

Test report № B227724

Customer:
Martin Borkowski
Holtendorf 4a
D-48734 Reken

Date of receipt: 26.04.2022

Order №: A220130

Sample №: P202213339

Sampler/receipt: Customer/ by post

Test location: Horn & Co. Analytics GmbH

Test period: 26.04.2022 - 04.05.2022

Contact person:

Herr Borkowski

Sample description: Slag from Kazakhstan

Place of origin: Customer

Sampling location: Customer

Comment:

Test result

Parameter	Measured value	Unit	Standard		Location	2. Standard
Humidity (105°C)	0,51	%	DIN EN 14346	1*	Wen	
Dry residue (105°C)	99,5	%	DIN EN 14346	1*	Wen	
Solids content	99,5	%	Calculation	4*	Wen	
Brom / Methanol - Excerpt	yes		ISO 5416	1*	Wen	
Iron (Pellet)	30,0	%	DIN 51001	1*	Wen	
Iron (metall) DM	0,15	%	ISO 5416	2*	Wen	DIN EN ISO 11885
Slag proportion	>99	%	Differential weighing	4*	Wtz	
Burning	n.b.	%		4*	Wtz	
Burning [1:10 dillution]	n.b.	%		4*	Wtz	
Metal content n. Remelting	n.b.	%		4*	Wtz	
Carbon (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN EN ISO 15350
Silicium (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Manganese (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Phosphor (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Sulfur (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN EN ISO 15350
Chrome (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Nickel (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Molybdenum (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Vanadium (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Wolfram (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Copper (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Zinc (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Titan (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Aluminium (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Niobium (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Cobalt (Metal content)	n.b.	%	ASTM E 415	1*	Wtz	DIN 51418-2
Aluminium oxide (Pellet)	6,10	%	DIN 51001	1*	Wen	
Calcium oxide (Pellet)	3,30	%	DIN 51001	1*	Wen	
Chromium (III) oxide (Pellet)	0,27	%	DIN 51001	1*	Wen	

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Parameter	Measured value	Unit	Standard		Location	2. Standard
Iron (III) oxide (Pellet)	42,8	%	DIN 51001	1*	Wen	
Potassium oxide (Pellet)	0,63	%	DIN 51001	1*	Wen	
Cobalt oxide (Pellet)	0,16	%	DIN 51001	1*	Wen	
Copper oxide (Pellet)	0,18	%	DIN 51001	1*	Wen	
Magnesium oxide (Pellet)	10,1	%	DIN 51001	1*	Wen	
Manganese (II) oxide (Pellet)	0,16	%	DIN 51001	1*	Wen	
Natrium oxide (Pellet)	0,81	%	DIN 51001	1*	Wen	
Nickel oxide (Pellet)	0,23	%	DIN 51001	1*	Wen	
Phosphor(V) oxide (Pellet)	0,058	%	DIN 51001	1*	Wen	
Sulphur(VI) oxide (Pellet)	1,64	%	DIN 51001	1*	Wen	
Silicium(IV)-oxide (Pellet)	32,6	%	DIN 51001	1*	Wen	
Titan(IV)-oxide (Pellet)	0,79	%	DIN 51001	1*	Wen	
Zirkonium(IV)-oxide (Pellet)	0,020	%	DIN 51001	1*	Wen	

Accredited test method: 1*:= Yes; 2*:=Yes, with modifications; 3*: Yes, as a subcontract // 4*: No; 5*: Subcontracting

Location of measurement: Wen = Wenden, Wtz = Wetzlar, Sie = Siegen, Wit = Witten

The test results refer only to the samples delivered or taken by Horn & Co. Analytics GmbH collected samples. Incorrectly provided samples may affect the test results. The given results include measurement uncertainties that can be requested, if necessary. The test report may only be submitted with the consent of Horn & Co. Analytics GmbH are reproduced partially.

Review of applicable standards/ SOP's

ASTM E 415: 2017	Calculation	DIN 51001: 2003-08
DIN 51418-2: 2015-03	DIN EN 14346: 2007-03	DIN EN ISO 11885: 2009-09
DIN EN ISO 15350: 2010-08	differential weighing	ISO 5416: 2006-04

Horn & Co. Analytics GmbH, Wenden 04.05.2022



i.a. Stephan Köller
Team leader of inorganics