

KES

Analysis Method for Silicon in Silicon Nitride

KES T – M245

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1. Scope of application

This standard shall prescribe analysis method for silicon nitride powder.

2. Summary of test

General item in common for Analysis method is according to weight standard KES T-M021 in quantitative test KES T-M001.

3. Analysis items

Analysis item described in this standard is whole weight of Si in silicon nitride.

4. Extraction and treatment method of sample

- 4.1 Put analysis sample of about 3.0 g into equilibrium weighing bottle (Diameter 50 mm) and dry it in air bath at 105 ~ 110 °C for 2 hours, weigh it after cooling it down.
- 4.2 In case of fraction collecting a sample, be care that it presents average composition and confirm mixing of foreign body.
- 4.3 In case of fraction collecting, use a chemical balance and measure precisely it by 0.1 mg.

5. Conclusion method of analysis value

- 5.1 Analysis shall be operated 2 times and result value shall be average value.
- 5.2 Analysis result shall be present as percentage, conclude it according to conclusion method of value KES A-A003 as follows.
 - (1) Whole silicon is 1 cipher of decimal point

6. Quantitative method

6.1 Test name

Joint method of dehydration weight and absorptiometric analysis

6.2 Joint method of dehydration weight and absorptiometric analysis

6.2.1 Summary

Melt sample in sodium carbonate and dissolve, vaporize, dry it in hydrochloric acid, after dehydrating silicic acid, filter it by hydrochloric acid with dissolving soluble salt. Weigh deposit with ignition and add it to hydrofluoric acid and after volatilizing silicon dioxide, Weigh again deposit with ignition. Obtain main weight of silicon from that