



TAZ GMBH



Factory Certificate

Reference Material (RM)

TAZ-044

High Purity Iron

Assigned Values

in µg/g

Element	Mass fraction ¹⁾	Element	Mass fraction ¹⁾	Element	Mass fraction ¹⁾
C	<11	Nb	<2	Sb	<10
Si	<49	Ti	<1	Se	<5
Mn	<14	V	<2	Te	<2
P	<6	W	<9	Ta	<8
S	<6	Pb	<3	B	<3
Cr	<5	Sn	<2	Zn	<0,5
Mo	<0,5	As	<3	La	<4
Ni	<4	Zr	<2	Ag	<0,4
Al	<5	Bi	<2	N	<9
Co	<5	Ca	<0,6		
Cu	<5	Ce	<3		

¹⁾ The values were determined using Spark Excitation – Optical Emission Spectrometry (S-OES) on 15 samples, taking into account the detection limits.

This factory certificate is valid until December 2055.

Information Values

in µg/g

Element	Mass fraction ²⁾	Element	Mass fraction ²⁾	Element	Mass fraction ²⁾	Element	Mass fraction ²⁾
Au	<0,007	Hf	<0,003	O	200	Sr	<0,0004
Ba	<0,0005	Hg	<0,007	Os	<0,005	Tb	<0,0003
Be	<0,003	Ho	<0,0004	Pd	<0,005	Th	<0,0003
Cd	<0,009	In	<0,002	Pr	<0,0004	Tl	<0,002
Cs	<0,0004	Ir	<0,005	Pt	<0,06	Tm	<0,0002
Dy	<0,001	K	<0,01	Rb	<0,001	U	<0,0002
Er	<0,0007	Li	<0,0003	Re	<0,0006	Y	<0,0002
Eu	<0,0004	Lu	<0,0003	Rh	<0,002	Yb	<0,001
Ga	<0,3	Mg	<0,005	Ru	<0,003		
Gd	<0,001	Na	<0,2	Sc	<0,0004		
Ge	<2	Nd	<0,002	Sm	<0,002		

²⁾ The information values were determined from six individual values using Glow Discharge – Mass Spectrometry (GD-MS).
The oxygen content was determined by Infrared absorption measurement after combustion in an induction furnace.



TAZ GMBH

Description of the Material

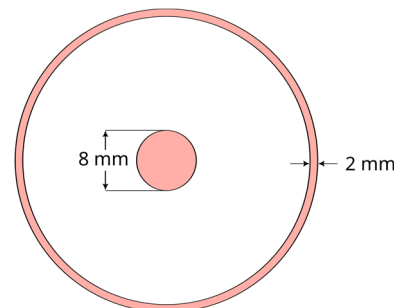
The reference material is available in the form of cylinders with a diameter of 38 mm and an approx. height of 20 mm.

Intended Use

The reference material is intended as control and adjustment material for X-ray fluorescence analysis and optical emission spectrometry and for determining detection limits for these methods.

Instructions for Use

As there can be significant segregation in the centre of cast disc samples, an area of 8 mm diameter in the centre of the sample should not be used. The outer surface up to a depth of 2 mm should also be omitted from the analysis. The surface of the sample to be analysed should not be used as delivered, but only after the surface has been prepared so that any protective layers are removed. Preparation should be carried out by turning or milling. At least three individual sparks should be used for an analysis.



Transport and Storage

The material must be stored in a dry and clean environment at room temperature. Transportation must be carried out under normal ambient conditions. The sample remains stable as long as it is not exposed to extreme heat (e.g. during surface treatment) or humidity. If the material shows clear signs of corrosion, it should be discarded. Recommended storage is under the exclusion of air or in an environment in which the humidity is controlled.

Homogeneity

A homogeneity assessment according to ASTM E826-14 and ISO 33405:2024 was carried out by TAZ GmbH using Spark-Optical Emission Spectrometry to determine the batch inhomogeneity.

Laboratories involved in characterisation	Analytical methods	Accreditation
TAZ GmbH, Aichach, DE	Spark Excitation – Optical Emission Spectrometry	DIN EN ISO/IEC 17025:2018-03
	Infrared absorption measurement, reduction fusion under helium (Oxygen content) ³⁾	DIN EN ISO/IEC 17025:2018-03
Evonik Operations GmbH, Marl, DE	Glow Discharge – Mass Spectrometry (GD-MS) ³⁾	-

³⁾ Information Values

Accepted as TAZ RM (Rev. 0) on 12 December 2025

Moritz Winter, M.Sc.

Head of Reference Materials Production



This reference material was manufactured in accordance with DIN EN ISO 17034 in combination with DIN EN ISO/IEC 17025. The reference material is not traceable to the SI (système international d'unités). TAZ GmbH is accredited as a reference material producer according to DIN EN ISO 17034. The accreditation is valid for the scope specified in the annex to the accreditation certificate D-RM-11169-02-00. The Deutsche Akkreditierungsstelle (DAkkS) is a signatory of the Multilateral Agreement (MLA) between EA, ILAC and IAF for mutual recognition.

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