

Coating dies that can keep a secret

When visiting Swiss-based TSE Troller, C2 learnt that absolute trust and discretion was the key to good customer relations



Seen left to right are Thomas Ramel, Heike Troller, Maick Nielsen and Barbara Günther



The TSE TableCoater has already been presented with the C2 Innovation Award

What began as a small repair shop 50 years ago in Murgenthal in the Swiss Canton of Aargau today became one of the leading suppliers of high-precision dies for pre-dosed coating technologies. C2 visited TSE Troller and spoke with president Heike Troller, CEO Maick Nielsen and product manager Thomas Ramel about current projects and fascinating future markets.

C2: “Mr Nielsen, when and where were the points set for the dynamic development that made TSE Troller one of the most successful suppliers of coating dies?”

Maick Nielsen: “The company was founded in 1961. From the very beginning TSE Troller gained a reputation as a toll manufacturer of precision parts. In the early 60s we started to build single layer coating dies for the photographic industry. As our customers seemed to be satisfied and ordered continually we enhanced our knowledge and skills step by step. In the 70s we received the first order for a multilayer cascade die, again for the photographic industry.”

“Since the 80s we manufactured our own dies with the inimitable design that TSE Troller is well known for nowadays. In that time we also developed special software, which makes it possible to define and calculate the inner design and distribution system of our coating dies. This

software is still an important part of our daily work. Our core know-how and knowledge about the design of coating dies dates back to these early years and to the intensive co-operation we enjoyed with our customers in the photographic industry.”

C2: “Obviously, this competence seems to be one of the main factors of your success?”

Heike Troller: “Yes. My husband was a graduate in mechanical engineering and joined the company in the early 80s. He wanted to know the ‘ins and outs’ of a coating die so he developed the company’s own research activities and built up a close co-operation with both research facilities and universities.”

C2: “We noticed that TSE Troller has enhanced its international activities within the last few months.”

M. Nielsen: “Yes, that’s absolutely right. We mainly served European markets until 2010 but our activities have shifted just recently. In 2011 75% of our production was still directed to Europe, with just 10% in the US and 15% in Asia. Today 50% of our business is in Europe and 25% in the US and Asia, respectively.”

C2: “TSE Troller is not only active in the converting industry. Is it not right that you also cover other markets?”

M. Nielsen: “Yes, we operate in three main business fields – converting, paper and the electronic industry, particularly LI batteries, OPVs and OLEDs. The converting sector covers half of our activities, the other industry fields 25% each. Without doubt the electronics industry has the strongest growth rate. Interestingly, every business field has different requirements for our coating dies.”

C2: “Are those requirements just different or, in the case of the electronics industry, higher than those used in the converting industry?”

M. Nielsen: “From my point of view the requirements for electronic applications are indeed higher and more complex. That is because we have to face a stronger demand for ever-thinner coatings. Accordingly, the demands for our coating dies grow rapidly. Compared to that our customers in the coating and paper industry mainly express the desire for high-precision dies in order to save using expensive raw materials.”

C2: “So organic and printed electronics are no longer dreams of the future for TSE Troller?”

M. Nielsen: “You’re right. We’ve just received several specific requests for multilayer applications in organic and



A die of the TSE Troller portfolio

printed electronics. Those demands are focussed on slot dies because they are specially used for lower speed ranges and we are able to apply up to three layers with our TSE slot dies.”

“By the way, we’re just building another slot die for two layers, which we’ll provide our customers for their coating trials. That means that we not only offer our know-how but also our coating dies for test runs at our customer’s facilities, on their machinery and with their materials. If the market for electronic applications develops according to our expectations, this opens interesting potential not only for our slot dies but also for our curtain dies for high speed multilayer applications.”

T. Ramel: “Organic and printed electronics are already very important to us. It’s just a matter of stepping from laboratory tests to pre-production. Our TSE-TableCoater is the perfect equipment, especially compared to spin coaters which are on the retreat. It always comes as a surprise to our customers that, thanks to the optimised dead volume of our dies, they only need a tenth of the material to run a multiple of trials. So these two techniques are worlds apart!”

“Additionally, our TSE-TableCoater offers results that can easily be scaled up to greater working widths. What works with coating dies of 45-200mm coating width also works at working widths of 2m. We have managed to take that step together with our customers hundreds of times.”

C2: “That sounds like very comprehensive and intensive customer relations?”

M. Nielsen: “Yes. Our product managers accompany our customers from the very beginning. In this way we

are their partners from the first trials, during the complete project phase up to the installation of the dies. We know that our customers appreciate this comprehensive and close accompaniment.”

T. Ramel: “From these customer relations we learn more and more each day. Even if applications and products seem to be similar, every customer ‘cooks his own soup’. The more we know about it, the better our coating dies are.”

C2: “It always strikes us that you work very closely with competing machine building companies. How does this work?”

H. Troller: “Yes, that’s a balancing act and our slogan ‘TSE Troller’s coating secret’ describes our policy quite well. Our customer relations are based on absolute trust and discretion simply because of our intense knowledge of respective technologies and processes. We have built up a very good reputation and wouldn’t jeopardise it for any money in the world.”

M. Nielsen: “Yes, your impression is right. We work trustfully with several machine builders and aim to treat them equally. Maybe that’s not always easy but it continues to turn out well, and I think that it’s the only way it will work!” ■

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