

DEPARTMENT OF COMMERCE

Bureau of Standards

Certificate 55#20

OF

ANALYSES OF STANDARDIZED STEEL

ACID OPEN HEARTH, 0.4

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.....	0.390			{(a) 0.054 (b) 0.057}	0.029	0.046	0.042	0.460
2. H. C. P. Weber, Bureau of Standards.....	0.369			{(a) 0.065 (b) 0.063}	0.034	0.043	0.043	0.479
3. Porter W. Shimer, Easton, Pa.....	*0.371	0.373		{(a) 0.060 (b) 0.060}	{(a) 0.032 (b) 0.032}	0.047	0.048	{(a) 0.472 (b) 0.468}
4. Booth, Garrett & Blair, Philadelphia.....	0.363	0.357		{(a) 0.064 (b) 0.064}	0.034	0.046	0.044	0.484
5. Jones & Laughlin Steel Co., Pittsburgh.....	0.388		0.40	0.057	0.031		0.045	0.500
6. Pennsylvania Steel Co., Steelton.....	0.390	0.389		0.052	0.032		0.044	0.470
Carnegie Steel Co., Pittsburgh:								
7. Homestead Works.....		0.374	0.38	0.060	0.027		0.043	0.510
8. Duquesne Works.....		0.385	0.38	0.057	0.029	0.045	0.044	0.520
9. South Sharon Works.....				0.050	0.033	0.037	0.044	0.500
AVERAGE.....	0.378	0.376	0.39	0.059	0.031	0.044	0.044	0.486

\* 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, 7, and 8; Ford-Williams by 1, 2, 3(b), and 6; lead peroxide by 9.

SILICON: Drown's method by 1(a), 2(a), 3(a), 4(a), 5, 6, 7, 8, and 9; evaporation with nitric and hydrochloric by 1(b), 2(b), 3(b), and 4(b).

This standard is not recommended for colorimetric carbon determinations.

S. W. STRATTON,  
Director.

Form 121.  
ACID OPEN HEARTH (0.4) CERTIFICATE.

Washington, D. C.