Applications for Contact Angle Analysis

General Applications

Adhesion — Studies of wetting, spreading, and bonding characteristics and qualification of surface pre-treatment.

Biomedical — Evaluation of surface treatment for catheters, implantables, contact lenses, and other biomaterial. It is also used in biocompatibility studies.

Chemical formulation — Surface tension and wetting properties of detergents, surfactants, coatings, adhesives, etc.

Cleanliness — Qualification of cleaning methods and cleaning process control.

Coatings — Studies of adhesion, wetting, and spreading characteristics and development of coating process.

Corrosion Control — Studies of corrosion inhibitors.

Cosmetics — Studies of Wetting and spreading of lotions, shampoo, etc. on skin and hair.

Hard disk — Evaluation of cleanliness and lubrication on disks and heads.

Lubricants — Studies of wetting/spreading behavior and lubricating properties.

Painting and plating — Qualification of cleanliness and surface preparation processes.

Polymers — Studies of surface modification, process development, and quality control.

Printing — Studies of ink and coating wetting and spreading.

Semiconductors for FPD,WAFER Applications

Semiconductor

Front end — Qualification of wafer Cleanliness, HMDS process control, photoresist /developer studies, and CMP process development.

Back end — Qualification of die cleanliness, adhesion, and BGA surface cleanliness.

Surface modification process development and quality control.

Cleanliness / Contamination

Silicon wafers, Hard disk platters. Detection of organic contamination PCB, Electronic components

Processing in Semiconductor

- Wafer Inspection : In order to prevent delamination on the upper die after Ass'y
- Before Sawing (Inspect Wafer back side's Cleanness) : in order to maintain and control for appropriate adhesion of Nitto tape (Analyze cleaning effect after UV cleaning)
- Before Die Attach : Measure the condition of Lead frame or Substrate, Different spread of Epoxy depending on surface condition.
- Before Molding : Different adhesion and delamination depending on the surface condition of the upper die or Lead frame(substrate), before molding (Analyze cleaning effect after Plasma or UV Cleaning)
- Before Marking : To print differently when Ink marked depending on surface condition

Related Fields of Semiconductor

- Lead frame or Substrate production : Analysis of surface condition.
- Epoxy Manufacture : Analysis for spread test
- Epoxy Molding compound manufacture : Analysis of Die or LF's adhesion
- Ink manufacture : Analysis of Ink print property
- Cleaning machine manufacture : Analysis of the efficiency of Plasma, UV Cleaning
- Solder manufacture : to evaluate fluidity and adhesion of Pb melted

Display Part (LCD/PDP/OLED organic cell -CTA series)

- 1st cleaning the progress of work a blowing: Before applied an alignment film, an analysis of the film surface and cleanness.

- 2nd cleaning the progress of work a blowing: Before applied a seal, an analysis of the rubbed surface cleanness.

- An etching the progress of work a blowing: Fettling the progress of sensitive film, an analysis of superficies.

- A polarized light the progress of work: Forming the progress of ITO film, a coverage elevation with surface analysis.

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