

# Facts & Figures

## Material Properties

- Pre-hardened with 280–325 HB
- Corrosion resistant
- Limited suitability for graining
- Available up to 405 mm thickness

## Material

Reference analysis in %				
C	Mn	S	Cr	
0.04	1.2	0.12	13	+ trace elements

## Comparison of Properties

Properties	ESANTIKOR <sup>SL</sup>	1.2085	1.2316
Machinability	••••	••	•
Corrosion resistance	•	•	••
Weldability	•••	•	•
Dimensional stability (in many cases stress relief heat treatment is unnecessary)	•••	•	•
Uniform hardness along the cross-section	••	•	•
Uniform analysis along the cross-section	••	•	•
Polishability	•	•	••

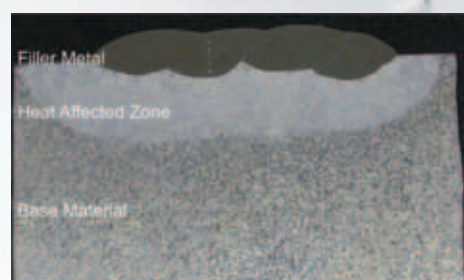
## Heat Conductivity

Material	20 °C	300 °C	700 °C
ESANTIKOR <sup>SL</sup>	21.6	24.9	–
1.2085	17.2	21.0	24.7
1.2316	17.2	21.0	24.7

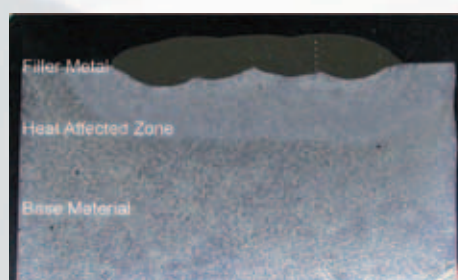
## Heat Treatment Data

Process step	Temperature	Duration
Stress relief heat treatment	480 °C	min. 4 h at core temperature

## Weldability

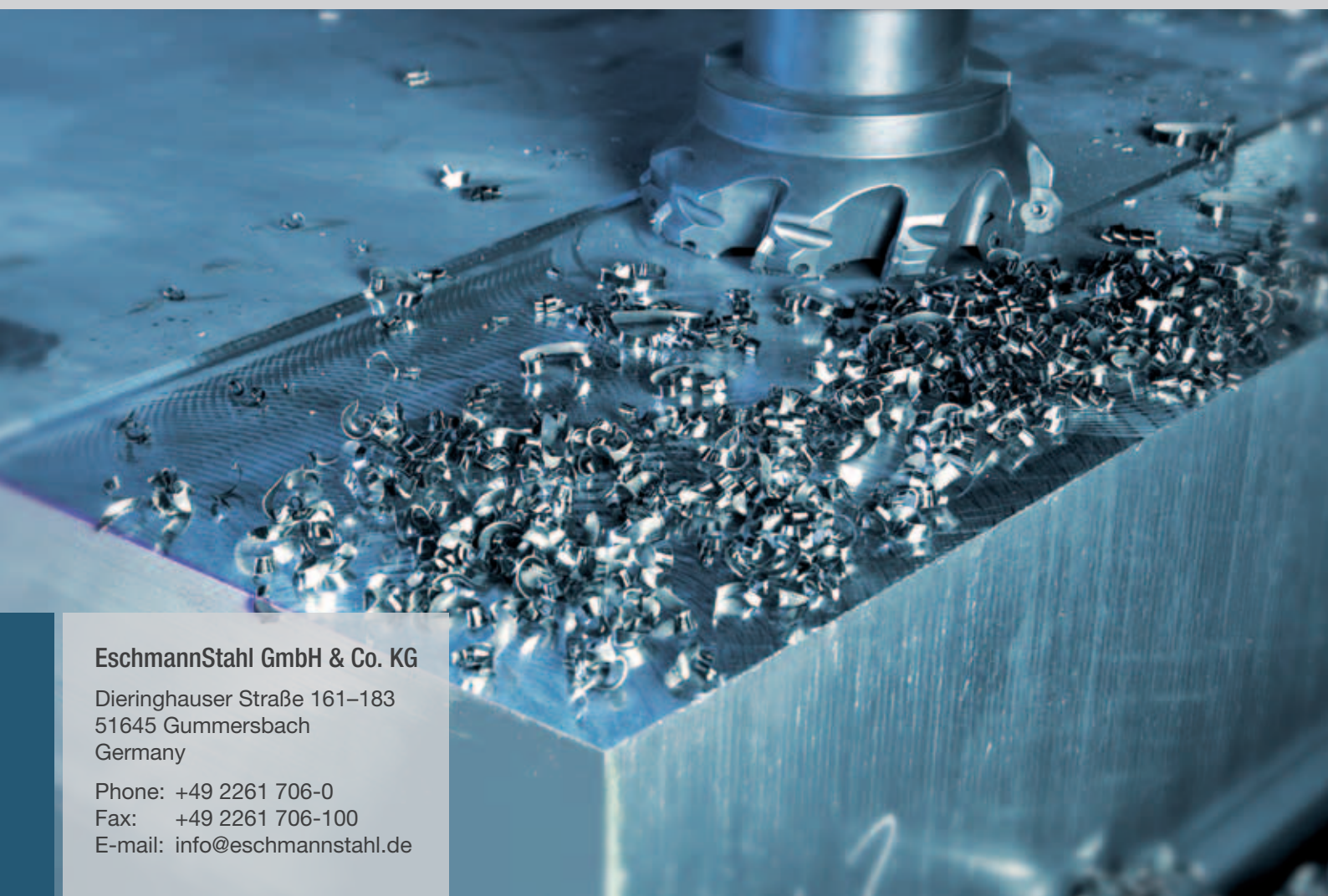


Single-layer welding seam without tempering



Single-layer welding seam tempered at 480 °C

Despite low preheat temperature, the Heat Affected Zone (HAZ) displays almost no excessive hardening zone when using the right filler metal. This means the tendency to cracking is significantly lower than with comparable materials.



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EschmannStahlGrade  
**ESANTIKOR<sup>SL</sup>**



Products

**ESCHMANNSTAHL**



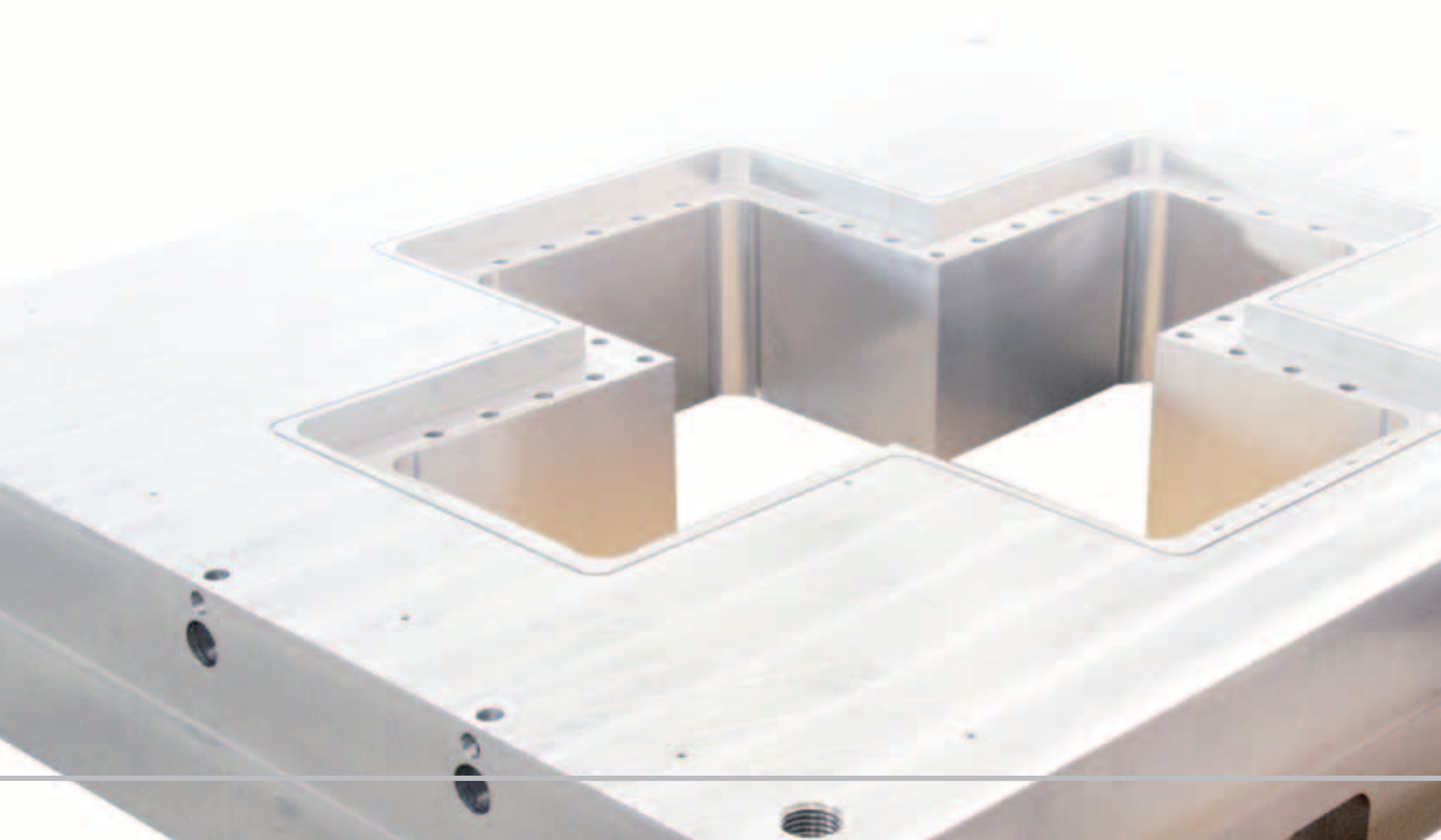
## New Potentials for Cost-Effectiveness

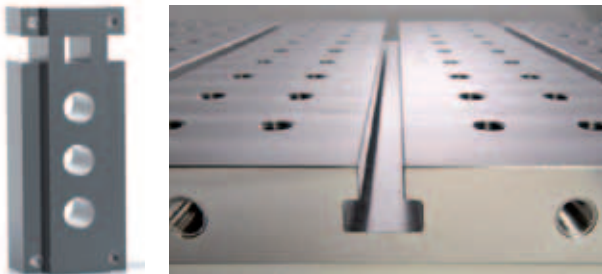
Due to globalization, an increasing number of tools produced in Europe are being applied in other parts of the world. Of course, respective production conditions vary considerably. The application of a corrosion-resistant tool steel is thus advantageous for retaining the value of the tool.

The mold is protected against corrosion not only during shipping but also during storage and during use. This increases production and process safety.

In comparison with other corrosion-resistant plastic mold steel, **ESANTIKOR SL** meets the increasing demands both economically and technically. This material combines its outstanding technological properties with excellent machinability – creating optimal efficiency in application.

“ **ESANTIKOR<sup>SL</sup>** –  
*corrosion resistance **and** excellent machinability!* ”





## Versatile Application \*

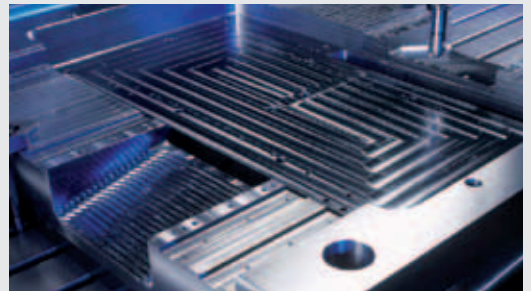
Due to its special technical properties, **ESANTIKOR SL** can be used in numerous applications: in mechanical engineering or mold frames all the way to plastic blow molds.



\* **ESANTIKOR SL** is not suitable for processing PVC or similar plastics.

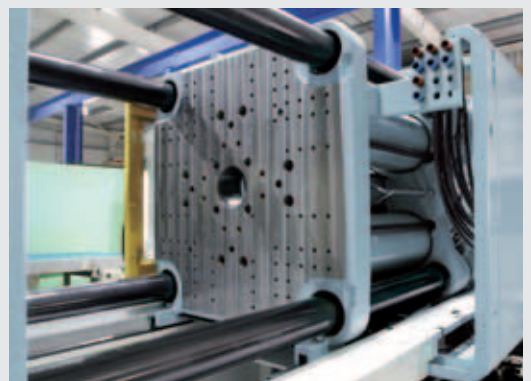
## Tool and Mold Making >>

Machinability comparable to 1.2312; thus significantly better to machine than other corrosion-resistant steel grades



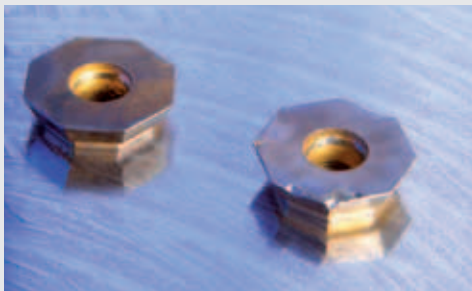
## Tool Operators >>

Quick supplying of tool across the globe, continuous availability with minimal maintenance

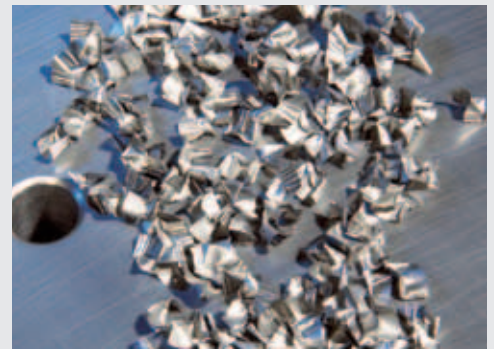


## Your Benefits as a Toolmaker

- High degree of cost-effectiveness due to excellent machining performance
- Minimal tool wear
- Only slight dimensional distortion even with extensive machining
- Excellent weldability
- Broad dimensional range available at all times



Both inserts were applied simultaneously with the same rotation speed at a high feed rate. With the left insert **ESANTIKOR<sup>SL</sup>** was processed. The right insert was applied to conventional corrosion-resistant steel.



Chip pattern **ESANTIKOR<sup>SL</sup>**



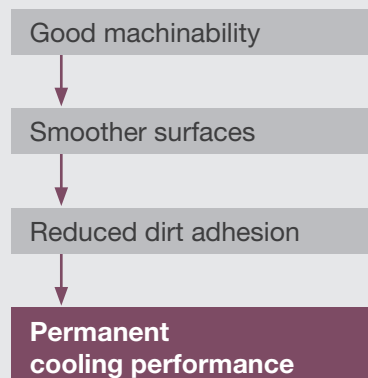
Chip pattern 1.2316



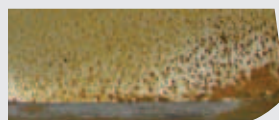
Chip pattern 1.2085

## Your Benefits as a Tool Operator

- Corrosion-resistant alternative to material 1.2312 or similar mold frame steel
- Higher production and process safety due to greater toughness
- Good weldability provides for easy alterations and repairs
- **ESANTIKOR SL** is also suitable for grained blow molds



### Corrosion resistance



1.2312

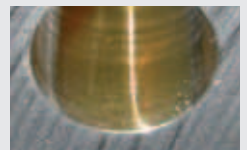


**ESANTIKOR<sup>SL</sup>**

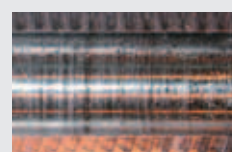
### Smoother surfaces



**ESANTIKOR<sup>SL</sup>**



1.2316



1.2085