



Preform

PET MOULDS TECHNOLOGY



Study of the product

Within its own projecting and manufacturing departments SIMEX is able to provide for the study of the perform according to the type of container's destination, thus considering several factors:

1. **stretch / blow ratio**
2. **weight**
3. **wall thickness**
4. **length of the perform**
5. **type of finish**
6. **final use**

Processing of the preliminary drawings

1. **discussion / approval**

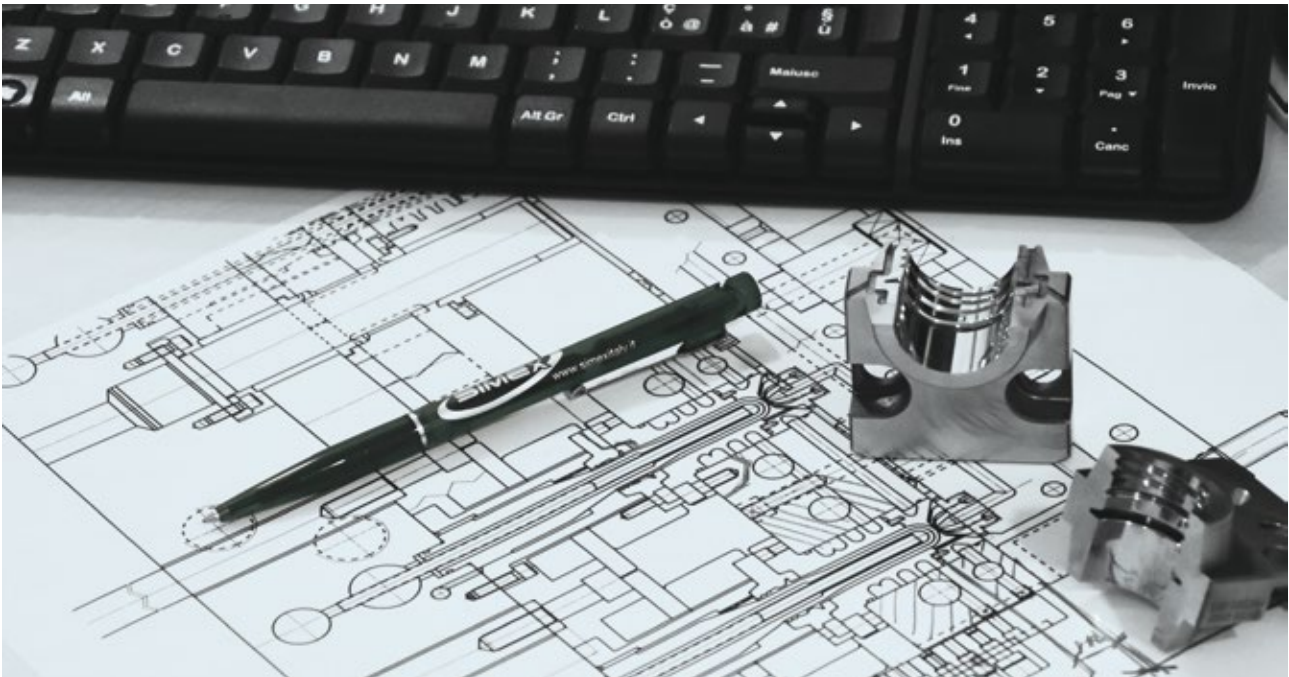
SIMEX places at its costumers' disposal its own sample archive of preforms and finish suitable for all destination fields: Mineral Water, Soft Drinks, Milk, Detergent, Oil, Cosmetics, etc.



Engineering of injection moulds

Due to its technical office equipped with the most advanced CAD / CAM systems, SIMEX is able to project injection moulds for preforms from 1 up to 144 cavities in accordance with the most up-to-date technological standards, in order to reach the highest quality of the final product within the shortest manufacturing time requirement.

1. **Technical schedule**
2. **Preform preliminary drawing, taking into account:**
 - type of injection machine
 - type of preform
 - type of finish
 - number of cavities
 - other
3. **Discussion / approval**
4. **Preform final working drawing**
 - Working drawing for each detail
 - Materials list
 - Electrical equipment schemes
 - Cooling schemes
 - User's and maintenance guide

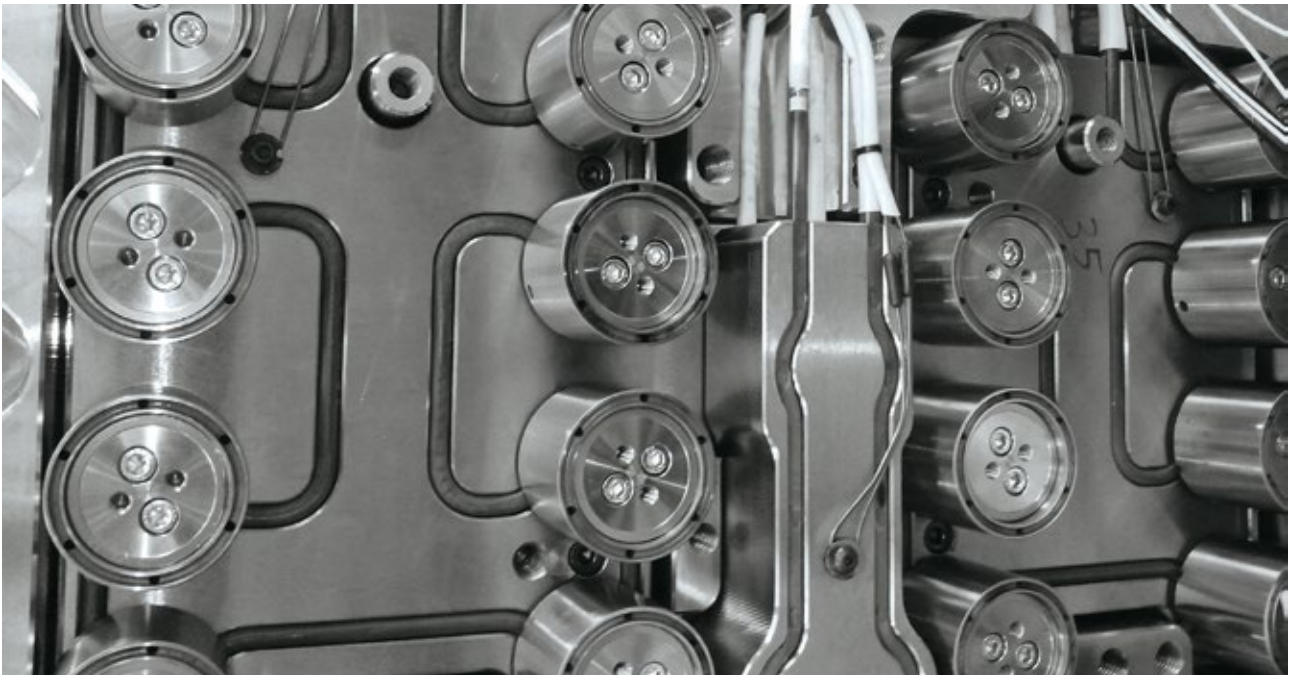


Engineering of injection systems

SIMEX offers the possibility of projecting injection systems especially for PET products, using following technologies:

THERMAL GATE	VALVE GATE
Without pins system	Pneumatic pins system
Special nozzles, in Titanium and CuBe, reheated through thermal conduction-system	Special single hot nozzle in hardened steel and CuBe
Temperature control through the use of thermocouple "J" on Hot Runner	Temperature control through the use of thermocouple "J" on each single injection point and on Hot Runner
Electronic control unit	Electronic control unit
Warranty on all elements / CE standards	Warranty on all the elements / CE standards

The engineering phase can also be supplied as single service, independently on the manufacturing of the moulds. If necessary our technicians can carry out an inspection at the plant of our customer for possible measurements.



Manufacturing of moulds and injection systems

Injection moulds and injection systems are manufactured within SIMEX production department, using special and certified steels suitable for such applications. SIMEX uses selected external suppliers merely for additional fitting tasks.

SIMEX	SELECTED SUPPLIERS
Engineering	SHardening heating treatment, cementation, nitriding, etc.
Manufacturing of all moulding parts: cavity, neck ring, cores etc.	Surface coating treatments TiN NiCr, nickelizing, hard chrome plating
Dimensional quality checks	Polishing and lapping
Assembling	Large plates processed on SIMEX's project
Electrical connections	Standard normalized elements

All mould's components are subjected to close dimensional quality checks through the use of a certified 3D checking machine.



Maintenance/conversion of existing moulds

Our complete program offers the possibility of extraordinary maintenance within our production departments, combined with complete or part conversions for weight variation and/or new finish.

1. Complete dismantling of the mould
2. Inspection of all components
3. Evaluation of costs
4. New technical drawings
5. Processing of the parts and of the components for conversions
6. Replacement of the new parts
7. General maintenance of all parts of the mould
8. General maintenance of the injection system
9. Replacement of the components where necessary
10. Cleaning of the cooling circuit
11. Assembling and assistance at mould's test



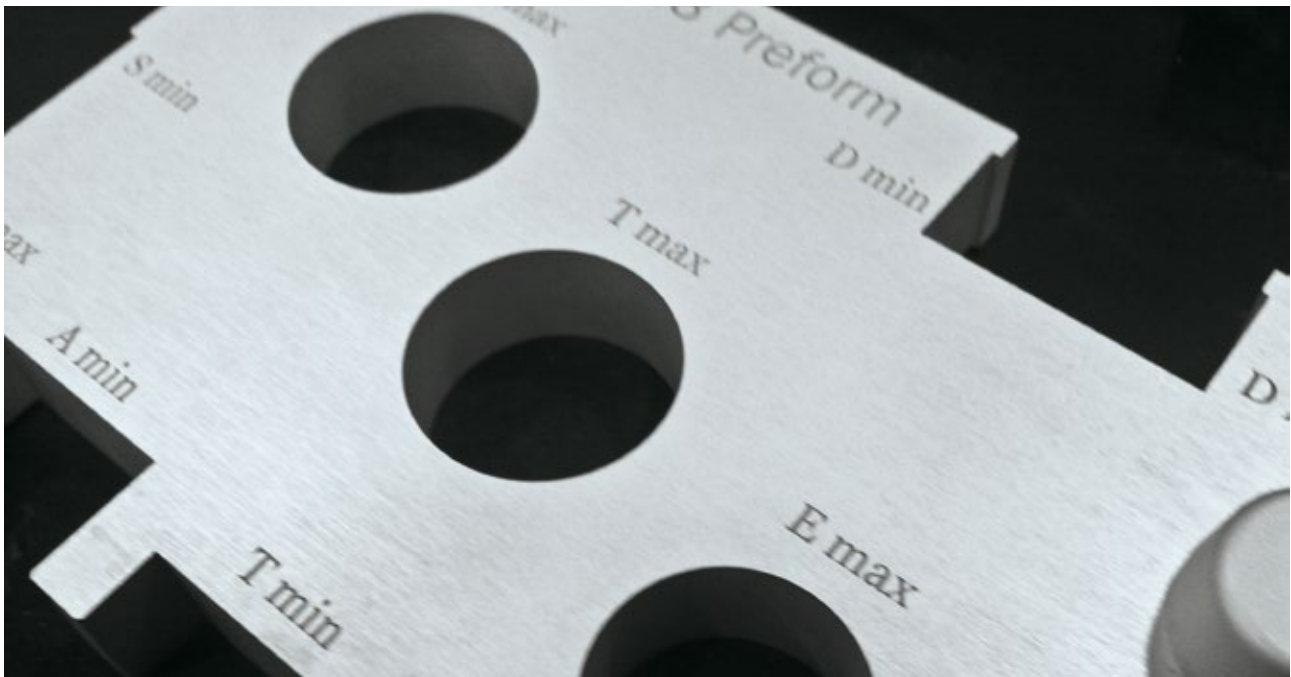
Quality control instruments for preforms' testing

SIMEX manufactures and sells quality control tools for the costumers' quality laboratories.

- Thickness variation tool control
- Axiality variation tool control
- Tools/gauges "Go No Go"
- Tools manufactured according to the drawing
- Polarizer
- Precision scale

Available manuals:

- Standard specifications of preforms' acceptance
- Preforms' defectiveness manual
- PET technology manual
- Preforms' quality control manual



Assistance and post-sale service

SIMEX places at its customers' disposal its technicians for:

- Carrying out of inspections by the customer for technical discussions and possible measurements at the beginning of the project
- Assistance through our high specialized technicians during the inspection test of the production moulds
- Post-sale assistance during the whole warranty period
- Assistance of various kind on customer's request at prices according to the Ucima/Assocomplast rates. All the terms are to agree upon

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