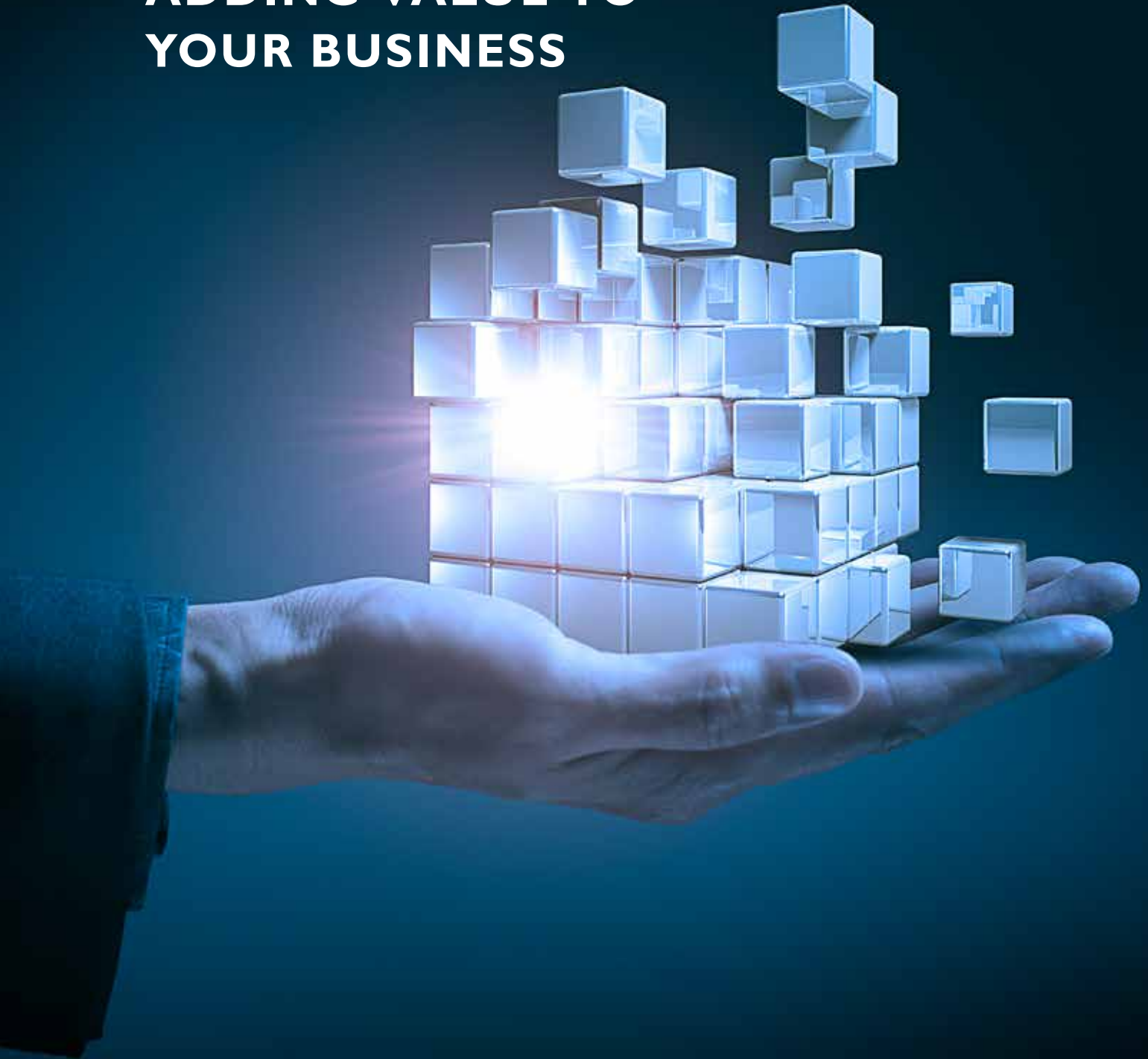


75 since
1945
years

Developed by experts – made for tooling

AM CORRAX

**ADDING VALUE TO
YOUR BUSINESS**

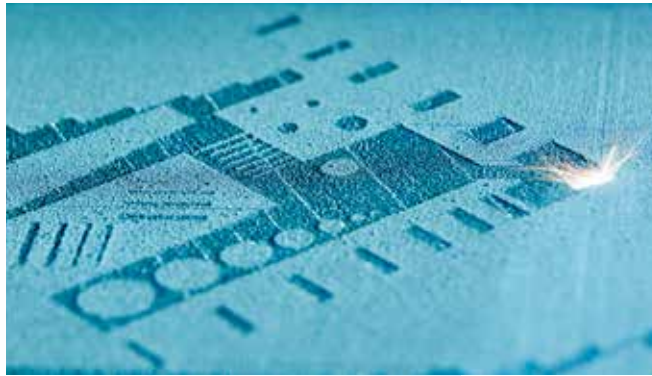


ASSAB 



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Edition 20200417



#1 IN HIGH PERFORMANCE TOOL STEEL

With pioneering research and development, innovative thinking and deep commitment, ASSAB and Uddeholm offer business-enhancing steel solutions to premium clients all over the world.

What started as a small iron mill in 1668 has now become the world's leading provider of tool steel, with business and operations in 90 countries. Always with the promise to deliver solutions that enhance competitiveness and create added value for our customers.



SETTING A NEW STANDARD

SHAPING THE FUTURE

From start to finish, customer needs are what matters. AM Corrax is changing the rules and raising the standards for additive manufacturing.

ALWAYS MOVING FORWARD

For you, ASSAB and Uddeholm's latest launch is a promise of better business and unlimited production possibilities. For us, this is nearly 350 years of experience and market-leading metallurgy applied to new technology. From R&D to testing, your needs and our quality standards are the two constant variables that accompany everything we do, no matter the name of the finished product. With AM Corrax we are securing our position as the world's leading provider of tool steel solutions and

offering manufacturers the chance to take a giant leap forward within printing. Parallel to ASSAB and Uddeholm gaining ground in a new area of expertise, the industry now has to adjust to a new perspective regarding additive manufacturing materials. The work of the best metallurgists and field specialists in the world have resulted in the superior solution for challenging shapes and complex demands. AM Corrax is the first AM-powder developed specifically for tooling.



INNOVATION AND CUSTOMIZATION

MOULDS THAT MEET YOUR NEEDS

Tool steel from ASSAB is a quality guarantee that increases productivity and lowers maintenance costs. AM Corrax is the pioneering printing material for high demands and efficient design.

UTILIZE THE TECHNOLOGY

Understanding your needs is the key to developing and refining a finished product that not only meets your requirements, but also presents an answer to possible challenges before they arise. Great material knowledge and understanding your production environment

is always the starting point. With the most advanced tool steel your production and high-end technology are no longer suppressed by material limitations and good-enough quality. AM Corrax is the stepping stone that transforms your high expectations into a value-adding solution.





OPTIMISED CYCLE TIMES

AM Corrax is the latest addition to ASSAB's broad range of market-leading tooling solutions. Its unique material and mechanical properties offer an improved way of manufacturing – the finishing piece of the puzzle for your high performance tools.

By using the best additive manufacturing material available it is possible to create the customised cooling channels you need for efficient and reliable moulds that push production rates to



the top. This fine particle powder guarantees ground-breaking polishability, so you will always meet the high surface requirements that characterise demanding applications.

GAME-CHANGING QUALITY

With the latest launch from ASSAB, the relationship between tooling and additive manufacturing takes a different form and reaches a new level. By applying our experience and expertise of raw material and metallurgy to innovative technology, we are forcing new challenges to adjust to our ever-present and indispensable rule: choose the right material for the job. It is a simple way of developing advanced tool steel and delivering tooling solutions that



make a difference for our customers. Profitable benefits that saves time and money, from tool steel with long-lasting performance.

SHORTER TIME TO MARKET

From start to finish ASSAB's specialists have been driven by the committed ambition to establish the material properties and printing parameters that place equal value on tooling efficiency and product quality. This means that AM Corrax is the first powder for additive manufacturing developed with a specific application in mind. It is designed to maximise tool life, to raise production rates and to



make unplanned stoppage and money-draining maintenance a thing of the past.

AM Corrax in short

- Corrosion-resistant tool steel
- Flexible hardness 34–50 HRC
- Ageing treatment 425–600°C
- Extremely good homogeneity
- Extremely good polishability
- Easy to process by AM technologies

WITH THE PROMISE TO CREATE VALUE

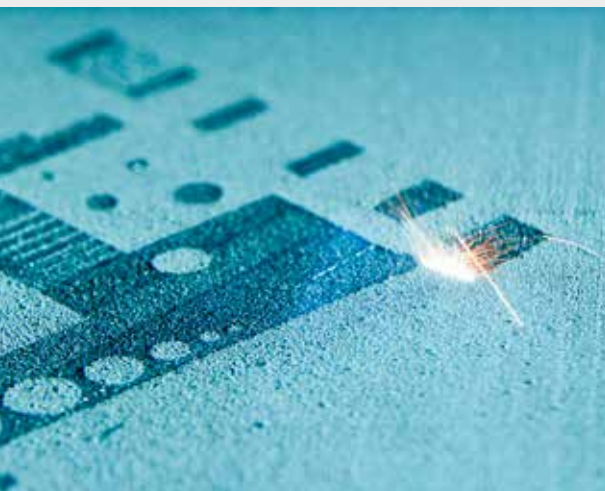
FROM SUITABLE TO PERFECT

AM Corrax is developed for complex shapes and innovative design in a fast and changing industry. You get all the benefits from our conventional stainless steel grade in the form of an advanced metallurgical powder. New, improved and made for tooling.

BETTER BUSINESS FROM START TO FINISH

Controlling and understanding the quality of the powder is essential in order to achieve the desired mechanical properties of the printed components. Most powders for additive manufacturing currently available on the market are there because they suit the technology and not the other way around. ASSAB is now leading the shift from suitable to perfect by developing the right metallurgical match for your final

application. Every step of the process behind ASSAB's AM-material is focused on meeting your tooling needs. From chemical composition to size and shape distribution and flowability in the printer, we are always considering the factors that enhance quality and create value. Thanks to our close collaboration with leading partners we can research and test materials, tools and production so that you can be one step ahead of your competitors.



FIRST AM-POWDER MADE FOR TOOLING 01

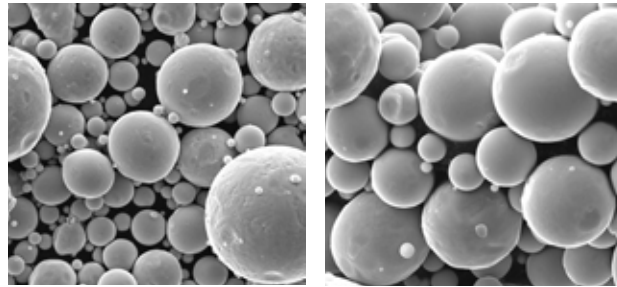
OPTIMISED MOULDS 02

LONGER TOOL LIFE 03

INCREASED PRODUCTIVITY 04

**MATERIAL KNOWLEDGE
IS WHAT MATTERS**

The process and quality control in ASSAB's powder lab is your reliable guarantee for homogeneity in size and shape. The result is powder with minimal cladding.



SIZE AND SHAPE

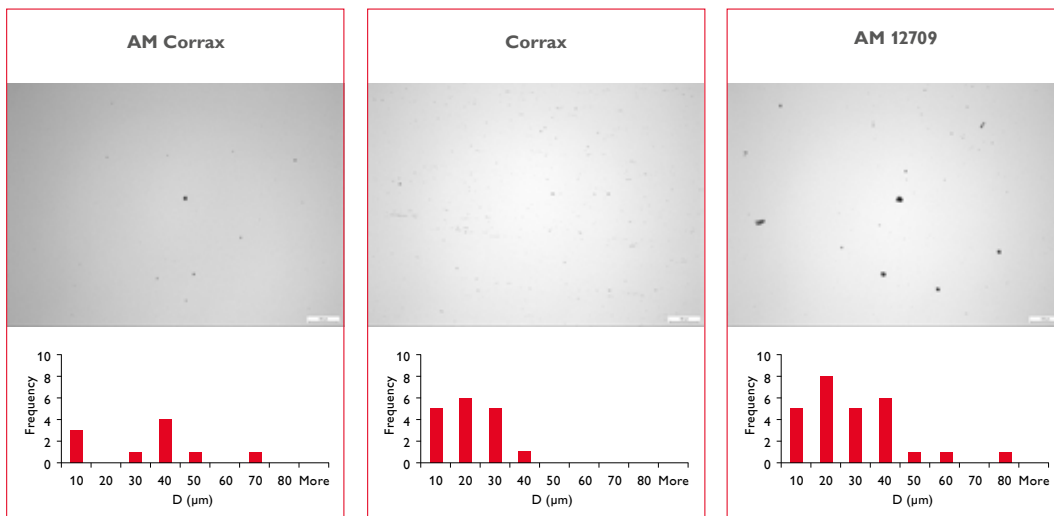
AM Corrax	D10 (µm)	D50 (µm)	D90 (µm)	Sphericity	Aspect Ratio
	25	38	53	0,94	0.90

MECHANICAL PROPERTIES*

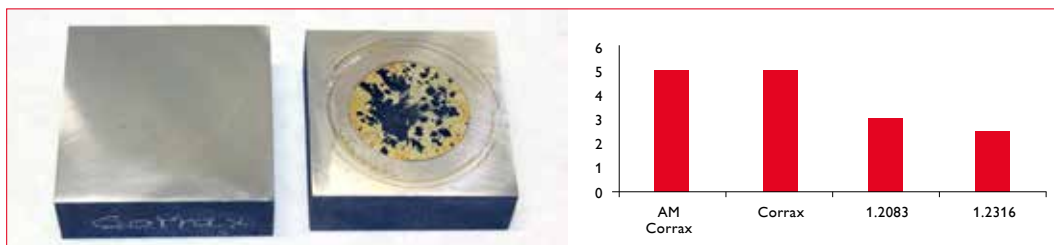
Tensile Strength Rm (Mpa)	Yield Strength Rp0,2 (Mpa)	Elongation A5 (%)	Modulus of elasticity (MPa)	Impact toughness (J)	Compressive stress (Mpa)
1700	1600	10	200000	20	1800

*All data at 50 HRC

POLISHING



CORROSION RESISTANCE



TYPICAL ANALYSIS %

C	Si	Mn	Cr	Ni	Mo	Al
0.03	0.3	0.3	12.0	9.2	1.4	1.6

Maximum hardness: 48–50 HRC

A REWARDING RELATIONSHIP

INVESTING IN YOUR SUCCESS

The quality of your product is determined by the quality of the tool steel. Let AM-powder from the world's leading tool steel provider transform additive manufacturing technology from trial-and-error to customised success.

READY WHEN YOU ARE

Pairing with the right strategic partner from the start makes it easy for you to take advantage of the opportunities offered by AM-technology. Efficient cooling channels, complex geometries and special internal features are all value-making steps in the supply chain that can be taken to a new level with ASSAB's AM-powder made for tooling. Our unique competence and material knowledge are the two fundamental tools we use to help you create the best conditions for

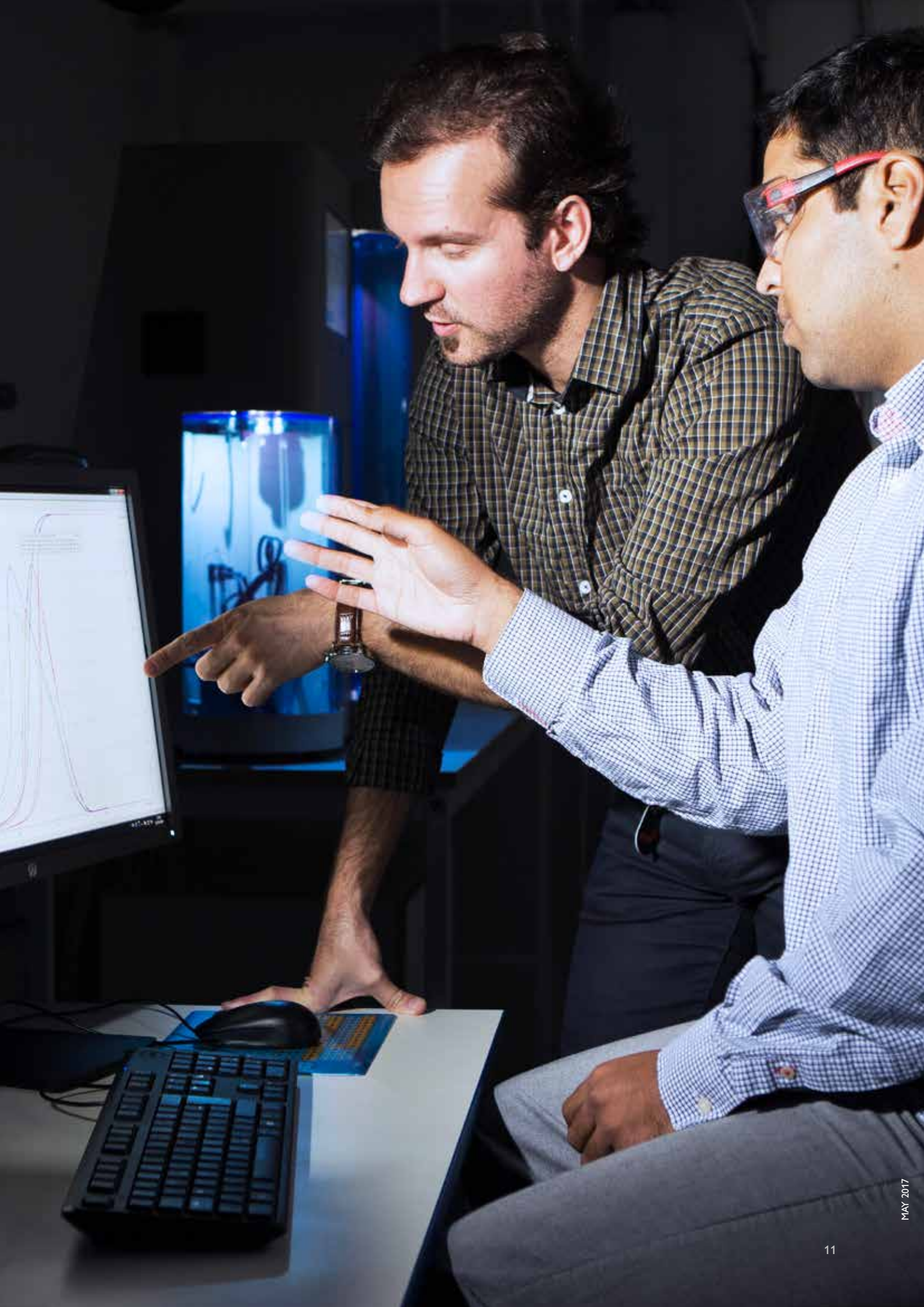
profitable tool making and manufacturing. Facing a rapidly changing tooling industry we have made several business-enhancing investments in powder production, R&D and 3D-printing in order to expand our tooling expertise. With a new tailored PM-plant and powder laboratory up and running we have the capability to match your demands and develop the tool steel solution that will take you to first place.

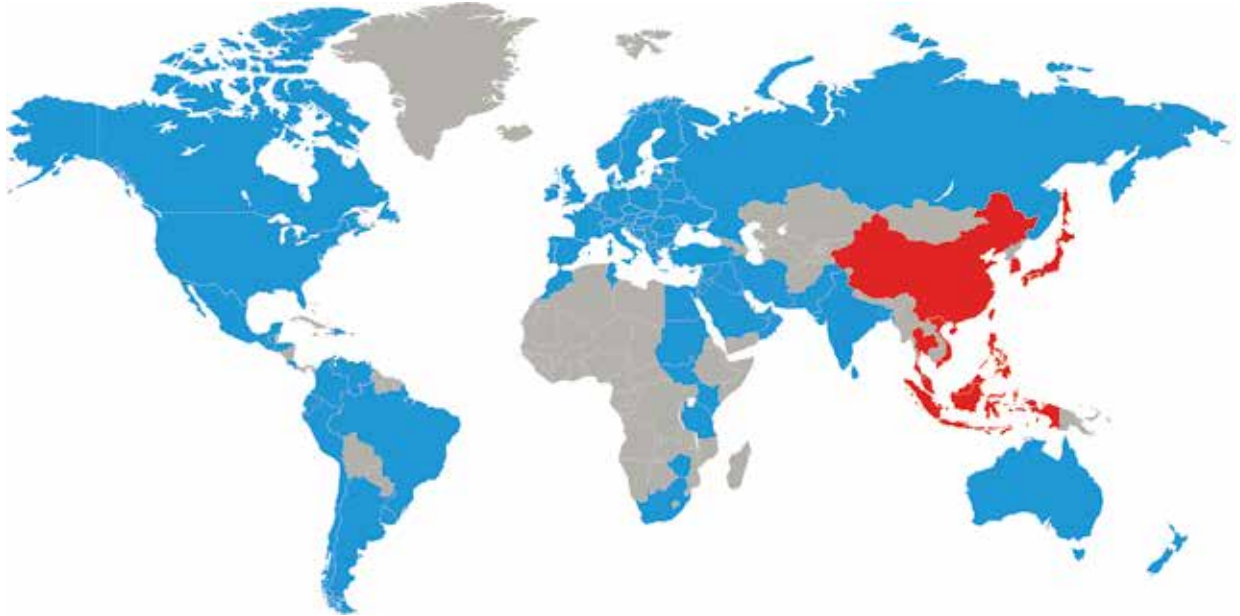


KEEPING YOU ONE STEP AHEAD

Access to the market's best powder opens up new ground for innovation, and used right additive manufacturing allows the creation of new types of objects with unique material properties. Reliable prototypes and short production runs with a predictable cost and safe result is now a

sustainable possibility. We know the challenges you face everyday and understand your tooling needs. AM Corrax is the latest proof of our priorities and efforts for better moulds and components with improved performance and reliability.





Choosing the right steel is of vital importance. ASSAB engineers and metallurgists are always ready to assist you in your choice of the optimum steel grade and the best treatment for each application. ASSAB not only supplies steel products with superior quality, we offer state-of-the-art machining, heat treatment and surface treatment services to enhance steel properties to meet your requirement in the shortest lead time. Using a holistic approach as a one-stop solution provider, we are more than just another tool steel supplier.

ASSAB and Uddeholm are present on every continent. This ensures you that high quality tool steel and local support are available wherever you are. Together we secure our position as the world's leading supplier of tooling materials.

For more information, please visit
www.assab.com

