U. S. DEPARTMENT OF COMMERCE

National Bureau of Standards

Certificate of Analyses

OF

STANDARD SAMPLE 86C

ALUMINUM ALLOY

(CASTING)

ANALYST*	COPPER Electrolytic	ZINC Gravimetric	IRON Volumetric	SILICON	MANGANESE	TITANIUM Colorimetric	LEAD Weighed as PbO_2	NICKEL	CHROMIUM	MAGNESIUM	
1	[a] 7.92	[b] 1.51	[c] 0.90	[d] 0.68	[e] 0.037	0.033	0.026	[f] 0.029	[g] 0.028	[h] 0.001	
2	7.88	[i] 1.46	[j] .90	[k] .69	[l] .040	.035	.03	[f] .032	[m] .028		
3	7.91	[n] 1.49 [i] 1.46	[j] .92 [o] .91	[p] .68	[l] .042 [e] .041	.033	.032	[q] .035 [f] .032	[r] .025 [m] .022		
4	[s] 7.95	[i] 1.52	[j] .90	.67	[l] .05	.036		[q] .03	[r] .03	[t] .002	
	7.91	[b] 1.50	[u] .89	[p] .66	[e] .038	.036	[v] .034 [v] .031	[q] .028	[r] .031 [w] .032		
	7.96	[i] 1.52	[j] .92	.69	[l] .04	.036	.04	[q] .02	[r] .03	[t] .005	
7	[s] 7.93 [s] 7.92	[b,x] 1.52	[y,z] .90	[k,z1] .69	[l] .041	.034	.025	[f] .033	[r] .032	[t] .002	
Averages	**7.92**	**1.50**	**0.90**	**0.68**	**0.041**	**0.035**	**0.031**	**0.030**	**0.029**	**0.002**	

[a] Two-gram sample dissolved in HNO_3 (sp gr 1.42). First cathode deposit dissolved and replated. Residual copper in electrolytes (approximately 0.01 Cu) determined colorimetrically.
[b] ZnS-ZnO.
[c] Weighed as Fe_2O_3.
[d] Sodium hydroxide-sulfuric acid method. Double dehydration with intervening filtration.
[e] KIO_4-photometric method.
[f] Dimethylglyoxime-photometric method.
[g] Persulfate oxidation and potentiometric titration with ferrous ammonium sulfate solution standardized on potassium dichromate.
[h] Titan yellow-photometric method.
[i] $ZnHg(CNS)_4$ method.
[j] Iron reduced with H_2S and titrated with $KMnO_4$.
[k] Alkali decomposition.
[l] Persulfate-arsenite method.
[m] Diphenylcarbazide-photometric method.
[n] $K_4Fe(CN)_6$ method.
[o] Orthophenanthroline-photometric method.
[p] Sodium hydroxide-perchloric acid method.
[q] Weighed as nickel dimethylglyoxime.
[r] Persulfate oxidation and titration with ferrous sulfate-permanganate.
[s] Iodide-thiosulfate method.
[t] Weighed as $Mg_2P_2O_7$.
[u] Alkali decomposition. $SnCl_2$-$K_2Cr_2O_7$ method.
[v] Dithizone-photometric method.
[w] Bromate-photometric method.
[x] Same value obtained by $K_4Fe(CN)_6$ method.
[y] Iron reduced with H_2S and titrated with $Ce(SO_4)_2$.
[z] Same value obtained with the $SnCl_2$-$Ce(SO_4)_2$ method.
[z1] Same value obtained by acid decomposition.

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