



Machining made easy

UDDEHOLM TOOL HOLDER CONCEPT

The next generation of tool holder steel

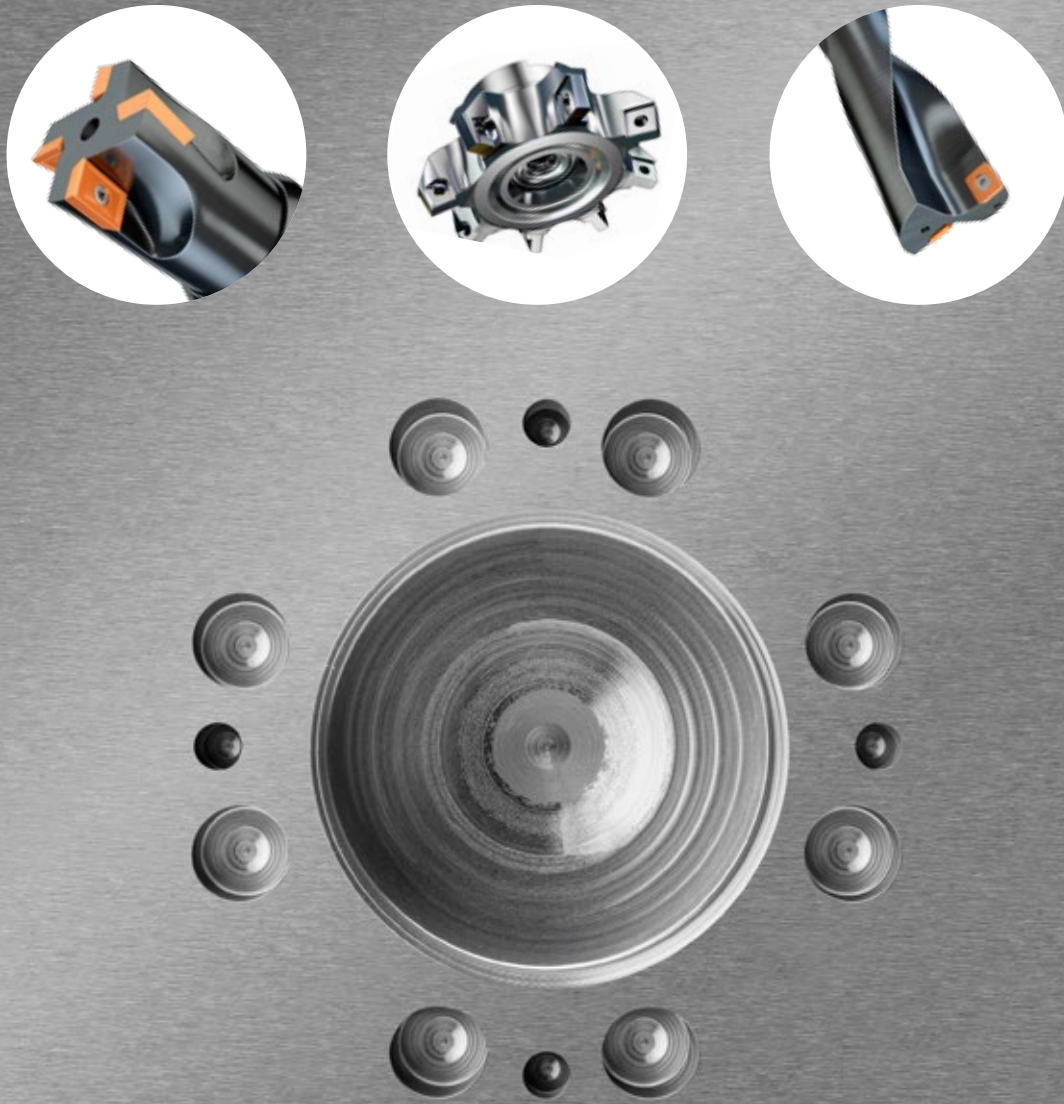
Over the past decades, cutting tool design and technology has improved greatly. Until recently, however, the development in tool body and tool holder materials has been lagging behind. With Uddeholm Tool Holder Concept, that is about to change.

Developed specifically for the extreme working conditions of drilling, milling and turning applications, and in close collaboration with leading tool manufacturers, the steel grades in Uddeholm Tool Holder Concept represent a new bid to satisfy the demand for superior quality, easy-to-machine tool holder materials.

A NEW LIGHT ON MACHINABILITY

One of the most important aspects of tool holder steel is the combination of high hot strength and excellent machinability. While the material costs for tool holders can be as low as 6-10% of the total production cost, machining can account for up to 65% of the total cost. The most common problem with tool holders is fatigue, due to the severe dynamic stresses they are subjected to. In addition, working temperatures can reach up to 600°C depending on the conditions and the materials to be machined.

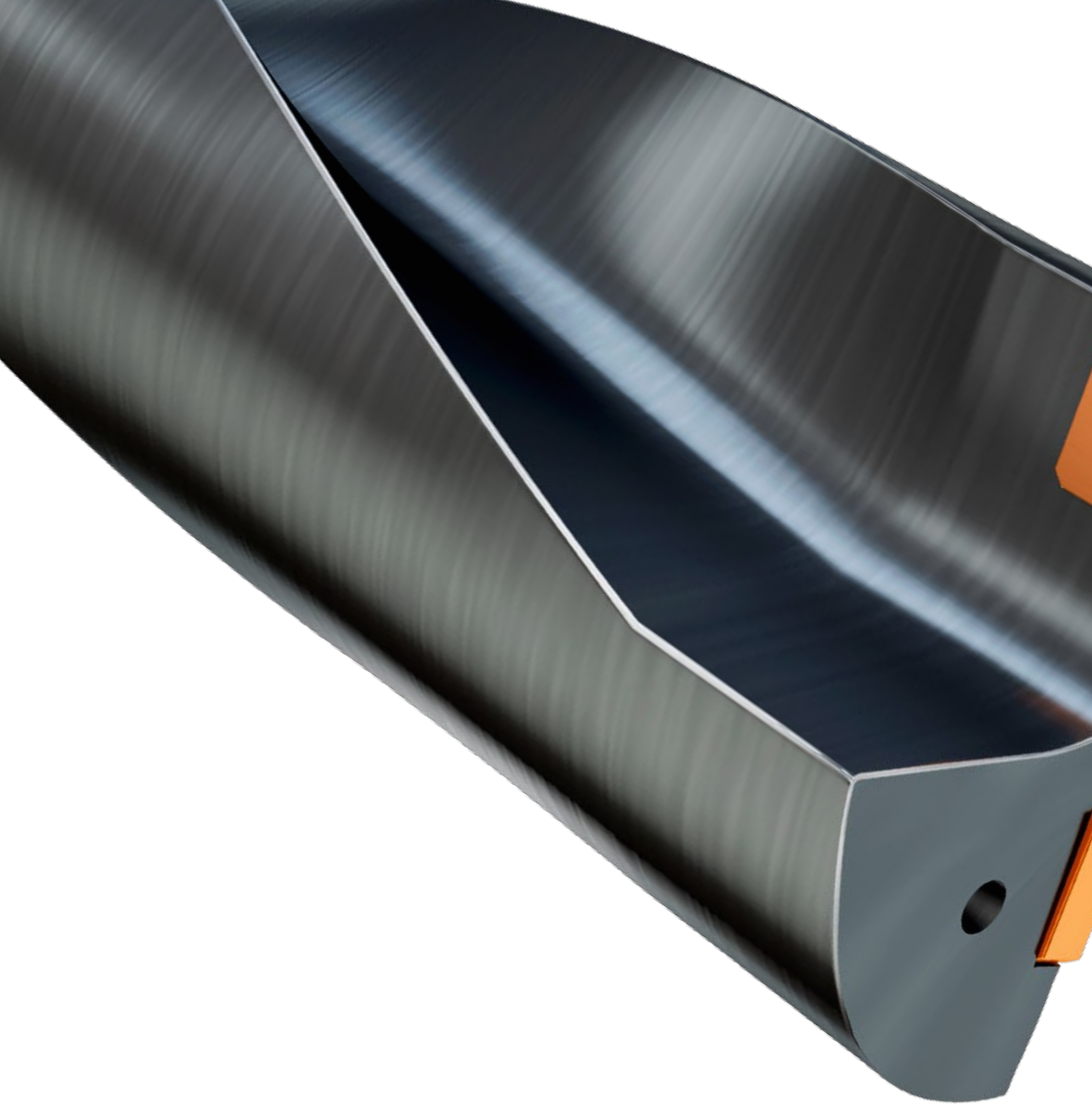
The driving force behind Uddeholm Tool Holder Concept is to develop a new generation of unique, specialised steel grades that satisfy requirements on durability while still being very easy to machine. This development is ongoing, which means that new tool holder steel grades will soon see the light of day.



IMPROVING TOTAL ECONOMY – FOR YOU AND YOUR CUSTOMERS

What Uddeholm Tool Holder Concept offers above all is improved total economy – both for you and your customers. Since our tool holder steel grades are easier to machine, you will save a lot of time when shaping your tool bodies and chucks. The combination of the best cutting tool materials on the market and the leading tool holder steel grades, makes it possible for your customers to increase their productivity and be confident that their tools will last longer.





UDDEHOLM BURE®

THE ESSENTIAL TOOL HOLDER STEEL GRADE

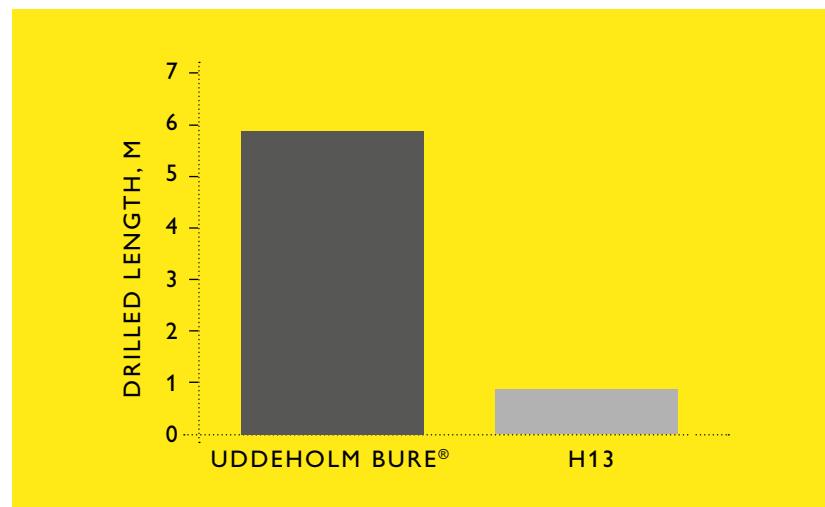
With its combination of excellent machinability and very good mechanical properties at elevated temperatures, Uddeholm Bure has been setting the standard in tool holder steel for over a decade. It is a high-strength steel designed to shorten tool making lead times and improve tool holder durability in severe working conditions.

Bure is, in comparison with similar steel grades, far easier to machine, which for example simplifies drilling of cooling

channels and thread tapping of small holes. The steel is particularly suited for induction hardening and can be PVD-coated without reducing the hardness of the tool. With its superior hot strength, Bure is highly resistant to high-temperature fatigue, resulting in a tool holder that lasts longer. These properties make it perfectly suited for a number of high-stress applications, such as indexable insert drills, milling cutters, chucks and tool tapers.

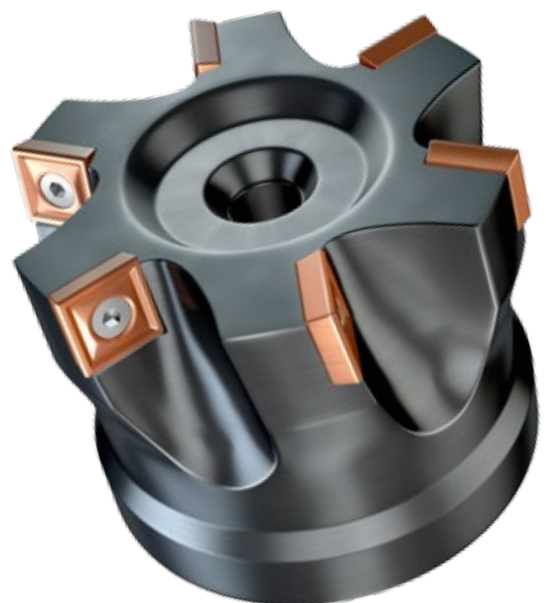


GUN-DRILLING OF COOLING CHANNELS IN SOFT ANNEALED MATERIAL

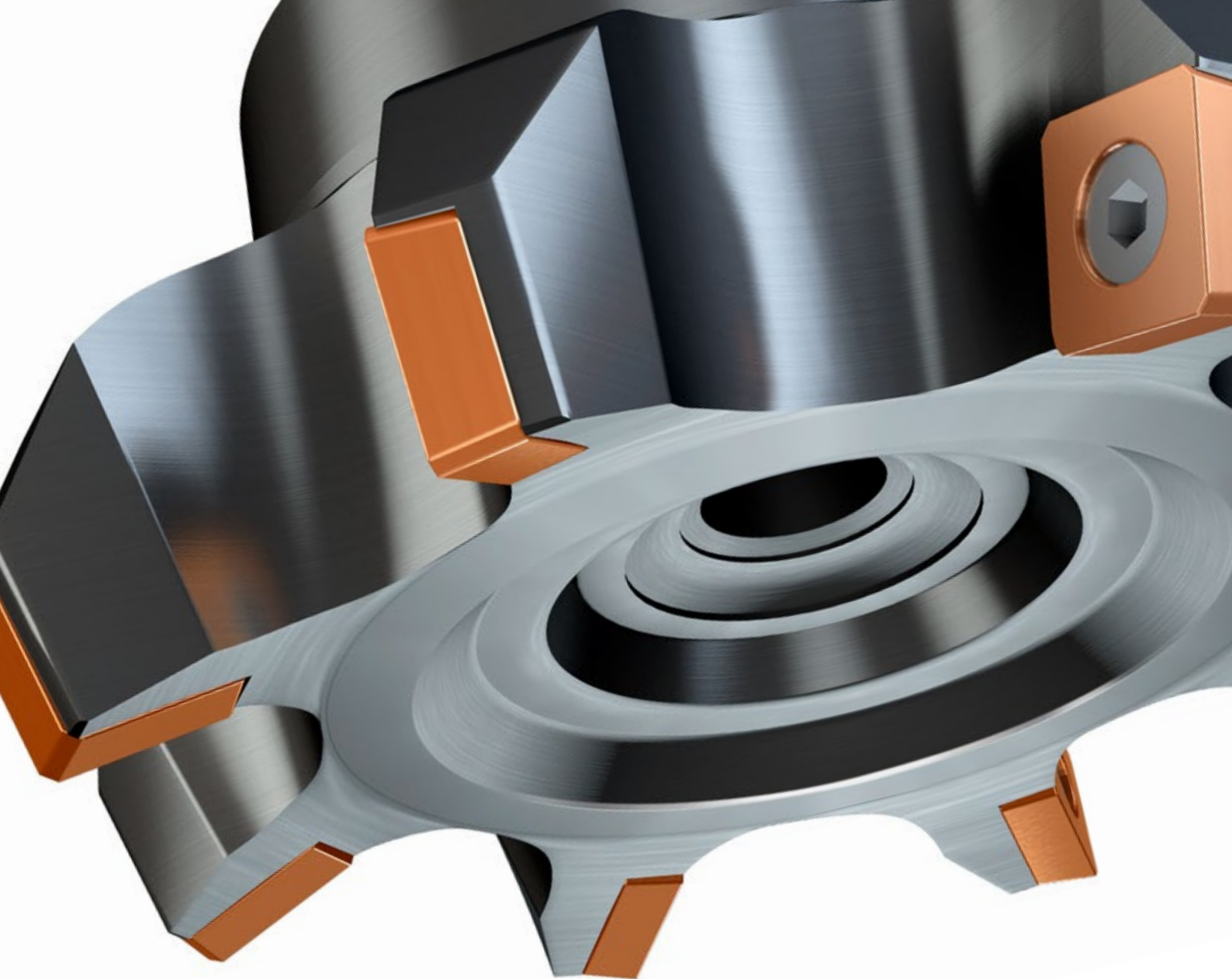


Uddeholm Bure properties:

- Very good machinability
- Good high-temperature strength and fatigue resistance
- Good resistance to abrasion at high and low temperatures
- Good through-hardening characteristics, can be air hardened
- Very little distortion during hardening
- Good ductility and toughness



Uddeholm Bure has been setting the standard in tool holder steel for over a decade.



UDDEHOLM BALDER®

FOR NEXT GENERATION MILLING CUTTERS

Uddeholm Balder is a brand new, pre-hardened tool holder steel, developed in collaboration with our customers. It is the ultimate tool steel for milling cutter bodies and combines superb machinability with excellent mechanical properties, enabling you to shave precious time off your production process.

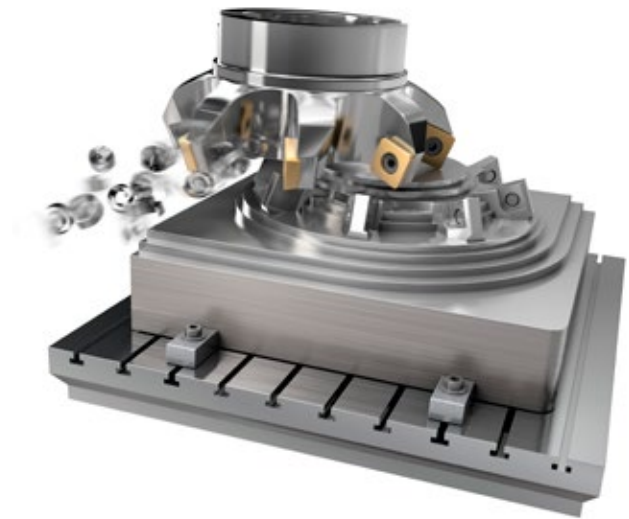
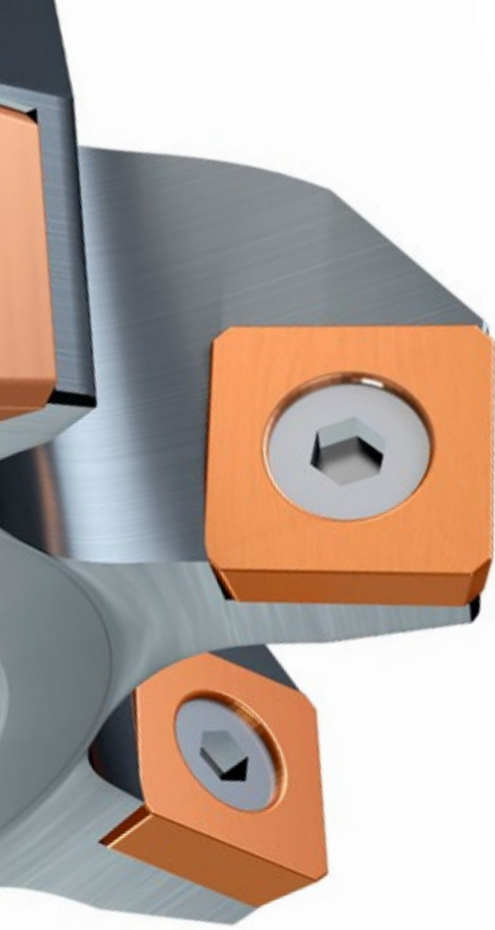
Balder is an excellent choice for products where good high temperature strength, temper resistance and fatigue resistance are required. It has very good resistance to abrasion at both low and high temperatures. Altogether, this means that Balder provides longer and better performance of indexable insert cutting tools, such as milling cutters, drills and tool tapers.

Uddeholm Balder is supplied in pre-hardened condition, which will contribute to major time savings for the tool holder manufacturer. With no need for a long and costly hardening process, in combination with superb machinability, lead times

can be significantly shortened. In addition, the tool users will enjoy a longer, more predictable tool life and lower tool costs.

Uddeholm Balder properties:

- Excellent machinability in hard conditions
- Superb high-temperature strength
- Very good temper resistance
- Good fatigue resistance
- Good resistance to abrasion at both low and high temperatures
- Good toughness and ductility
- Suitable for coating



Good fatigue and hot strength in combination with good temper resistance make Uddeholm Balder the perfect choice for milling cutters.

	UDDEHOLM BURE®	UDDEHOLM BALDER®	P20	H13
Fatigue & Hot strength				
Wear resistance				
Machinability pre-hardened				
Coating suitability				

UDDEHOLM is the world's leading supplier of tooling materials. This is a position we have reached by improving our customers' everyday business. Long tradition combined with research and product development equips Uddeholm to solve any tooling problem that may arise. It is a challenging process, but the goal is clear – to be your number one partner and tool steel provider.

Our presence on every continent guarantees you the same high quality wherever you are. ASSAB is our exclusive sales channel, representing Uddeholm in the Asia Pacific area. Together we secure our position as the world's leading supplier of tooling materials. We act worldwide, so there is always an Uddeholm or ASSAB representative close at hand to give local advice and support. For us it is all a matter of trust – in long-term partnerships as well as in developing new products. Trust is something you earn, every day.

For more information, please visit www.uddeholm.com, www.assab.com or your local website.

