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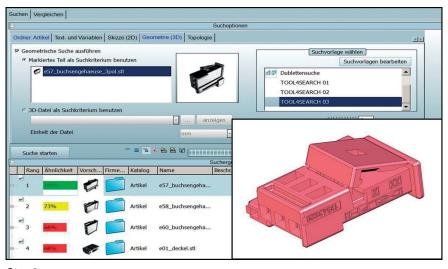
# Five steps to easy, fast and reliable tool calculation

In the past few years, the departments calculating tools for injection molding, die casting and extrusion processes have undergone major changes. In companies manufacturing 50 tools per year on an average, the calculator had to prepare about 250 calculations in the past. Due to the extremely rising cost pressure, the employee in charge now has to make 750 calculations, i.e. three times as much as before - and that within the same time.

In the future, a calculator will presumably be forced to process 1,000 offers and more within the same period, the usual reliability and without quality cutbacks. But how can this be done? Due to the classified and geometric similarity search, the use of "TOOL4SEARCH" will be the only way to follow in the future for easy, fast and reliable tool calculation in five steps. Furthermore, the knowledge database ensures efficient, time-saving and hence cost-effective performance of work throughout the entire order

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Werkzeugnummer: mold number:			Liefertermin: date of delivery:				
Teile-Nr./part no Zeichnungs-Nr./drawing no			Index:		Eingangs date of rec	datum:	
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Step 1



# Step 2

database.

3D item search uses the optical searching method by fingerprint recognition based on algorithmic claculations. The way of proceeding is quite simple. The item received from the customer must be imported into the system which automatically creates a kind of fingerprint. The next mouseclick already will show a list of the most similar items stored in the system.

processing period. After first

fulfilment, which means provision

of existing data, reports, instruc-

etc. to the company's SAP, PPS,

EPS systems and the staff's PCs

tions as well as general notes

via interface, the further pro-

For bid preparation it is indispensible to check if the inquiry documents are complete and to analyse the tool functions. All submitted tool specifications, item data and drawings, machine documents, purchaser's company standards, and all information made available, including reference designs, should immediately be stored in the knowledge

ceeding is as follows:

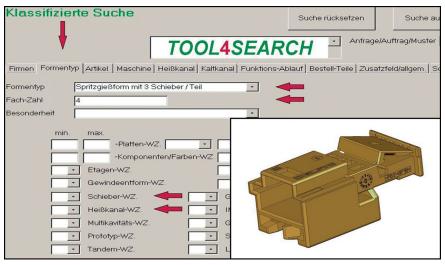
Step 1

Step 2

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Step 3



Step 4

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Step 5 (Pictures: Organisationsbüro Herbert Bübel, Nürnberg, Germany)

# Conclusion

Using "TOOL4SEARCH" will be the only way in the future to handle 1,000 offers or even more within a shorter period, but with the previous reliability and no loss in quality, and, at the same time, to keep the database up to date.

#### Step 3

The result of the optical search allows access to similar inquiries and orders in the classified similarity search. The additional advantage is that all departments will benefit from the information gathered in the knowledge database where departments, as for instance the engineering department, may store their tool designs, bills of materials, function sequences, moldflow calculations, etc.

# Step 4

Tools are searched on the basis of technical details such as mold or die type, number of cavities, item size etc. using the parametric searching method. The knowledge database helps find similar tools offered or manufactured before that comply with the requirements specified by the customer, for example injection material, machine, gating system, demoulding process, temperature control, surface quality and others.

# Step 5

The result of the parametric search then allows access to calculations for comparative costing and offer preparation. The items, including their associated tools, found in the "TOOL4SEARCH" knowledge database are compared to the inquiry data to be able to assess, on a percentage basis, the complexity of the calculation. As a result, a comparison offer is prepared.