

Batch Wafer Quality Summary Report

Report Date: 2025-12-27 12:26:23

Report Type: Summary Only (Per-Wafer Details Excluded)

Batch Summary

Total wafers: 758

PASS: 523 | **FAIL:** 235

PASS rate: 69.0%

Top 5 Highest Defect Percentages

- Electrical_ELEC_02_W0018 (Electrical): 98.04% [Near-Full]
- Electrical_ELEC_02_W0035 (Electrical): 98.03% [Near-Full]
- Mechanical_MECH_02_W0041 (Mechanical): 96.48% [Near-Full]
- Thermal_THERM_01_W0032 (Thermal): 95.53% [Near-Full]
- Thermal_THERM_01_W0022 (Thermal): 94.31% [Near-Full]

Distribution by Machine Type

- Electrical: 302 wafers
- Mechanical: 261 wafers
- Thermal: 195 wafers

Distribution by Defect Class

- Normal: 519 wafers
- Donut: 37 wafers
- Edge-Ring: 35 wafers
- Local: 34 wafers
- Edge-Loc: 33 wafers
- Random: 31 wafers
- Near-Full: 25 wafers
- Scratch: 25 wafers
- Center: 19 wafers

AI-Enhanced Engineering Summary

The batch yield is currently at 69%, with 235 wafers failing out of 758. The majority of defects are classified as Normal, but a significant number of high-impact Near-Full defects are present across all machine types, especially Electrical and Thermal. The top five worst wafers exhibit defect percentages exceeding 94%, indicating severe yield loss. This suggests systemic issues affecting multiple process steps.

Estimated batch yield impact: High

Key Risks

- High Near-Full defect incidence across multiple machines
- Severe wafer-level defect percentages (>90%)

- Cross-machine type defect distribution indicating process-wide issues

Recommended Actions

- Perform root cause analysis focusing on Near-Full defect sources
- Review and calibrate Electrical and Thermal machines urgently
- Implement additional in-line monitoring to detect early defect trends