

Tecalex Press Tools

The container is one of the critical elements within the extrusion plant. The plant managers demand continuously more sophisticated materials for the container, in order to guarantee quality, durability and easy maintenance. The Tecalex press tools comply with these requirements.

The four bases of the Tecalex container system are: Design, material quality, construction and easy maintenance.

Design: The dimensions and construction principle of each of the 3 elements of the container are simulated (fig. 2) with special software. The same simulation is done for the working conditions.

As a result of these examinations, in combination with practical experience, durability and material reliability have been developed to the maximum.

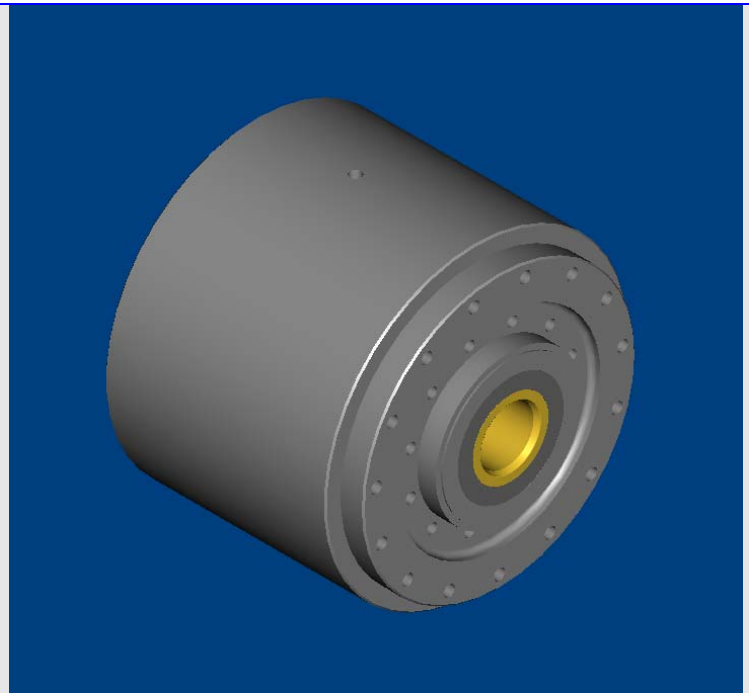


Fig.1: Tecalex - Container

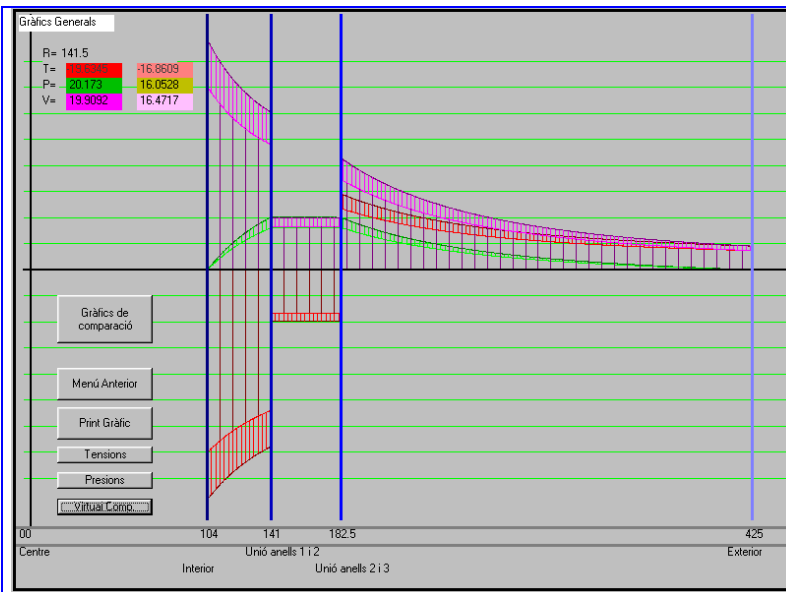


Fig. 2: Software - Simulation

Material quality: Tecalex works only with high quality materials. The outer mantle is made of forged steel reference 1.2343. The inner mantle is made of forged steel ref. 1.2343. The liner is made of steel ref. 1.2344. All the materials used are hot-work tool steels, the preferred material for the extrusion process.

Manufacturing: The container is manufactured, based on heating and then shrinking process. This is the standard method used in Tecalex.

The result is the elimination of internal stresses between the 3 container-elements and a perfect fit between mantles and liner.

Maintenance: Until now, the biggest problem for maintenance was to exchange the heating cartridges. In the past the preferred heating cartridge diameter was 20 mm. The bore for the cartridge had to be made nearly the same diameter of the cartridge, here 20 mm (tight fit). As a result of the continuous dilatation, during heating up and cooling down of the system, surface welding occurred between cartridge and bore surface. The disassembly was very complicated or even impossible.

Tecalex took the decision to install exclusively 32 mm cartridges. The bigger cartridge surface means lower energy density on the surface. So the bore diameter can be big enough to allow easy and fast disassembly, even after years of operation, because no welding occurs. The new 32 mm cartridge is specially designed for extrusion processes.

Fig. 3 shows the connection principle inside the cartridge. The cartridge consists of two independent heating circuits. This means that a 2-zone-heating is possible with only one cartridge (and only one bore).

Another advantage of the cartridge is the parallel connection of the heating wires. If one wire breaks, the rest of the cartridge keeps intact and the exchange is not immediately necessary.

This a big advantage, compared to most of the conventional cartridges, based on serial connection inside.

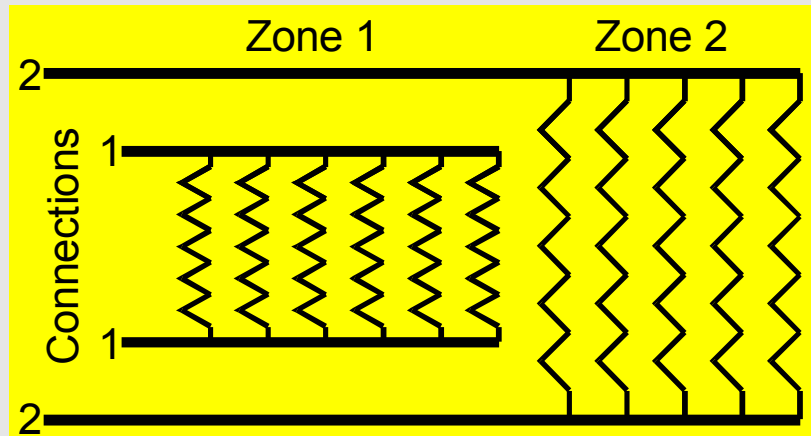


Fig. 3: Connection type of the heating cartridges (two heating circuits, here 1 one 2, are integrated)

PRESS-STEM

The same efforts, that have been made for the containers in development, design and manufacturing, where made as well for the rest of the press tools, e.g. the stem.

An important point is here as well the material quality, forged steel, reference number 1.2367. Another design advantage is based on the simulation with the PRO-MECHANICA software to optimise the mechanical properties of the system, in accordance with the press functions.

The main advantage for our customers is the maximized durability of the stem.

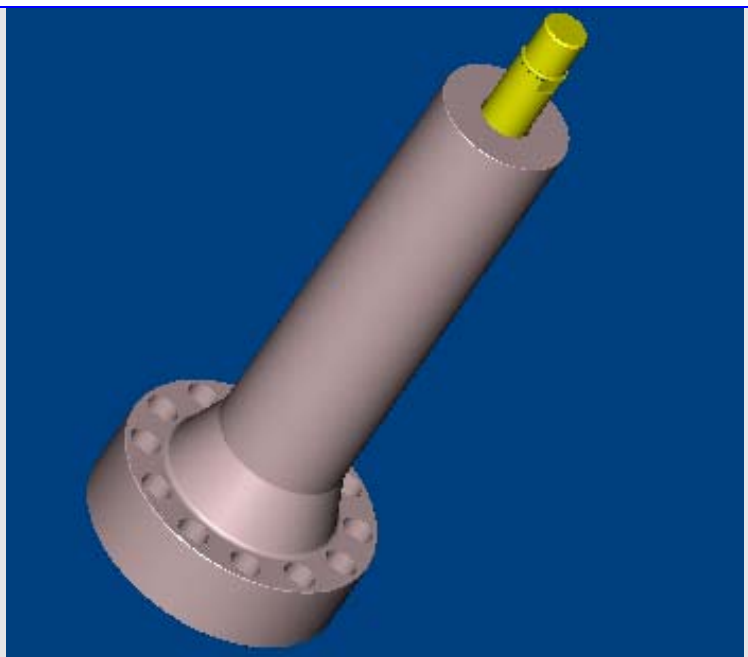


Fig. 4: Tecalex – Stem

If you want to examine the tools situation in your factory or if you have to carry out modifications or repairs, Tecalex is your reliable partner.

All works are done, based on up-to-date technology, in order to provide maximum performance.

Please do not hesitate to call your Tecalex contact. We are looking for your call:

**Jürgen Sturm, +34 670 34 86 79
(Area Manager)**