

### DESMA Mould Making Department

All-round competence in the field of shoe manufacturing is an essential of DESMA's philosophy. The role of the integrated mould making department is therefore vital.

As a manufacturer of both machines and moulds, DESMA is able to realize the customer's project from the first idea to the start of production, turn-key and at site. The essential mixture of experience and innovation, combined with modern and efficient machinery are our key to success.

The following pages show the development of a shoe mould in the DESMA mould making department: first the initial concept with several design drafts, then a sample mould and finally the mould series itself.



Partial view of the mould making department



Designing Office of Mould Making Department

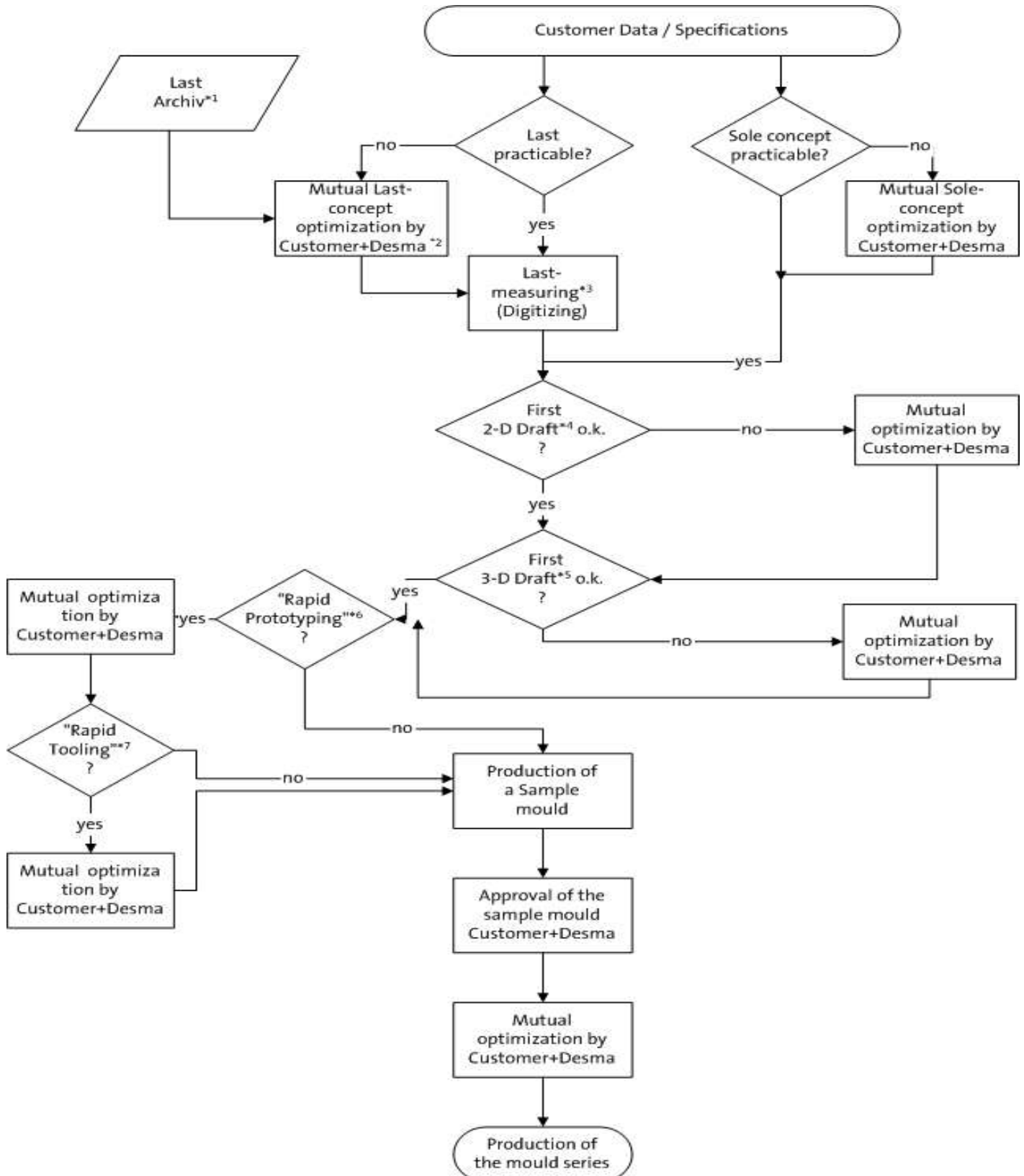


CNC-machining centre in CAD-CAM integrated system



Moulding of samples of a new mould with the customer

## Development steps from the initial idea to the finished product





DESMA's extensive sample last archive

### Step 1:

Desma has a large collection (archive) of sample lasts for many different applications.



In the modelling room

### Step 2:

Customer ideas are coordinated with direct soling requirements. The last is modified accordingly in the modelling department.



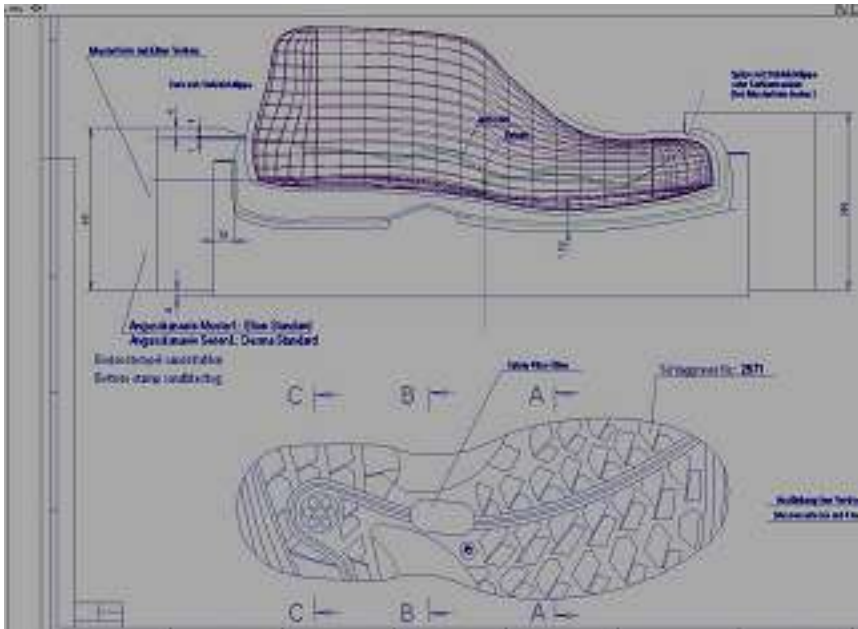
Digital measuring of the last

### Step 3:

The prepared last is measured by a digital measuring device prior to transferring last geometry into the CAD-CAM system.

### Step 4:

A first working basis for DESMA and the customer. A 2D draft is made of the sole.



2D CAD draft

### Step 5:

After optimizing the 2-D draft a 3-D model is prepared. After coordination with and agreement by the customer all relevant data exits for the production of a sample mould.



3-D sole model on the CAD



Sole models made by "Rapid Prototyping"

### Step 6:

So-called 'Rapid Prototyping' can be undertaken before the sample mould is produced. Based on the inkjet principle a 1:1 sample is produced, similar to a plaster model.



Rapid Tooling - sample mould

### Step 7:

PU sole models may be produced using the Rapid Tooling process. A one-off sample mould is produced, using a negative cast based on the prototyping model. This may then be mounted on the mould carrier.

Thus an authentic shoe may be produced whilst saving both the time and cost involved in the development and production of a metal sample mould. The process may be repeated several times. Rapid Prototyping and Rapid Tooling eliminate the need to produce metal moulds which may then be rejected.

With the then following production of the metal sample mould and the subsequent manufacturing of the mould series, this procedure guarantees that the Desma customer realizes his requirements without an unnecessary loss of time and is getting good value for money – suitable to his machine concept.



PU sample sole made in "Rapid Tooling"