

Stock  
Sawing  
Six-Sided Machining  
Further Mechanical  
Processing  
Heat Treatment  
Quality Management



Capabilities





QUALIFIED,  
EFFICIENT AND  
QUICK

## What We Can Do for You.

We deliver the material for your products, support you with our customized mechanical pre-processing, provide the proper hardness of your tools with vacuum heat treatment and advise you regarding both your steel selection and design.

Make use of our services to free-up your own capacities and benefit from our quick reaction and flexibility.

The following pages provide an overview of the services we offer.



04

## STOCK

Near Net Shape Raw  
Material Storage



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## SAWING

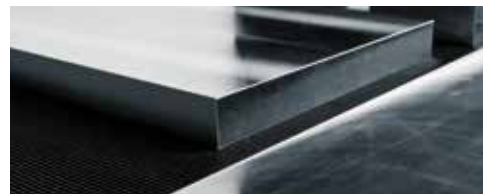
Cut to Your Desired Dimensions



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## SIX-SIDED MACHINING

The Efficient Alternative



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Extended Workbench



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Quality and Reproducibility



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## QUALITY MANAGEMENT

Wide Range of Measuring and  
Testing Capabilities





STOCK



With us you get the  
**TOTAL**  
package: we are your  
**STOCK**, everything is  
always **QUICKLY**  
available.

Axel Maerevoet,  
Head of Production



04

## Near Net Shape Raw Material Storage

EschmannStahl's large stock makes stockkeeping obsolete for customers. This saves space and funds. Customers can concentrate on their core business.

EschmannStahl is prepared for the often changing dimensions required by moldmakers and thus contributes to production safety.

### Ex-Stock List

#### EschmannStahlGrades

- **ES** AKTUELL 1200
- **ES** ANTIKOR SL
- **ES** MULTIFORM SL
- **ES** PRIMUS SL

#### Hot Work Tool Steel

- **ES** PRIMUS SL
- 1.2343 EST
- 1.2343 ESU
- 1.2344 EST
- 1.2344 ESU
- 1.2367 EST
- 1.2714

#### Cold Work Tool Steel

- 1.2080
- 1.2363
- 1.2379
- 1.2436
- 1.2767 EST
- 1.2767 ESU
- 1.2842

#### Plastic Mould Steel

- |                          |                   |              |
|--------------------------|-------------------|--------------|
| ■ <b>ES</b> AKTUELL 1200 | ■ 1.2085          | ■ 1.2767 EST |
| ■ <b>ES</b> ANTIKOR SL   | ■ 1.2162          |              |
| ■ <b>ES</b> MULTIFORM SL | ■ 1.2311 EST      |              |
| ■ 1.1730                 | ■ 1.2312          |              |
| ■ 1.2083 EST             | ■ 1.2316 EST mod. |              |
| ■ 1.2083 ESU             | ■ 1.2738 EST      |              |





## SAWING



We **SAW**,  
everything you need –  
from a  
**SUGAR CUBE**  
to a  
**SMALL TRUCK.**

Alois Höller,  
Responsible for Sawing Facility



## Cut to Your Desired Dimensions

The state-of-the-art sawing machines ensure high-precision machining and reliable processing. More than 70 saws constantly ensure shortest delivery times and consistently high quality standards.

### Sawing Capacities

Blocks up to 50 t	up to 50 t
Cutting directions	horizontal, vertical and diagonal
Sawband guide	Sawblade rotatable by 0°, 10°, 30°, 45° and 90°
Max. Dimensions	2000 x 2500 x 6000 mm
Round Dimensions	max. diameter 2000 mm





## SIX-SIDED MACHINING

”

WE take care of the  
**PRECISE** pre-processing  
for **YOU**.

Martin Müller,  
Responsible for Special Plate Production

“

08



## The Efficient Alternative

The range of services offered by the SP brand delivers efficient six-sided machining. By outsourcing these processes, our customers do not have to hold staff capacities and machine capacities available.

Specified tolerances guarantee a consistently high standard – with the highest delivery reliability.



### INFORMATIONEN

Would you like to know more about six-sided machining? Feel free to contact us!



#### SPSTANDARD

The **SPSTANDARD** brand represents a useful alternative to raw blanks.

#### SPFINE

The **SPFINE** brand offers a cost-effective alternative to ground finish.

#### SPEXCELLENCE

Under the **SPEXCELLENCE** brand, we produce six-side-milled P-plates with two polished contact surfaces.

#### SPINDIVIDUAL

**SPINDIVIDUAL** offers processing according to individual customer needs in terms of dimensions, tolerances, surface finish and edges.

Brand	Tolerances				Dimensions in mm		
	Thickness	Width	Length	Edges	Thickness	Width	Length
SPSTANDARD	+0,2 mm	+0,2 mm	+0,2 mm	deburred	from 20	from 20	from 20
SPFINE	+0,1 mm	+0,2 mm	+0,2 mm	deburred			
SPEXCELLENCE	-0,2 / +0,3 mm	+0,1 mm	+0,1 mm	deburred			
SPINDIVIDUAL	by individual customer request						



Concentrate on  
**YOUR CORE**  
**COMPETENCIES.**

**WE** are your  
**EXTENDED** workbench.

Verena Blaeser,  
Head of Internal Sales Department



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## Extended Workbench

Enabling customers to focus on their core competencies, to free up their production and to master even big projects quickly, we offer customized milling and drilling for a wide range of dimensions.

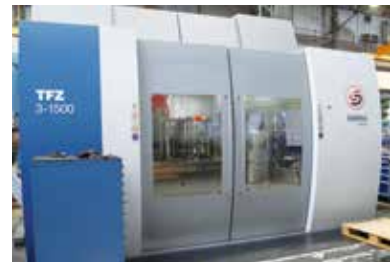
- Shorter production times
- Reduced investment
- Variety of processing options



Machining center in action



Milling also of big dimensions



Deep hole drilling



Turning process



Measuring device for quality assurance

Process	Description
Deep hole drilling	up to 15 t on 5-axis deep drilling center diameters from 5 mm to 40 mm max. depth of 1500 mm
Milling	on various boring mills and machining centers tolerance 0.04 mm dimensions 3500 x 2800 x 1200 mm max. table load 14 t
Finishing	tolerances 0.02 mm on 5-axis machining center up to 10 t travel range of 2100 x 1800 x 1250 mm
Manufacturing of complex rotationally symmetrical parts	up to diameter of 1600 x 1500 mm on CNC carousel turning machine
Extensive turning operations	diameter dimensions 700 x 2300 mm
Flat grinding	dimension range 3300 x 1680 x 1155 max. weight 8 t
Quality assurance with coordinate measuring machine	max. weight 3,8 t measuring area 2200 x 1250 x 1200



## HEAT TREATMENT



So that the  
**STEEL**  
is not only **HARD**  
but also provides the  
**RIGHT PROPERTIES.**

Thorsten Lambart,  
Head of Heat Treatment





## Quality and Reproducibility

With vacuum heat treatment EschmannStahl combines steel expertise with know-how in hardening technology. Customers get steel and heat treatment from one source. With the extension of the heat treatment facility capacities and flexibility will further increase.

- Maximum process reliability
- Shortened production cycle
- Major cost and time efficiency



## Our processes

- Vacuum hardening
- Vacuum tempering
- Vacuum annealing
- Isothermal quenching
- Gas nitriding

### Overview of Capacities

1 vacuum hardening furnace and 2 inert gas tempering furnaces with 4,500 kg load capacity (max. dimensions 1200 x 1650 x 2100 mm) – from summer 2014

1 vacuum hardening furnace and 3 vacuum tempering furnaces with 1,500 kg load capacity (max. dimensions 900 x 1200 x 900 mm)

2 vacuum hardening furnaces and 4 vacuum tempering furnaces with 800 kg load capacity (max. dimensions 600 x 900 x 600 mm)

## Our Aspiration

- High quality standards
- Various methods of hardness testing
- Complete documentation
- Expert advice



## QUALITY MANAGEMENT



We get to the  
**BOTTOM** of things.  
**ANALYTICALLY.**

Simone Lobermeier,  
Quality Management





## Wide Range of Measuring and Testing Capabilities

The modern lab is a cornerstone of EschmannStahl's quality assurance. New and further development of our materials is part of our engineers' work as much as constant checking of products and processes – from production over stockkeeping up to the customers. The range of services also includes metallurgy assessments.

- Spectrometry-based materials analysis
- Sample preparation: sawing and cutting
- Hardness tests to HB, HRC, and HV standards, as well as low-load hardness tests
- Tensile tests up to 250 kPa at room temperature and hot tensile tests up to 1,000 °C
- Charpy impact testing using pendulum impact testers up to 450 joules, from room temperature to -70 °C
- Metallographic structure examinations
- Purity tests
- Roughness measurements
- Ultrasound tests
- Dye penetration tests
- Visual inspections/video microscopy
- Magnetic particle testing
- Heat treatment trials
- Documentation/reports



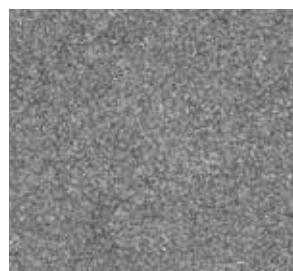
Video microscopy (mobile)



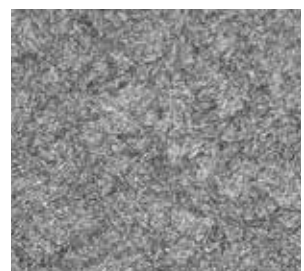
Microstructure 1 (100 µm)



Microstructure 1 (10 µm)



Microstructure 2 (100 µm)



Microstructure 2 (10 µm)

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