

Bureau of Standards

Certificate of Analyses

OF

STANDARD SAMPLE No. 32

CHROME-NICKEL STEEL

CASTING FURNISHED BY CARPENTER STEEL CO., READING, PA.

ANALYST.	CARBON.		SILICON.		PHOSPHORUS.				SULPHUR.			MANGANESE.				CHROMIUM.	NICKEL.	COBALT.	COPPER.	MOLYBDENUM.
	DIRECT COMBUSTION.	SOLUTION AND COMBUSTION.	DROWN METHOD.	OTHER METHODS.	ALKALI-MOLYBDATE.	MOLYBDATE REDUCTION.	WEIGHING PHOSPHO-MOLYBDATE.	AS $Mg_2P_2O_7$ AFTER ACETATE SEPARATION.	OXIDATION.	EVOLUTION (Ods-Iodine).	OTHER METHODS.	FORD (Weighing as $Mn_2P_2O_7$).	FORD-WILLIAMS.	OTHER METHODS.	BISMUTHATE.					
1.....	.376		.090	.019					.025	.024 ¹		.204		.87	1.63	.050				
2.....	.373		.100	.020					.028	.022 ¹		.206		.88	1.60	.056	.007			
3.....	.380		.088	.020					.028				.214	{.92}	1.62	.02				
4.....	.390		.104	.016					.030				.223	.89 ²	1.62 ³	.066				
5.....	.371	.087	.087				.020	.024	.025 ⁴		.186	.187		.88	1.61	.057				
6.....	.353	.113		.018					.024		.263			.83						
7.....	.373		.084			.019			.025				.210	.90	1.61	.052				
8.....	.380	.095		.017		.017		.024	.021		.220			.86	1.62	.056				
9.....	.375	.374	.106	.016					.027				.230	.94	1.61					
10.....	.357	.368	.102	.096	.017				.023				.215	.92	1.66					
AVERAGE.....	.375*	.370	.10	.094	.017	.019	.018	.020	.027	.024	.024	.240	.186	.208	.216	.89	1.62	.02	.056	.007
GENERAL AVERAGE..	.372		.096		.018				.025			.214				.89	1.62	.02	.056	.007

¹ Evolution— H_2O_2 — $BaSO_4$.

² Mean by four methods.

³ Mean by three methods.

⁴ Meinelke's method.

*In view of the results of certain chemists, especially those of the Midvale Steel Co., supported by tests made at the Bureau of Standards, it seems not improbable that even the highest results reported for carbon in this steel are slightly below the truth. The matter is under investigation.

INDEX TO ANALYSTS

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| 1. J. R. Cain, Bureau of Standards. | 6. J. Lloyd Uhler, Union Steel Casting Co., Pittsburgh, Pa. |
| 2. L. F. Witmer, Bureau of Standards. | 7. J. L. Harvey, Carnegie Steel Co., Homestead, Pa. |
| 3. Wm. H. Keen, Washington Steel and Ordnance Co., Washington, D. C. | 8. W. D. Brown, Carnegie Steel Co., Duquesne, Pa. |
| 4. H. L. Frevert, Midvale Steel Co., Philadelphia, Pa. | 9. C. M. Johnson, The Crucible Steel Co. of America, Park Works, Pittsburgh, Pa. |
| 5. E. A. Loos, Carpenter Steel Co., Reading, Pa. | 10. George M. Berry, Halcomb Steel Co., Syracuse, N. Y. |

S. W. STRATTON,
Director.

Washington, D. C.

June 20, 1912.