

## Seminar on QForm-Extrusion simulation program

QuantorForm Limited and Eratz-Ingenieurbüro invite you to take part in the QForm-Extrusion Seminar and workshop on April 21st 2010 which will take place in Technical University Dortmund, Germany.

The seminar is intended for technical managers, die designers and other specialists of extrusion industry. It is focused on the ways to increase profitability of extrusion production by means of using of the latest development in numerical simulation.

Qform-Extrusion is the accurate and fast extrusion simulation program. Its implementation boosts productivity and increases profitability of the die makers and extruders.

**QForm-Extrusion** is a single program that integrates all the features required for analysis and optimization of the most complicated extrusion processes. It is being successfully used for simulation of solid, semi-hollow and hollow profiles as well as extrusion through multi-hole dies. The extruded material can be aluminum alloys, brass, steel and some other metals.

Showing impressive performance and accuracy, the profile shape is displayed concurrently with the progress of the simulation along with the distribution of the velocity or many other parameters. The front tip obtained by the simulation looks very similar to the real one and the load prediction, profile temperature, and die stress also have good correspondence with the manufactured item.

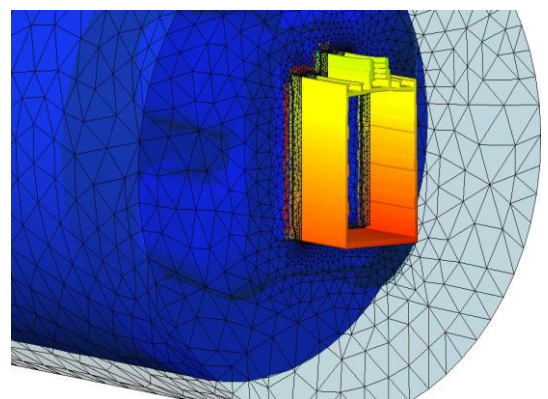
During virtual trials the user can see the extruded profile shape and all the parameters of the process such as velocity distribution or velocity graphs along the profile contours, profile temperature, required press load, contact stress etc. Using this information the user can identify the cause of any flow imbalance and make necessary corrections performing "what-if" studies to achieve the best performance. Coupled flow and thermal simulation provides accurate prediction of the process heat balance. The simulation shows what optimal billet preheat, press velocity and die temperature are needed to get the exit temperature within the desired range.

The program is fast and reliable. It works on a 64-bit hardware platform and takes advantage of parallel computing on PCs with up to 8 CPUs under Windows Vista or 7. A series of simulations can be run overnight or over weekends using the built-in batch mode.

**The seminar is for full day. Its agenda includes introduction to extrusion simulation technique, practical examples of dies optimization for making hollow and solid profiles. The participants of the seminar will be able to work with the program and take with them free trial license for 6 weeks.**

**The seminar takes place at the Institute of Forming Technology and Lightweight Construction TU Dortmund famous by its pioneering research work in extrusion technology. The seminar participants will have an opportunity to see all research facilities of the Institute during special excursion.**

**To take part in the seminar, please, contact us by e-mail [info@qform3d.com](mailto:info@qform3d.com) or call +44 7551 379372**



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### Preliminary Agenda

9.30. **Registration and coffee**

10.00. **Seminar opening. Welcome from Dortmund Technical University**

#### **Morning Sessions**

**Fundamentals of extrusion simulation:** the methods of extrusion simulation, experimental verification of numerical models, international benchmark tests.

**QForm-Extrusion as a specialized program for die makers and extruders:** requirements for the source data, graphical user's interface, results output and interpretation.

**Further development of QForm-Extrusion:** extending flexibility of the tooling geometry import (module QShape), die stress simulation of the tooling assembly, prediction of the influence of the die deformation on material flow, coupled thermo-mechanical simulation of the tooling set.

12.30 **Lunch and excursion to the Forming Technology and Lightweight Construction TU Dortmund**

#### **Afternoon Sessions**

**Examples of extrusion technology development and optimization by means of simulation:** material flow control by varying of the bearing design, variation of pockets and feeding holes, the influence of pulling force on the profile shape, die design and die correction based on simulation.

**Live demonstration of QForm - Extrusion simulation with explanation of how the program works:** Every participant at the seminar will be able to get a *free* trial license of QForm-Extrusion.

#### **General discussion and questions**

16.30 **Seminar Closes**

**The seminar is free of charge. On your request we will arrange a hotel for you in Dortmund. To take part in the seminar, please, contact us by e-mail or call us by phones:**

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