

# UNDERSTANDING SPECIAL STEEL

voestalpine BÖHLER STEEL ACADEMY



# SPECIAL STEEL FOR THE WORLD'S TOP PERFORMERS

It is impossible to imagine our modern world without special steel.

This material will continue to drive success and growth in critical branches of industry, both in direct components and in the tools used to shape them.

For generations the name BÖHLER has been synonymous with the highest quality Special Steel around the world. We produce SPECIAL STEEL FOR THE WORLD'S TOP PERFORMERS and our standard is to provide the best solution every time – whether in manufacturing technology, materials development, or customer service.

Training and continuing education are key to our success. People who are prepared for a lifetime of learning, never lose their sense of curiosity, and are always prepared to share their knowledge with others: these are the fundamental values of the STEEL ACADEMY.

OIL & GAS





- - - AEROSPACE - - -

- ENERGY -

- - - AUTOMOTIVE - - -

- - TOOLMAKING - - -

- - - CUTTING TOOLS - - -

Welcome to voestalpine  
BÖHLER Edelstahl GmbH & Co KG.  
Welcome to the STEEL ACADEMY.

# KNOW HOW STEEL ACADEMY

The STEEL ACADEMY perfectly combines technical lessons, practical experience and networking. It offers intensive hands-on experiences in production facilities, efficient teaching in a motivating seminar setting, all during an enjoyable stay in a 4-star international hotel while sampling the regional traditions and delicacies.

The BÖHLER brothers were pioneers in more than just metallurgy. They also set new standards in management, such as surveys of customer opinions. voestalpine BÖHLER employees were already being trained in the beginning of the 20th century to improve their products to meet market requirements, and were sharing relevant processing information, especially with customers. Then as

now, knowledge sharing was a sign of respect for employees and business partners.

Every year around 500 customers and employees attend technical training sessions at the STEEL ACADEMY in Kapfenberg, where they experience the production and processing of Special Steel up close in the adjacent plant.





# KNOWLEDGE LEARN MORE

The outstanding properties of voestalpine BÖHLER special steels require the right selection, processing, and heat treatment to reach their full potential.

This requires profound knowledge of the materials, which we offer our global customers and employees in various STEEL ACADEMY seminars

The training sessions cover general Special Steel production, including the advantages and properties of specific groups of steels, different processing and treatment methods, and how they support cost-effective tools and steels. We offer practice-focused seminars designed by professionals for professionals on the following topics:

High Speed Steel & Tool Steel Seminar for customers and employees

- » Powder Metallurgy, Cold Work Tool Steel, Hot Work Tool Steel, Plastic Mould Steel

Special Materials Seminar for customers and employees

- » Special Materials Aerospace
- » Special Materials Automotive
- » Special Materials Engineering
- » Special Materials Oil, Gas & CPI
- » Special Materials Power Generation

Employees

- » Employee Fellowship Seminar for new employees
- » Employee Experts Seminar for long-term employees





# COMPETENCE THROUGH EXPERIENCE & INNOVATION

## High Speed Steel & Tool Steel

### Steel production

Learn all about steel production, from smelting to secondary metallurgy, casting, the advantages of remelting in a special steel plant, and forming processes in forging and rolling mills. You will learn how various chemical elements can influence the quality of the steel, how nonmetal inclusions in the steel can be prevented and what influence carbides have on their working lifespan.

### High Speed Steel

This seminar is aimed at manufacturers of machining and cold-forming tools. The advantages of special production technologies such as powder metallurgy are presented, along with alloy variants and their effects on tool life, the influence of micrograin structure on steel quality, damage mechanisms and how to prevent them, as well as selection criteria for optimal tool inserts. Last but not least – an overview of the latest developments at voestalpine BÖHLER.

### Cold Work Tool Steel

The requirements on material properties are increasing, whether for cold forming, cutting, punching, or in the knife industry. The optimal material selection can yield substantial improvements in performance. In this seminar you will learn which alloy models provide the best results for specific requirements. As a result you will pay more attention to potential damage mechanisms when designing tools.

### Hot Work Tool Steel

Pressure casting - no other production process is more challenging for steels. Ultrahigh pressures and the release of aggressive acids, along with temperature changes, can often cause steels to age prematurely. In this seminar you can learn about the positive effects of metallurgical purity of your tools' lifespan as well as which quality levels are recommended for tools for forging, press hardening or extrusion, including tips for processing and heat treatment.

### Plastic Mould Steel

Toolsteel for processing plastics must meet multifaceted requirements. In addition to long tool service life, properties such as polishability, good photoetching, and good grindability or erodability are crucial criteria for steel selection. voestalpine BÖHLER provides the optimal tool materials for all areas of application. Get to know these materials in order to minimize your production risks and increase the cost effectiveness of your tools.

### Special Materials

Aerospace, Automotive, Engineering, Power Generation, Oil, Gas & CPI

As a partner with profound material expertise, voestalpine BÖHLER provides special materials for challenging applications in energy technology, aerospace, oil & gas, automotive, and the engineering sector. Its product range covers high-performance tempered steels, austenite, duplex, super duplex, maraging steels, and nickel-based alloys. In this seminar you will become familiar with their various properties, understand which standards and certifications are behind them, and get a look at global trends.



### **Modular training units for employees**

The most important goal is the fundamental development of employee expertise. Areas of focus are branding, products, production equipment and opportunities in BEG and its product marketing strategy. This requires strong, detailed training modules that have been specially developed for technicians and technical sales personnel at our distributors. We provide a basic seminar for new employees and those who feel the need for a refresher, as well as an expert seminar for technicians and technical sales personnel.

The contents of the seminars are focused specifically on relevant interests, expectations, and existing knowledge. Discussions of technical subjects as part of a customer seminar are prepared individually, specifically, and thoroughly in advance by specialists at voestalpine BÖHLER Edelstahl.



# LOOK INSIDE

All grey theory comes to life in the plant, when visitors experience the processes and see how heat and pressure turn selected raw materials into special steels that can do more than all the rest.

The plant tour is a permanent part of every training session at the STEEL ACADEMY and a highlight for people who work with Special Steel. The production processes demonstrate how much profound knowledge went into their design and how much material is required for the smallest development steps. The tours are

led by senior staff, because here as well, authenticity is an integral part of the voestalpine BÖHLER brand.

Only those who have seen into the heart of voestalpine BÖHLER can understand what it means to produce special steels for the world's top performers.





# FEEL AT HOME HOTEL BÖHLERSTERN

The hotel BÖHLERSTERN is the perfect backdrop for your stay. Here you have everything under one roof. Seminar rooms, restaurant, bar, spacious rooms, wellness area – all just a five-minute walk from the voestalpine BÖHLER Edelstahl plant.

**The Zeitgeist is tradition** - The hotel was built by the BÖHLER brothers in 1919 to provide a multifunctional center for employees and business partners. This tradition has been maintained throughout history to the present day. The original facilities, nearly a hundred years old, have largely been lovingly restored and combined with functional technology. The result is a 4-star luxury hotel with an early 20th century charm that meets all the needs of training sessions, seminars, and international business travel.

There is space for small, exclusive meetings as well as for conferences with over five hundred participants. All rooms have Internet access, telephones, flat-screen TVs, and air conditioning – everything you would expect. The hotel's kitchen caters to an international audience while maintaining its regional specialties. Whether a la carte in the restaurant or as a guest in the hotel, meals here are always something special. Along with the masterful creations, be sure to sample the hand-selected wine cellar. And to relax after days full of seminars, guests can take advantage of our wellness area to renew the energy of body and spirit.





Meet at hotel **BÖHLERSTERN**

Friedrich-BÖHLER-Straße 13  
8605 Kapfenberg, Austria  
T. +43 /3862/206375  
F. +43 /3862/206165  
reception@boehlerstern.at  
www.boehlerstern.at

# ENJOY THE REGION

It is no coincidence that the voest Alpine BÖHLER plants are located in Kapfenberg. Kapfenberg is at the crossroads between the Erzberg Mountains—where steel has been made since 1446—and the Mürztal valley. Watermills along the many rivers of the Mürztal were used to power trip-hammers. The university towns of Leoben and Graz are nearby. An hour's drive north is the national capital, Vienna. In between is alpine landscape, incredible woodland beauty, and springs that provide drinking water to all of eastern Austria. It is an optimal place for living, working, recreation, culture, and sports.

The culinary arts combine communication and enjoyment. Go on the hunt for flavor in the BÖHLERSTERN taste lab, at a medieval feast in Oberkapfenberg castle, or in the wonderful steirereck am pogusch restaurant in pristine natural surroundings.

Experience the raptors of the castle falconry and watch falconers as they go about their daily tasks with their bird-of-prey hunting partners. Wonder at the origins of Styrian steel production the Radwerk IV Museum. Visit the underground mine exhibition in the Erzberg and ride a mine cart through the tunnels.

Visit the voest Alpine wing – the gateway to the Red Bull Ring and the world of the Spielberg. A car park with unusual vehicles from Formel

Renault to KTM X-Bows to rally and off-road racers - an unforgettable driving experience at the Spielberg Red Bull Ring is guaranteed. Anything is possible here if it involves gasoline, speed, and adrenaline.

A trip to Graz will take you to a UNESCO World Heritage Site, the old city of Graz and the Eggenberg castle. Visit the architectural landmarks Kunsthaus Graz and the Murinsel. The Zeughaus Graz exhibits examples of metalworking arts along with the largest preserved historical weapons chamber in the world.

Relax by visiting the green lake, mountain biking, taking a segway tour, or sit back and enjoy a concert at the Kapfenberg school of music.





voestalpine BÖHLER's  
surroundings guarantee  
unique experiences  
for all senses.

# BE CERTIFIED BE PROUD

Every training session at the STEEL ACADEMY includes a certificate.  
This is proof of your dedication to continuing education.

These certificates primarily attest to the knowledge that participants have gained about the highest-quality steels on the market. They also reveal the owner as someone who values contacts and networking: The synergistic contacts established

among participants are a welcome sideeffect of our seminars that should not be underestimated. These often occur across industry lines and span from continent to continent, so that many friendships can trace their beginnings to Kapfenberg.





All of this is contained in every certificate from our STEEL ACADEMY.

# FEEDBACK

... social network is fantastic - to meet people from different branches all over the world! We are speaking about special steels and one hour later we are playing asphalt games! A very good opportunity to learn!

... tours were very well conducted ... cooking was a fun evening ... meeting each manager for the individual subject areas ... professional speakers ... seminar material is really very useful and clear ... contents of the presentations are good explained!  
A very good seminar - but heavy!

... good explanations from the speakers with very interesting arguments! ... commitment and dedication of the speakers: completement of subjects presented, international environment, tours of factory, workshops, warehouse.

... the integration of retirees in the tours shows authenticity and the connection that employees feel even after their active time - these people „live“ BÖHLER.

... practical presentations, understandable content, good knowledge transfer, very good overview and interesting presentation.

... very good service and a great program, good balance between phases of concentration and relaxation.

... the combination of high-tech (tours) and tradition in the region (Radwerk IV) in the context of steel was very interesting.

... the final evening in the taste lab was terrific.

... it was an unforgettable seminar that I can highly recommend.





**voestalpine BÖHLER Edelstahl GmbH & Co KG**

Mariazeller Straße 25

8605 Kapfenberg, Austria

T. +43/3862/200

F. +43/3862/207576

[www.voestalpine.com/boehler-edelstahl](http://www.voestalpine.com/boehler-edelstahl)

**voestalpine**

ONE STEP AHEAD.