

tk360

Customer magazine
tk accelis Materials Schweiz AG
No. 5 | September 2026

**Performance first
in mould- and
tool making**

Putting THYROPLAST-2294 to the test: **direct comparison in milling shows performance edge**

High-performance injection moulds start with the right mould base steel. But what are the actual differences in practice? In a direct milling comparison at FRAISA SA, THYROPLAST-2294 was matched against proven THYROPLAST-2085. The results showed how material properties affect machinability, tool life, and productivity – and why every detail in the material composition can influence the efficiency of the entire manufacturing process.

More details on page 3

The new name points the way

Thyssenkrupp Materials Schweiz has been renamed tk accelis Materials Schweiz. The new name stands for greater entrepreneurial flexibility, targeted innovation, and the commitment to continue supporting customers as a reliable materials partner – eye-to-eye, efficient, and future-orientated.

More details on page 2

Nine million shots later

High pressures and extreme continuous loads place considerable demands on medtech tools. As a result, Tanner Formenbau AG and tk accelis Materials Schweiz have jointly optimised the stability of their die holders. The combination of THYRO-HARD-Xtra and matching heat treatment shows convincing results even after millions of shots.

More details on page 4

tk accelis

Dependability as the foundation for the future



Dear reader,

In this, our biannual customer magazine “tk360,” we take a close look at the current developments, innovative materials, and proven applications affecting our business. We share practical experiences, highlight trends and provide insights into topics that will affect our customers and associated industries today and tomorrow. In this way, we aim to make relevant progress tangible and convey valuable stimuli because - particularly in challenging conditions – a partner you can rely on, a dependable partner in uncertain times, is an essential factor. With our expertise and many years of experience, we are in a position to help our customers to transform challenges into successful solutions on a daily basis.

The new edition of “tk360” focuses entirely on mould- and tool making processes. This dynamic and innovative industry is undergoing change. Steadily increasing requirements for quality, efficiency, and sustainability are facing volatile markets, insecure supply chains, and stronger competitive pressure. It is this environment that makes dependability, expertise and partnership-based cooperation more important than ever before.

As a leading provider of tool steels and accompanying 360° services in the D-A-CH region, we do not see ourselves merely as a supplier, but as a partner and advisor to our customers. Our guiding principle is Quality First. Right from the first technical counselling and the choice of materials, through the project-specific preliminary processing of your workpiece to on-time delivery, we apply on the highest quality standards coupled with sustainable solutions. We call this holistic range of services “Materials as a service”.

We hope you will enjoy reading this brochure

Stephan Helbling,
Sales Manager for tool steels/cubic processing at tk accelis Materials Schweiz



Say hello to tk accelis!

Change is an integral part of every successful company. tk accelis is the start of a new chapter for us – one that opens new opportunities and at the same time builds on our impressive heritage.

Dear clients and partners

Change is the only constant. Rarely has this sentence been more apt than today. Markets are changing rapidly, supply chains are becoming more demanding, and the pressures placed on companies are steadily increasing. We are also continuing to evolve: Thyssenkrupp Materials Schweiz is now tk accelis Materials Schweiz.

The independence of our materials services business unit and the associated rebranding open up new entrepreneurial freedom for us. That freedom creates the basis for more strategic flexibility, targeted investments in innovation and growth as well as for the consistent development of our product and service portfolio. The new name captures what we stand for: acting faster, working more precisely, and always providing our customers with the best possible access to materials and services. For you as our customer, the brand change primarily means continuity. The contacts, accountabilities and our organisation remain unchanged. Only our brand name is new and our email addresses have been adapted.

Our aspiration remains the same: we aim to work alongside you in the future as a reliable materials expert and service provider and jointly develop solutions that create real added value for you. Despite all the technological developments, one thing remains an essential factor for us: people. Materials form the basis of our work – but they only truly reveal their value through the knowledge, experience, and commitment of the people who work with them every day. Our employees, our customers, and our partners turn products into solutions and business relationships into long-term partnerships.

With tk accelis Materials Schweiz, we are combining new entrepreneurial opportunities with the values that have shaped us for almost a century. This will become particularly evident in 2027, when we celebrate our 100th anniversary. This anniversary shows that tradition and change are not opposites, but together form the foundation for a successful future. That is why we invest in new technologies without losing sight of what has always defined our success: the personal collaboration with the people who place their trust in us.

Welcome to tk accelis Materials Schweiz. Welcome to a future that blends innovation and reliability with one another.

Claudio Roth
CEO tk accelis Materials Schweiz



Claudio Roth, CEO
tk accelis Materials Schweiz

New machine to complement our range of services

From January 2027, tk accelis Materials Schweiz will expand the manufacturing capacities in the field of flat grinding. By investing in a STÖCKEL FD 2515 NC T, we are strengthening our position as a 360° materials service provider and creating additional capacity for demanding applications in mould- and toolmaking as well as in mechanical engineering.



Thanks to the new STÖCKEL FD 2515 NC T, customers can be supported even faster and more precisely.

The new STÖCKEL FD 2515 NC T surface grinding machine features a vibration-damped granite structure and a machining area of 2500 × 1500 × 750 millimetres. This allows both large-format panels and complex single and series parts to be processed with close tolerances and high surface quality, which noticeably facilitates further processing. “In surface grinding, the result is dependent on the technology and temperature control” explains Claudio Roth, CEO of tk accelis Materials Schweiz. “With this investment, we can specifically expand our range of services and support our customers even faster and more precisely.”

In addition to modern manufacturing technology, the expertise of our employees remains a decisive success factor. Only the interplay of experience, process understanding and efficient technology makes the precision that customers have come to expect from us as a 360° materials service provider possible. The new surface grinding machine represents another milestone on our path to offering high-quality material and processing solutions from a single source.

Putting THYROPLAST-2294 to the test: milling trials at FRAISA SA

Whether in the pharmaceutical industry, medical technology, or diagnostics: much more is expected from injection moulds today than “just” the production of flawless components. State-of-the-art moulds have to be capable and produce contamination-free results, deliver peak surface quality, shorten cycles, and remain plannable during ongoing operation. Which structural steel best meets these requirements is shown by the comparison of THYROPLAST-2294 and THYROPLAST-2085.

The decisive factor for a long, reliable service life of an injection mould is the mould frame. Plastic mould steel THYROPLAST-2294 creates the foundation for long-term performance. It features the rare combination of excellent machinability, dimensional stability, and consistent corrosion resistance. Its key performance indicators did not happen by chance but through targeted metallurgical control of the low-distortion age hardening process as well as optimised machining through sulphur distribution. THYROPLAST-2294 has a martensit-bainitic structure and owes its corrosion resistance ultimately to the optimum chrome content.

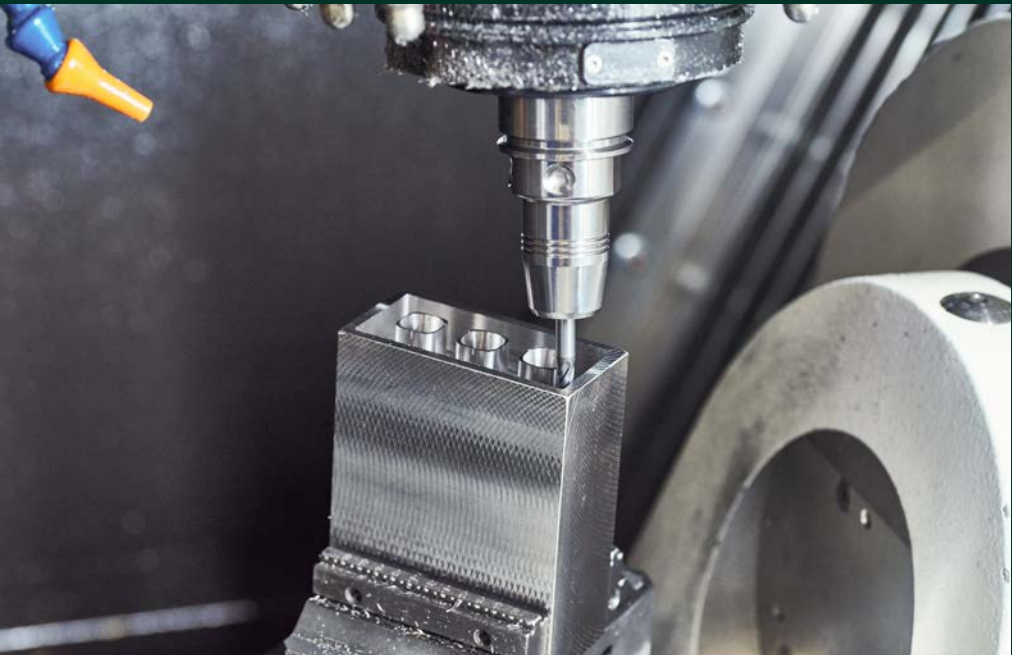
Mould base steels in a milling comparison

Is material 1.2294 really the star among mould base steels? We wanted to know for sure and put our THYROPLAST-2294 head-to-head against the well-known and proven steel THYROPLAST-2085 for a comparative test. We did not choose just anyone, we worked together with the specialist in milling tools par excellence: FRAISA SA from Bellach.

Machining comparison of 1.2294 with 1.2085.

The results.

In a direct comparison on the Mikron Mill P 800 D (3-axis CNC milling machine, HSK-A 80) at the “ToolSchool” of FRAISA SA, milling tests were conducted with identical milling tools (FRAISA order no. P8201501) using HPC partial cuts and standard fringing in both materials. It was possible to use more demanding cutting parameters with THYROPLAST-2294 than with THYROPLAST-2085. It was shown that THYROPLAST-2294, due to the optimised alloy components, tends significantly less to create edge build-up during milling despite more demanding cutting parameters. This can significantly increase productivity and service life.



Clear results at FRAISA SA: THYROPLAST-2294 showed outstanding results in the milling trial from start to finish.

Conclusion

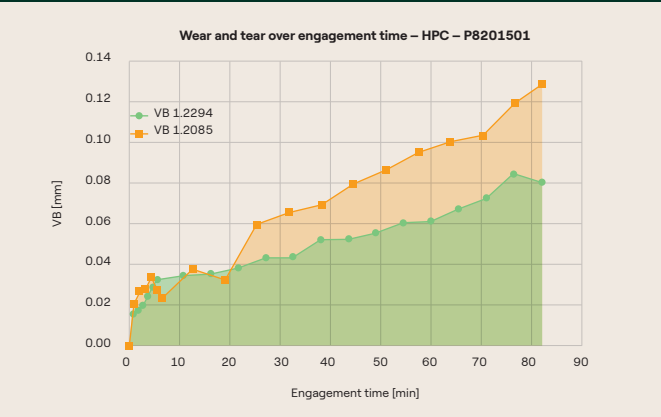
THYROPLAST-2294 can be machined consistently more efficiently and with less wear compared to THYROPLAST-2085. Clear improvements in the material removal rate were witnessed across all the milling actions. In addition, there is a significant increase in tool lifetime; an important factor in view of the ever-increasing costs for milling tools. On the subject of tungsten content.

THYROPLAST-2294 opens up significant productivity potential: higher cutting performance combined with a longer tool life.



Julian Leu
Project Manager application data
at FRAISA SA

Improvement from THYROPLAST-2294 to THYROPLAST-2085		
Application FRAISA	Metal removal rate	Tool lifetime
HPC (fringing)	17 %	56 %
HDC (trochoidal)	17 %	15 %
HSC toric tools	17 %	70 %
HSC spherical tools	25 %	50 %
HFC	7 %	100 %



“I was surprised at how effective and consistent the corrosion-resistant plastic mould steel THYROPLAST-2294 was machinable compared to THYROPLAST-2085 – but also in comparison with other typical non-corrosion-resistant plastic mould steels such as 1.2738.”

Above an engagement time of around 20 minutes, 1.2294 showed less wear than 1.2085 despite higher parameters. This makes longer and more productive machining possible.

Halved carbon footprint, excellent, consistent performance

tk accelis Materials Schweiz supports Otto Hofstetter AG in specifically reducing the CO₂ emissions of their purchased mould steel. Together, we have defined a procurement solution for the most important steel grades used that enables a CO₂ reduction of up to 50% – with unchanged material quality, machinability, and performance.

The starting point of this project was the analysis of the company-wide carbon footprint of Otto Hofstetter AG. The analysis showed that most of the emissions over the life cycle of the moulds occurred during use by customers and were therefore outside the direct scope of influence. It is all the more important for the company to focus on where concrete changes are possible.

Sustainability in purchasing materials

A central point of action is the purchase of materials: around 60% of upstream emissions are attributable to raw and auxiliary materials. As a result, joint consideration with tk accelis Materials Schweiz involved two mould steel varieties which accounted for around 90% of the total steel consumption. Through energy-efficient production processes, electricity from

renewable sources, and a higher proportion of recycled steel, it was found that their carbon footprint could be reduced by around 50%.

CO₂ footprint is continuously improving

tk accelis Materials Schweiz combines material expertise with procurement tailored to the needs of Otto Hofstetter AG and reliable supply. The replacement process is taking place step by step along the existing inventory levels. This ensures that supply dependability and material performance are maintained, while the CO₂ footprint of the purchased steel continuously improves.



Find out more about
Otto Hofstetter AG

THYROHARD-Xtra: The problem solver for medtech applications

Tanner Formenbau AG specialises in the production of high-performance injection moulding tools for medical technology and diagnostics. Thanks to the THYROHARD-Xtra mould insert steel, this innovative company from Feuerthalen has improved the performance of its tools. A success story.



Together with tk accelis, Tanner Formenbau has succeeded in noticeably improving the performance of its tools.



Die holders not installed.

Visit us at the Fakuma exhibition.

From October 12 to 16, 2026, tk accelis Materials Schweiz will be exhibiting at Fakuma in Friedrichshafen. Visit us at Stand A2-2224 and exchange ideas with our experts about materials, applications, and individual solutions – we look forward to meeting you.



12 – 16 October
Fakuma Friedrichshafen
Booth A2-2224, hall A2

Scan the QR code to get your free ticket for Fakuma 2026

Starting situation

The tools from Tanner are designed for a very long service life and are subject to continuous improvement. The die holders are exposed to very high pressures and extreme continuous loads during production. In a few cases, this led to cracks in the component. The goal was to reduce this risk and additionally ensure the useful lifetime of the tools. To this end, a new material with matching heat treatment was tested together with tk accelis Materials Schweiz.

Solution

After joint analysis of the initial problem and taking into account similar projects and empirical values, the focus quickly turned to the use of THYROHARD-Xtra steel. However, it was not only the choice of a suitable mould insert steel that was decisive, but the interplay of the outstanding properties of THYROHARD-Xtra in combination with the ideal selected heat treatment. The heat treatment of this nitrogen-alloyed mould insert steel was initiated under finely controlled nitrogen partial pressure. It was essential to bear in mind that the die holders show ideal performance characteristics in long-term use.

Customer benefits

The mould inserts were first tested on reference projects after the changeover to THYROHARD-Xtra, including optimised heat treatment. The result was that the die holders still looked almost like new even after over nine million shots. The surfaces of the die holders appeared in impeccable condition during follow-up inspections. The previous failure issue was resolved to the satisfaction of the manufacturer and the end customers after initial tests. This also suggests that fewer production downtimes, lower maintenance costs and generally a longer service life for the tools are possible in the future.



“tk360” No. 6 reaches for the stars

The next edition of “tk360” is dedicated to solutions for Aerospace & Defence as well as selected special applications. The focus is on innovative materials, special use cases and applications, where precision, dependability and the highest technical requirements are decisive. We are looking forward to giving you exciting insights into these demanding areas.



Manuel Tanner
Technical Sales Manager of Tanner Formenbau AG



“Our tools stand for durability and quality. In order permanently to meet this requirement, all components used must also withstand the highest loads. With THYROHARD-Xtra and the matching heat treatment, tk accelis has delivered a solution that exactly meets these requirements. Together we were able to improve the stability of the die holders still further. The results after several million shots showed that the solution has proved itself in continuous use and contributed to the long service life of our tools.



Learn more about
Tanner Formenbau AG

TANNER
Formenbau AG

100 Jahre
Materials Schweiz

tk accelis

Seit 1927

Innovation with tradition – for 100 years

In launching the name tk accelis Materials Schweiz, a new chapter has begun for us. At the same time, a special milestone is approaching: In 2027, the founding of thyssenkrupp Materials Schweiz will celebrate its 100th anniversary. The anniversary stands not only for a century of material expertise, precision and innovative strength, but prompts us above all to look ahead – together with our customers, partners and new ideas. We aim to celebrate this special occasion in proper style. The activities and highlights you can expect in the anniversary year will be revealed to you soon.

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