

Department of Commerce and Labor

# Bureau of Standards

## Certificate SS#21

OF

### ANALYSES OF STANDARDIZED STEEL

ACID OPEN HEARTH, 0.6

ANALYST.	CARBON.			SILICON.	PHOSPHORUS.	SULPHUR.		MANGANESE.
	BY DIRECT COMBUSTION.	BY SOLUTION AND COMBUSTION.	COLORIMETRIC.			BY OXIDATION.	BY EVOLUTION AS HYDROGEN SULPHIDE.	
1. John R. Cain, Bureau of Standards.....	0.607	-----	-----	{(a) 0.066 (b) 0.073}	0.021	0.050	0.049	0.563
2. H. C. P. Weber, Bureau of Standards.....	0.590	-----	-----	{(a) 0.083 (b) 0.082}	0.025	0.050	0.051	0.539
3. Porter W. Shimer, Easton, Pa.....	*0.590	0.591	-----	{(a) 0.084 (b) 0.083}	(a) 0.026 (b) 0.025}	0.053	0.052	0.543
4. Booth, Garrett & Blair, Philadelphia.....	0.587	0.582	-----	{(a) 0.088 (b) 0.086}	0.025	0.048	0.046	0.550
5. Jones & Laughlin Steel Co., Pittsburg.....	0.582	-----	0.58	0.076	0.025	-----	0.047	{(a) 0.562 (b) 0.590}
6. Pennsylvania Steel Co., Steelton.....	0.593	0.603	-----	0.086	0.025	-----	0.048	0.550
Carnegie Steel Co., Pittsburg:								
7. Homestead Works.....	-----	0.580	-----	{(a) 0.088 (b) 0.086}	0.026	-----	0.040	0.560
8. Duquesne Works.....	-----	0.601	0.60	0.077	0.026	0.049	-----	0.570
9. South Sharon Works.....	-----	0.597	-----	{(a) 0.080 (b) 0.081}	0.028	-----	0.046	0.560
AVERAGE.....	0.591	0.592	0.59	0.081	0.025	0.050	0.047	0.559

\* With red lead.

PHOSPHORUS: Reduction of molybdate used by 1, 2, 3(b), 4, 7, and 9; alkalimetric determination of molybdate by 5, 6, and 8; gravimetric determination by 3(a).

MANGANESE: Bismuthate method by 3(a) and 4; persulphate by 5(b), 7, and 8; Ford-Williams by 1, 3(b), and 6; lead peroxide by 9; gravimetric by 5(a); Noyes by 2.

SILICON: Drown's method by 1(a), 2(a), 3(a), 4(a), 5, 6, 8, and 9(a); evaporation with nitric and hydrochloric by 1(b), 2(b), 3(b), 4(b), 7(b), and 9(b); Swedish method (dissolving in sulphuric acid and evaporating to fumes) by 7(a).

**This standard is not recommended for colorimetric carbon determinations.**

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