

# Certificate

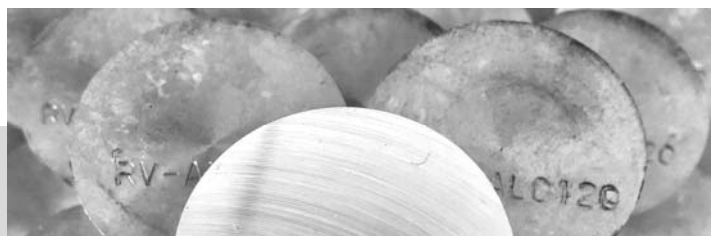
## Certificate of Analysis

Reference Material AL 01/20  
Aluminium Alloy Al Si10MnMg

Analyte	Certified value	Uncertainty
Mass fraction in %		
Si	10,1	± 0,4
Fe	0,144	± 0,010
Cu	0,0027	± 0,0007
Mn	0,620	± 0,029
Mg	0,276	± 0,021
Cr	0,0011	± 0,0006
Ni	0,0037	± 0,0012
Zn	0,009	± 0,004
Ti	0,052	± 0,005

Analyte	Certified value	Uncertainty
Mass fraction in %		
Ca	< 0,0005	
Ga	0,0094	± 0,0020
Li	< 0,0002	
Na	< 0,0002	
P	0,0011	± 0,0009
Pb	< 0,002	
Sn	< 0,002	
Sr	0,0171	± 0,0026
V	0,0071	± 0,0012

Date of issue: September 9, 2020



# Reference material AL 01/20

## Description

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The base material for this Aluminium reference material has been taken from horizontal continuous casting ingots (approx. 50 x 70 mm). All ingots are taken from one lot. The ingots were turned to approx. 50 mm and cut into pieces of approx. 40 mm height. The elements Si, Fe, Cu, Mn, Mg, Zn, Ti, Ga and Sr have been tested for homogeneity according to ISO 13528:2015.

This reference material was certified in an interlaboratory test of 17 laboratories. The values given in this certificate are taken from the evaluation of the interlaboratory test.

The uncertainties were estimated at a 95 % confidence level, showing both the contribution of homogeneity and the uncertainties of the analytical methods used. The uncertainty values were calculated from the reproducibility standard deviations of the ILT with a coverage factor  $k = 2$ .

All values are valid only for a ring zone between 2 and 20 mm from the outer edge.

## Recommended use

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This reference material is intended for the verification of analytical methods, typically for S-OES, or for the calibration of analytical instruments.

## Instructions for use

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Before use, the surface of the material should be prepared by milling or turning on a lathe. Analysis should only be performed on material from the ring zone described above.

## Storage information

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This reference material should be stored in a dry and clean environment at room temperature.

## Methods used for characterization

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Spark emission spectrometry.

## Disclaimer

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We inspect and test to the best of our knowledge and belief and assume no further liability for the accuracy of the inspection and test.

## Contact

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For more information see [www.metallogie.de/ringversuche/](http://www.metallogie.de/ringversuche/)

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