

CMP

Course Description:

The program is developed for the Semiconductor Processing Industry to provide professional development for a broad audience of employees working for semiconductor manufacturers and suppliers. The intended audiences are:

Support staff, equipment operators, entry-level technicians, and new hire professional staff.

Process and equipment maintenance technicians and entry-level engineers.

Chapters

Introduction

- Identify the processing steps required to fabricate an integrated circuit.
- Identify the purpose of CMP.

Process and Equipment Fundamentals

- Identify the key process parameters of CMP.
- Identify the key quality issues of CMP.
- Identify common CMP tools and consumables.

CMP of Dielectrics

- Identify the mechanism for oxide removal using CMP.
- Identify the factors of oxide CMP which affect removal rate and uniformity.
- Identify the purpose of shallow trench isolation (STI).

CMP of Conductors

- Identify the mechanism for metal removal using CMP.
- Identify the common slurry and pad combinations used for various metals.
- Identify the factors of metal CMP which affect removal rate and uniformity.

Post CMP Cleanup

- Identify the purpose of post-CMP cleanup.
- Identify the common methods of post-CMP cleaning.
- Identify the common cleaning mixtures used for oxides and tungsten.
- Identify some of the future issues which must be addressed in post-CMP cleaning.

Metrology

- Identify the importance of metrology to the CMP process.
- Identify the key quality issues monitored by CMP metrology.
- Identify the primary metrology techniques used in CMP.

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