

KES

Methods for Analysis
of Tin in Zinc Alloy
Die Casting

KES T – M203

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1. Scope of Application

This standard shall specify an analysis method of tin in the zinc alloy die castings.

2. Summary

After dissolving the specimen with nitric acid, add manganese, precipitate tin with manganese oxide, and separate. Melt the settlements with hydrogen peroxide and hydrochloride acid, colorize with phenylfluorone, measure the absorptivity at 510mm, and quantitatively measure the tin.

3. Test Apparatus

Atomic spectrophotometer

Remark : Follow KES T-M 002 (Atomic Spectrophotometry Method) for manual.

4. Reagent

- (1) Hydrochloric acid (1 : 1)
- (2) Hydrochloric acid (1 : 10)
- (3) Nitric acid (1 : 1)
- (4) Ascorbic acid
- (5) Ammonia water (1 : 8)
- (6) Polyvinyl alcohol solution (0.5 %)
- (7) Potassium permanganate (3 %)
- (8) Manganese chloride solution (10 %)
- (9) Tartaric acid – oxalic acid mixture solution : Dissolve 10 g of tartaric acid and 0.2 g of oxalic acid in water, and produce 100ml.
- (10) Phenylfluorone solution (0.005 mgSn / ml) : Melt 0.05 g of phenylfluorone in 20 ml of hydrochloric acid, and dilute with ethyl alcohol to be 500 ml.
- (11) Hydrogen peroxide (30 %)