



**DRAHTZUG STEIN**

combicore

## SEM surface analysis to discover filling leftovers

Date: 17.08.2011

Application: Bar cooling systems for engine blocks  
Tube casing: AlMn1  
Inner- $\varnothing$ : 4.0 mm  
Flat area: 0.8 mm  
Length: ca. 100.0 mm  
Molding material: NaCl  
Removal time: 18 s (without further optimization)  
Medium: H<sub>2</sub>O

**Result: No NaCl leftovers detectable**



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[www.drahtzug.com](http://www.drahtzug.com)  
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Magnification: 200 x  
Voltage: 20 kV

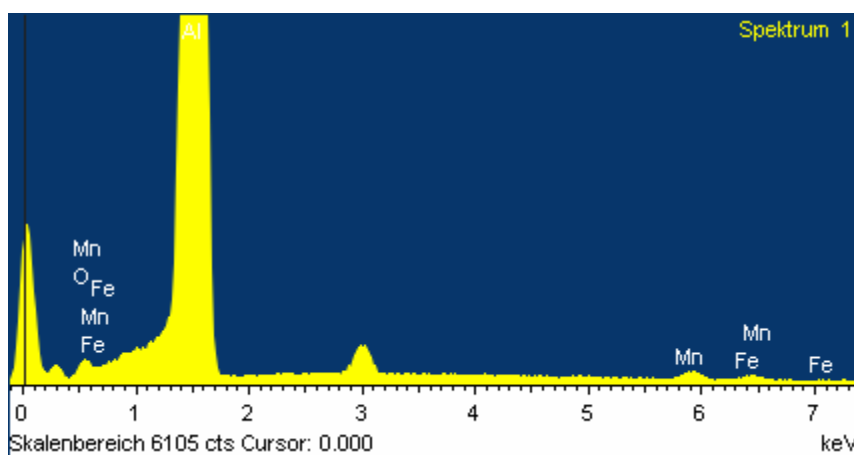
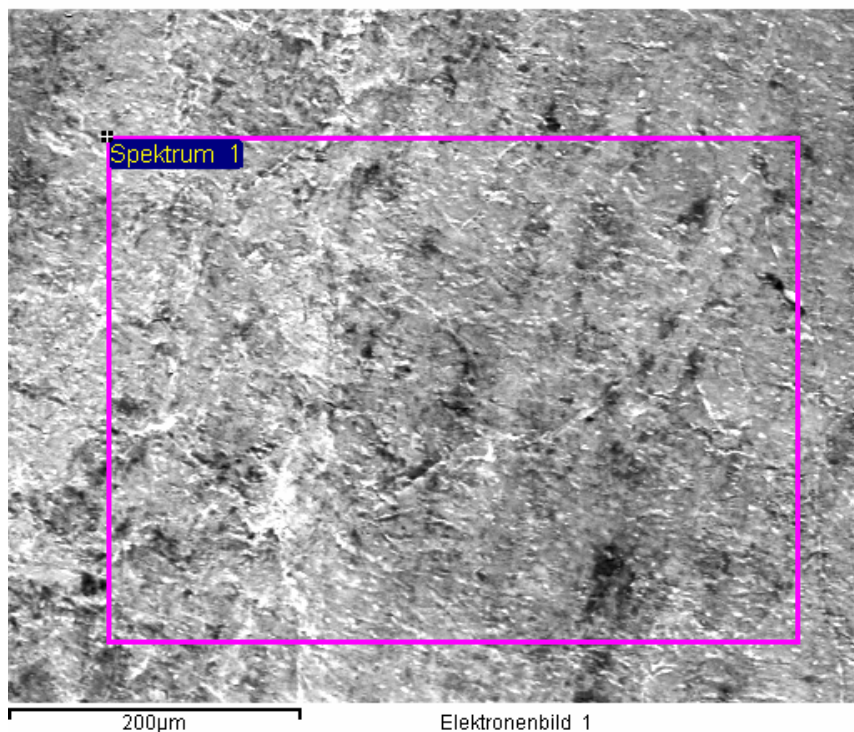
Converting option:  
All elements are analysed (normalized)  
Number of Iteration = 3

Standard (Calibration 01.06.1999):

Element	Conclusion to...
O	SiO <sub>2</sub>
Al	Al <sub>2</sub> O <sub>3</sub>
Mn	Mn
Fe	Fe

Element	Mass-%	Atom-%
O	3,78	6,26
Al	94,78	93,05
Mn	0,94	0,45
Fe	0,50	0,24
Total	100,00	

**Result: No NaCl leftovers detectable**





Magnification: 200 x  
Voltage: 20 kV

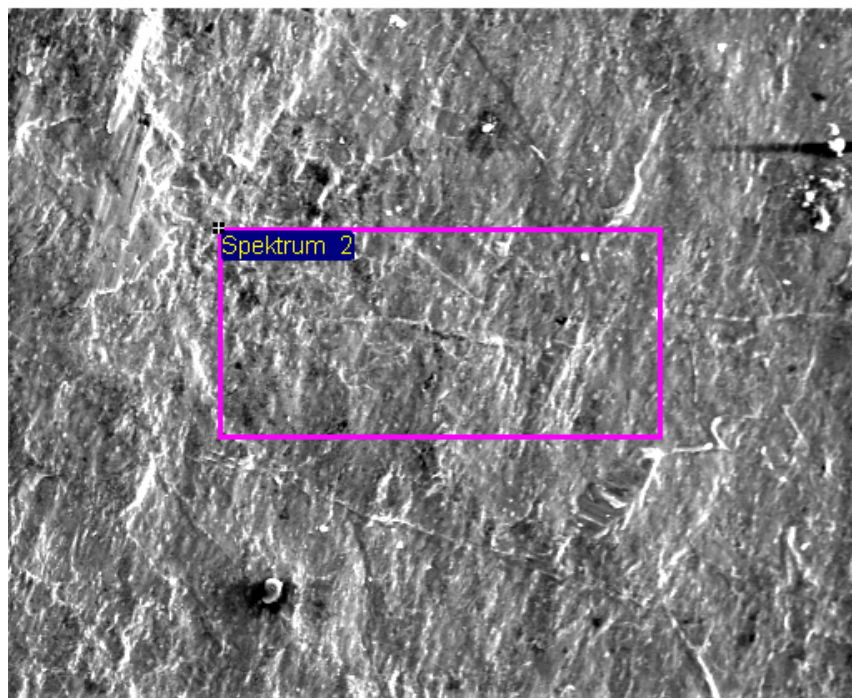
Converting option:  
All elements are analysed (normalized)  
Number of Iteration = 3

Standard (Calibration 01.06.1999):

Element	Conclusion to...
O	SiO <sub>2</sub>
Al	Al <sub>2</sub> O <sub>3</sub>
Mn	Mn
Fe	Fe

Element	Mass-%	Atom-%
O	2,12	3,55
Al	96,55	95,81
Mn	0,90	0,44
Fe	0,44	0,21
Total	100,00	

**Result: No NaCl leftovers detectable**



200µm

Elektronenbild 1

