

Bureau of Standards

RECORD FILE

Certificate of Analyses

OF

STANDARD SAMPLE NO. 51

ELECTRIC STEEL, 1.2% CARBON

ANALYST.	CAR- BON.	SILICON.		PHOS- PHORUS.		SULPHUR.			MAN- GANESE.		CHROMIUM.	NICKEL.	VANADIUM.	
	DIRECT COMBUSTION.	SULPHURIC ACID DEHYDRATION.	OTHER METHODS.	ALKALIMOLYBDATE.	OTHER METHODS.	(GRAVI- METRIC).		EVOLUTION. (ZnS-Iodine.)	BISMUTHATE (FeSO ₄ -KMnO ₄).	OTHER METHODS.				COPPER. (HS-CuS-CuO.)
						DIRECT OXIDA- TION. (Final pre- cipitation in reduced solution.)	OTHER METHODS.							
1.....	1.28	.254		.012		.013		.014	.272		.042	.02	.02	Trace.
2.....	1.28	.245		.014		.014		.015	.254		.045			
3.....	1.32	.259		.012		.016		.017	.264		.035			
4.....	1.29		.249 ^a	.013				.015		.282 ^b				
5.....	1.28	.248		.010	.008 ^c	.011	.012 ^d	.012	.276		.043 ^e	.043		
6.....	1.26	.257		.011	.011 ^f	.012		.012	.26		.045			
7.....	1.30		.24 ^g	.012			.012 ^h	.010 ⁱ	.28		.045			
8.....	1.30	.256	.246 ^g	.012		.013		.013 ⁱ	.267 ^j		.054			
9.....	1.27		.244 ^g	.011				.015 ⁱ	.28 ^j	.29 ^b				
10.....	1.30	.247				.016		.015	.26		.040			
11.....	{ 1.30 1.29 ^k }	.256	.251 ^g	.010	.010	.012		.012	.275	.27 ^b	.038			
12.....	1.28	.256	.24	.010	.010 ^l	.013	.013 ^d	.017	.26	.28 ^m	.05			
AVERAGE GENERAL	1.29	.253	.245	.012	.010	.013	.012	.014	.268	.281	.044	.02	.02	Trace.
AVERAGE.....	1.29	.250		.011		.013		.014	.271		.044	.02	.02	Trace.

^a HCl dehydration.^b Persulphate-arsenite.^c Weighed as Mg₂P₂O₇.^d Precipitated in FeCl₃ solution.^e Na₂S₂O₃-CuS-CuO.^f Weighed yellow precipitate.^g Drown's method.^h Solution in aqua regia.ⁱ Absorption in ammoniacal CdCl₂.^j Bismuthate-arsenite.^k Weighing as BaCO₃.^l Reduced with ammonium bisulphite and precipitated at 85° C.^m Arsenite titration.

INDEX TO ANALYSTS

- J. I. Hoffman, Bureau of Standards.
- Routine Laboratory, Bureau of Standards, H. A. Bright in charge.
- G. W. Angell, Hydraulic Steel Co., Cleveland, Ohio.
- A. Sloan, Watertown Arsenal, Watertown, Mass.
- William Brady, Illinois Steel Co., Chicago, Ill.
- W. D. Brown, Carnegie Steel Co., Pittsburgh, Pa.
- Arthur D. Little, Inc., Cambridge, Mass.
- J. V. Emmons, Cleveland Twist Drill Co., Cleveland, Ohio.
- A. D. Shankland, Bethlehem Steel Co., Bethlehem, Pa.
- General Electric Co., Schenectady, N. Y.
- J. L. Mayberry, Republic Iron & Steel Co., Youngstown, Ohio.
- W. D. Huffman, General Motors Corp'n, Detroit, Mich.

This standard is not recommended for colorimetric carbon determinations, because of uncertainty as to the condition of the carbon.

Washington, D. C.

January 15, 1921

S. W. STRATTON,

Director.

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