

KES

Method of Iron
Analysis in Copper Alloys
and Copper Products.

KES T – M054

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Contents

1. Scope of Application
2. General Rule
3. Analysis Method
4. Volume Analysis
5. Photometry
6. Atom Photometry

1. Scope of application.

This standard shall prescribe for method of iron analysis in copper alloys and copper product.

2. General fact.

General fact of method analysis shall follow KES T-M039

(Method of analysis in copper alloys and copper product)

3. Analysis method.

Iron analysis in copper alloys and copper product is to be analyzed by following 3 ways.

- (1) Volume analysis : Applied to sample containing iron more than 0.1%
- (2) Photometry : Applied to sample containing iron less than 0,5%
- (3) Atom photometry : Applied to sample containing manganese 0.01 ~ 360%

4. Volume analysis**4.1 Outline.**

After dissolving sample in nitrate acid and separating iron by hydroxide dissolve in chlorine to reserve dihydric iron with tin chlorine and adjust with chrome standard solution to fix quantity of iron.

4.2 Reagent

- (1) Nitrate acid (1 : 1)

(2) Hydrochlorine (1 : 1)

(3) Sulfate

(4) Ammonium chloride solution : After dissolving ammonium chloride 20g to water 1l, make alkaline with adding a few drops of ammonia.

(5) Tin chloride solution(4.2%) : After dissolving tin chloride 50g to HCl 100ml and be watery to 1 l then put metal tin

(6) Mercury chloride solution (Saturated) : Dissolve 150g of Mercury chloride in warm water 1 l, then use with cooling slowly.

(7) (0.05N) Potassium chromate standard solution : Follow KS M0002
(Prescribing method of standard solution for chemical analysis)

(8) Sodium diphenylaminecarboxylic acid(0.2%) : Follow KS M0015
(Prescribing method of indicator for chemical analysis)

(9) Ammonia

(10) Phosphoric acid(2 : 3)

4.3 Operation

(1) Shift sample to beaker (400ml) and dissolve with nitrate(1 : 1) then heat to blow away brown steam.