giroform® system

OVERCOMES PLASTER EXPANSION – EASILY QUICKLY AND PRECISELY

The fitting accuracy of dental prostheses is largely dependent on the precision of the models. Yet this is the very area in which the natural expansion of the plaster constitutes the greatest source of error. The effects of plaster expansion are evident in the patient's mouth in problems with the fit of prosthetic work, such as tension areas. Giroform outsmarts the plaster expansion of the jaw segment, thus providing a true model of the patient's mouth. The Giroform System provides dental technology with a perfect and high-precision model making system on the market. By employing standardized and optimized procedures Giroform guarantees permanent and reproducible quality.

MODEL FABRICATION SYSTEM COMPONENTS

giroform® pin drill

Fabricate precision models precisely, easily and quickly.

giroform® base plates

Dimensionally stable plastic plates for impression-taking and overcoming plaster expansion.

giroform® secondary plates

Torsion-resistant and reusable splitcast plate with magnet.

giroform® duplicating flask

Model die duplication of individual segments.

giroform® pin drill

FABRICATE PRECISION MODELS PRECISELY, EASILY AND QUICKLY

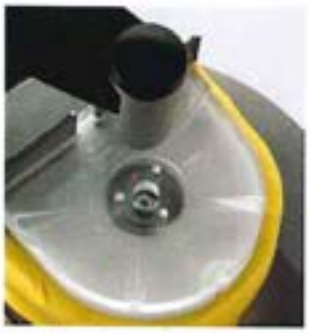
The pin drill allows precise, fast and safe determination of the desired drill position.

Drilling starts at the press of a button. The plate holder is fastened magnetically, securing the drill position.

In order to guarantee pin friction, identical, smooth-faced and regular holes are drilled into the Giroform base plate. The precise drill guide also enables uniform drilling depth. These specific characteristics of the Giroform pin drill guarantee precise, fast and cost-effective model manufacture.

- **_Laser beam for easy drill positioning**
- **_Plate holder smoothly adjustable thus ensuring safe and fast operation**
- **_Plate holder is secured magnetically and automatically when drilling starts**
- **_Automatic drill advance guarantees identical boreholes in the plates (0.5 seconds per drill cycle)**
- **_Ergonomically positioned tip-on buttons for a high degree of operating convenience and easy activation of drilling**
- **_Guide grooves ensure easy drill change**
- **_Universal plate holder for all sizes and shapes of Giroform baseplates with anti-rotation protection**

Strong, practical and aesthetic - stainless steel housing



Laser beam for easy drill positioning

Plate holder is secured magnetically and automatically when drilling starts

giroform® sockelplatten

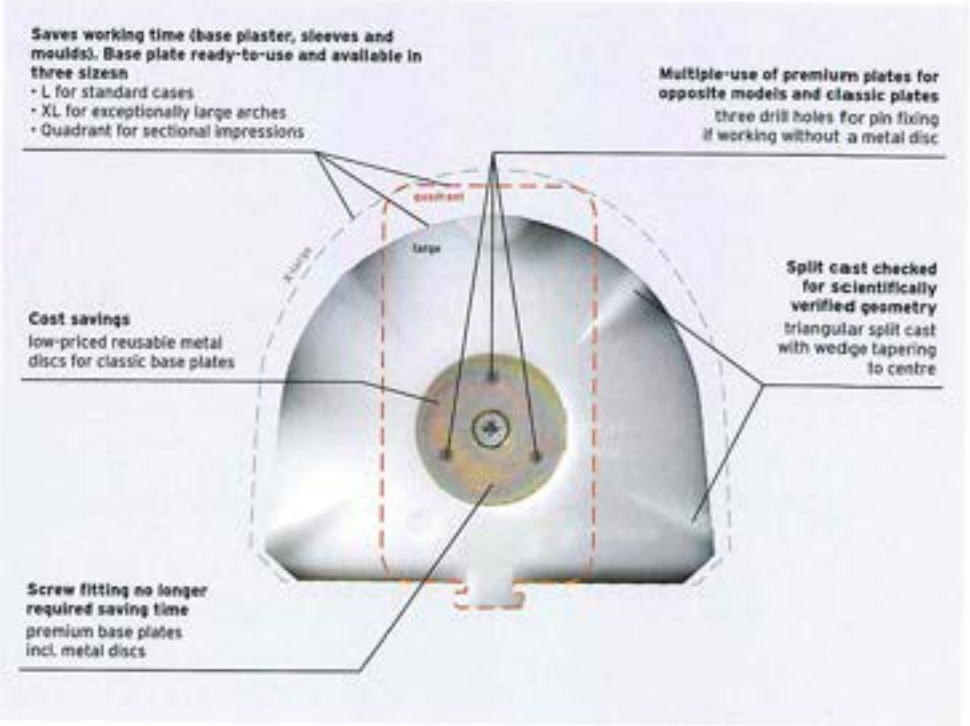
DIMENSIONALLY STABLE PLASTIC PLATES FOR MODEL FABRICATION WITHOUT PLASTER EXPANSION

Using the Giroform base plate means that the model is already half finished. The base plate is expansion-resistant, saves one working step and prevents plaster expansion.

Prior to using the plaster, the pinhole is set into the base plate, recording the position of the individual segment.

The high-precision homogenous plate material provides for smooth drill holes and guarantees precise pin guidance.

The flat surface of the base plate enables simple control of the segment position via an easily recognizable light gap. Cost-effectiveness is further increased by the possibility to re-use the base plate and the retention disc.



- **Using the Giroform base plate means that the model is already half finished**
- **Inherently stable base plate instead of the risk of secondary plaster expansion due to base plaster**
- **Plate material and the plate strength provide for precise pin guidance**
- **Only minimal amounts of dental arch plaster required**
- **Flat base plate surface enables individual segment monitoring at a glance**
- **Inclined rear surface facilitates insertion in the plate holder and model removal from the articulator**
- **Base plate can be re-used for opposing model**

Individual segments checked at a glance. Plane surface of the base plate

Multiple usage of used baseplates for opposing dentition models and unscrewed metal plates as retention discs for diagnostic models

Slanting facilitates insertion in drill plate holder and removal from articulator

OVERCOMING PLASTER EXPANSION

UNDESIRABLE PLASTER EXPANSION IN MAKING THE MODEL:

1

The patient's original mouth position

2

The tooth arch following plaster expansion

3

By superimposing the original and the expanded tooth arch, the deviation is clearly shown

HOW DOES GIROFORM SOLVE THIS CHALLENGE?

Defeat expansion with Giroform = Eliminate tensions from prosthetic work

4

The pin positions are chosen taking this cast into account. By drilling the pinholes, there is secure and immovable patient-analogous transfer to the dimensionally-stable Giroform Plate. The pinholes ensure that the positional information is now stored. The Giroform Base Plate serves as a kind of memory stick

5

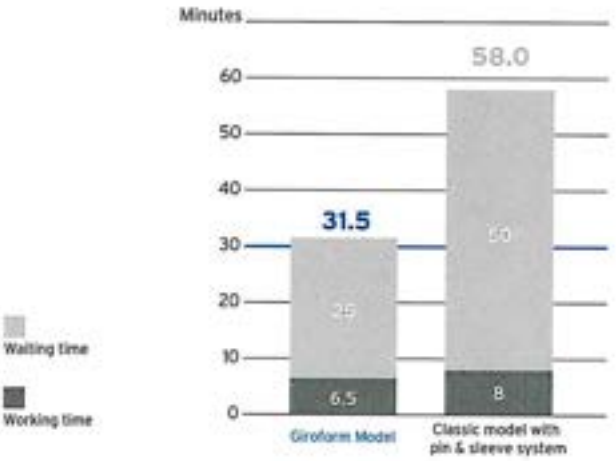
The cast plaster tooth arch is removed from the base plate after 30 minutes - i.e. before the onset of plaster expansion. This allows the tooth arch to expand freely. However, after this it no longer matches the drilled original information on the Giroform Plate

6

After sawing or separating the tooth arch, the pins again fit into the drillholes. The cut section serves as an expansion joint to accommodate the expansion, which is now restricted to just the individual segments, thus no longer causing distortion of the tooth arch. The segmented model therefore offers a precision basis for perfectly-fitting work

THE SYSTEM WHICH SAVES DOUBLE THE TIME

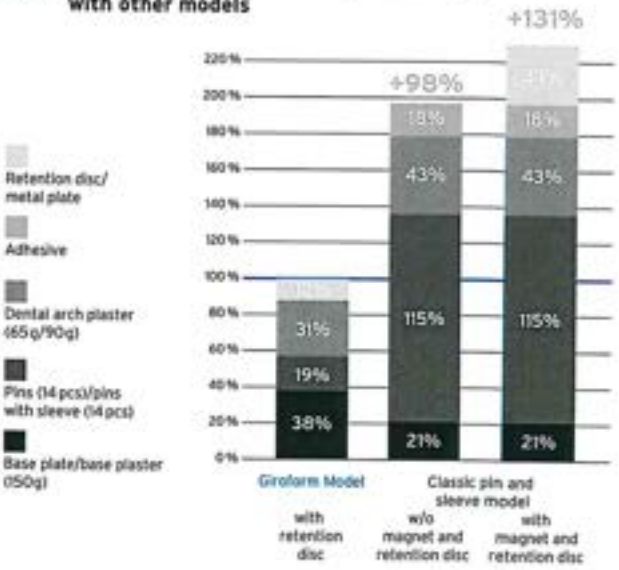
Double time saving



- The actual time required to make the model is just 6 - 7 minutes
- The base is manufactured
- The model can be worked on after only 40 minutes

THE SYSTEM THAT SAVES TIME AND MATERIAL

Comparing Giroform Model (100% cost) with other models



- The amount of plaster needed is reduced due to blocking out the impression with Giroform putty
- The metal disc is already fixed into the premium base plate
- Multiple use of base plates, secondary plates and metal discs
- Base plaster no longer required
- The base plate is cheaper than the base plaster
- No adhesives, guide sleeves or shell moulds required

FROM THE IMPRESSION TO THE FINISHED, HIGH-PRECISION GIROFORM MODEL AND APPLICATION IN THE ARTEX® ARTICULATOR

1

Trim the impression (working model)

2

The impression is fixed onto the impression carrier with Giroform – putty, align the impression and putty insulation is trimmed

3

With the Giroform base plate inserted, the impression carrier is attached to the plate holder

4

Position drilling hole with the aid of the laser beam and initiate drilling procedure

5

When the Giroform pins have been inserted into the drilled holes, the base plate is put aside for later use. (important when multiple models are produced)

6

Trimmed impression of the opposing jaw on impression carrier, while the holes for the 8 pins are drilled for the counter bite

7

Mark out the selected drilling hole on used base plate (multiple usages)

8

Used plate with drilled holes and pins for opposite bite

9

Smartbox – push button for water and plaster powder dosage

10

Smartmix mixes the dental arch plaster

11

Upper and lower jaw prior to stone pour in each case with pinned bases

12

Fill the alpenrock eliminating any voids into the impression model – only to the top of the putty insulation

*Method can be used for patients with optimally functioning pre-condition

13

After 30 minutes, the dental arch is detached from the base plate

14

Partition/saw tooth arch into segments (Tip: in order not to damage the tooth arch, first separate the tooth arch in the middle)

15

Giroform model pair

16

At the dental lab, the transfer table is placed in the articulator or the special mounting articulator used as a plastering device

17

Artex CR with inserted upper jaw model

18

Giroform-Models were articulated in static occlusion using a face bow registration

19

Mark out the grinding facets on the occlusion with a pencil

20

Reduce the master model for height analysis. Remove all segments up to the neighbouring teeth from the model

21

Open the side shift setting screw to open the ISS. Set the anterior guidance pin out of contact

22

To determine the height the antagonists are put into their deepest position alongside one another. Articulator centric is open

23

Re-insert the other segments and remove the segments that determine the height. Use articulating film to mark out and adjust any premature contacts - with the centric articulator relation closed

24

Check the dynamic occlusion - lateral motion. Are the abrasion facets on the teeth close to the restoration area providing guidance now?

giroform®

FABRICATE PRECISION MODELS ECONOMICALLY AND QUICKLY

giroform® secondary plate

STABILITY AND COMFORT

- Split cast check enables passive (non-magnetic) precision fit to the base plate
- The balanced magnetic force and high material strength prevent deformation
- The retention pattern on the rear has been optimized to provide excellent grip for the plaster during insertion in the articulator but also its easy removal after use

giroform® quadrant plate

STRAIGHTFORWARD AND VERSATILE

- The standardized plate size is ideally suited to partial impressions - both left or right quadrant casts. No more trimming or grinding required
- Drill holes for pins can be positioned at underside and will thereby facilitating insertion, casting and removal from the articulator
- The Vertex® adapter enables direct connection to Vertex® articulators
- Also adaptable with the Orbix system with minor alteration

giroform® duplicating flask

PRECISE AND ECONOMICALLY PRICED

- Precision brass pin
- With smooth finish on tapered section for accurate fit in base plate hole
- With active retention area for perfect grip in dental arch plaster
- Reasonably priced