L20=230
Body Callipers	743S1=*
Callipers	743S10
Measuring tape	743B2
Heel height measuring device	743S12
Spring-loaded measuring tape	743B4
Copying Pen	645C1
Plaster Cast Scissors	719G2
Forearm Crutches/Walker/Walking Frame	–

Materials and Tools	
Designation	Reference Number
Biplatrix fast-setting plaster bandages	699G19=2 x 15 cm
Biplatrix cast reinforcing strips	699G21=20
Examination Gloves, latex-free	641H9=2
Body Protection Stockinette	641T2=*
Plaster Insulating Cream	640Z5=*
Water basin	–

3 Procedure

3.1 Preparing the Plaster Cast

Objective

Before fabricating the plaster negative, take the patient's measurements and enter them in the measurement form.

3.1.1 Taking measurements



The patient sits without shoes with knee bent at **90 °**, and the foot rotated approx. **15 °** outwards. Take the following measurements of the contralateral leg:

- MTP-floor measurement + **20 mm**



- Foot length from heel to big toe
- Ankle circumference above the malleolus
- Calf circumference at the widest place



Measure effective heel height:

The effective heel height is the difference between the heel height at the heel and the sole thickness of the forefoot.

- Measure sole thickness of the forefoot with the long sides of the heel height measuring apparatus



- Measure heel height in the heel area with the short sides of the heel height measuring apparatus



The patient sits on a hard surface.

Vertically measure the **a - p measurement** from the hard surface to the highest point of the adductor tendon.



The patient is standing.

INFORMATION: Pay attention to the patient's posture including an upright upper body and extended knee.

Take the following contralateral measurements:

- Lower edge of the ischial tuberosity to the floor
- Middle of thigh circumference



Rub residual limb with plaster insulating cream to prevent the skin from drying out.

Pull 2 layers of body protection stockinette over the residual limb.

INFORMATION: Make sure the body protection stockinette sits tightly.

Cut into the body protection stockinette at the upper end; cross the stockinette over the shoulders and knot.



Use a damp copying pen to mark the most important features of the residual limb on the body protection stockinette.

The markings will be transferred later to the plaster negative:

- Trochanter major
- Course of the femur and bony end
- Measuring points for residual limb circumference
- Sensitive points, if applicable



Measure residual limb length with the callipers:

INFORMATION: Do not compress soft tissue of the residual limb when taking measurements.

- Lower end of ischial tuberosity to end of residual limb



Take circumferential residual limb measurements with the spring-loaded measuring tape:

- Proximal circumference **3 cm** below the ischial tuberosity
- Every **5 cm** from proximal circumference toward the distal end



The residual limb is in the physiological initial position. Place the body callipers horizontally and measure the bony **m - l measurement**.

3.1.2 Impression Phase 1

Objective

During the first plastering phase, shape the volume of the residual limb up to below the trochanter major.

INFORMATION

- Before actually taking measurements, perform the tuberosity shaping grip without the plaster bandages and explain the pressure points of the subsequent plaster casting process to the patient. That way the patient can control the correct position of the pressure points during the plaster casting. Discuss positioning of the residual limb during plaster casting.



The tuberosity shaping grip

1. Medially insert your hand from the front into the inguinal area.
2. Turn your hand upwards by **45°**, letting the ball of your hands move downwards.
3. Rotate your hand by **45°** medially toward the inside. The flat of your hand tilts toward the navel.



Based on the residual limb length, prepare 2 or 3 Biplatrix fast-setting plaster bandages of **15 x 200 cm**.

Soak the fast-setting plaster bandages.

Wrap the fast-setting plaster bandages around the residual limb, including the residual limb end, without tension.

Shape a control depression in the plaster negative in the soft tissue anterior and posterior of the femur.



The lateral hand lies horizontally and **5 cm** proximal to the femur end. The hand follows the shape of the residual limb and holds the residual limb in slight adduction.

With the medial hand, laterally shape the soft tissue of the end of the residual limb around the end of the femur.

Let the plaster cure.

3.1.3 Impression Phase 2

Objective

In the second plastering phase the proximal edge and the ischial containment are formed. The plaster negative is finished.



Cut a four-layer cast reinforcing strip:

- Width: **20 cm**
- Length: according to residual limb circumference

Soak cast reinforcing strip.

Centre the cast reinforcing strip along the length and width of the shaping hand.



Grasp the posterior free-hanging end of the cast reinforcing strip with the other hand.

Insert the cast reinforcing strip in the inguinal area from anterior in the direction of the tuberosity with the shaping hand.

Move the other hand with the cast reinforcing strip from posterior around the residual limb in the direction of the trochanter major. The cast reinforcing strip must end **10 cm** above the trochanter major.



Form the plaster bandage onto the residual limb from the posterior. With the other hand, take up the plaster bandage from the arm and pull the plaster bandage in the direction of the trochanter major.

Form the anterior area.



With the shaping hand, perform the tuberosity shaping grip and remain in that position.

Laterally provide counter-support along the femur with the other hand from the opposite side. While doing this, place the tips of your fingers distally from the trochanter major and hold the residual limb in adduction.

Let the plaster cure.



Project the anterior plumb line onto the plaster with a laser and mark the plaster.

INFORMATION: Pay attention to the position of the patient's residual limb.



Project the lateral plumb line onto the plaster with a laser and mark the plaster.



Mark the line of progression distally on the plaster negative.

Cut open the body protection stockinette in the shoulder area and remove the plaster negative from the residual limb.



Optional: Trim and model the plaster negative. Try on the plaster negative for a volume control check.

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