Batch Wafer Quality Report

Report Date: 2025-12-27 02:25:24

Per-Wafer Decisions

Wafer 1 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0001
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:02:19.063672

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 34.28%

Reason: Defect Percentage: 34.28% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 2 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0001
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:02:19.064743

Defect Class: Normal
Confidence Score: 0.9997
Defect Percentage: 34.78%

Reason: Defect Percentage: 34.78% (<=50% threshold), Defect Class: Normal, Confidence: 99.97%

Wafer 3 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0001
Decision: FAIL

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:19.064743

Defect Class: Edge-Loc
Confidence Score: 0.9999
Defect Percentage: 50.36%

Reason: Defect Percentage: 50.36% (>50% threshold), Defect Class: Edge-Loc, Confidence: 99.99%

Wafer 4 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0001
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:19.064743

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 34.76%

Reason: Defect Percentage: 34.76% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 5 Inspection Decision

Wafer ID: Thermal_THERM_01_W0001
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_01
Timestamp: 2025-12-27T02:02:19.065743

Defect Class: Local
Confidence Score: 1.0000
Defect Percentage: 49.23%

Reason: Defect Percentage: 49.23% (<=50% threshold), Defect Class: Local, Confidence: 100.00%

Wafer 6 Inspection Decision

Wafer ID: Thermal_THERM_02_W0001
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_02
Timestamp: 2025-12-27T02:02:19.065743

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 31.11%

Reason: Defect Percentage: 31.11% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 7 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0002
Decision: FAIL

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:24.943917

Defect Class: Edge-Loc
Confidence Score: 0.9957
Defect Percentage: 51.94%

Reason: Defect Percentage: 51.94% (>50% threshold), Defect Class: Edge-Loc, Confidence: 99.57%

Wafer 8 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0002
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:25.377003

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 34.23%

Reason: Defect Percentage: 34.23% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 9 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0002
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:02:26.222292

Defect Class: Normal
Confidence Score: 0.9995
Defect Percentage: 39.46%

Reason: Defect Percentage: 39.46% (<=50% threshold), Defect Class: Normal, Confidence: 99.95%

Wafer 10 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0002
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:02:27.296749

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 33.56%

Reason: Defect Percentage: 33.56% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 11 Inspection Decision

Wafer ID: Thermal_THERM_02_W0002
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_02
Timestamp: 2025-12-27T02:02:27.673683

Defect Class: Normal

Confidence Score: 0.9999
Defect Percentage: 37.90%

Reason: Defect Percentage: 37.9% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 12 Inspection Decision

Wafer ID: Thermal_THERM_01_W0002
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_01
Timestamp: 2025-12-27T02:02:27.767539

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 31.11%

Reason: Defect Percentage: 31.11% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 13 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0003
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:30.865331

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 38.27%

Reason: Defect Percentage: 38.27% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 14 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0003
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:30.934386

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 33.38%

Reason: Defect Percentage: 33.38% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 15 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0003
Decision: PASS

Machine Type: Mechanical

Machine ID: MECH_01
Timestamp: 2025-12-27T02:02:33.205484

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 30.04%

Reason: Defect Percentage: 30.04% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 16 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0003
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:02:33.888989

Defect Class: Normal
Confidence Score: 0.9997
Defect Percentage: 34.20%

Reason: Defect Percentage: 34.2% (<=50% threshold), Defect Class: Normal, Confidence: 99.97%

Wafer 17 Inspection Decision

Wafer ID: Thermal_THERM_01_W0003
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_01
Timestamp: 2025-12-27T02:02:35.449661

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 35.92%

Reason: Defect Percentage: 35.92% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 18 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0004
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:36.125435

Defect Class: Normal
Confidence Score: 0.9996
Defect Percentage: 33.89%

Reason: Defect Percentage: 33.89% (<=50% threshold), Defect Class: Normal, Confidence: 99.96%

Wafer 19 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0004
Decision: FAIL

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:36.355312

Defect Class: Edge-Ring
Confidence Score: 0.9975
Defect Percentage: 53.59%

Reason: Defect Percentage: 53.59% (>50% threshold), Defect Class: Edge-Ring, Confidence: 99.75%

Wafer 20 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0004
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:02:38.951565

Defect Class: Scratch
Confidence Score: 1.0000
Defect Percentage: 43.16%

Reason: Defect Percentage: 43.16% (<=50% threshold), Defect Class: Scratch, Confidence: 100.00%

Wafer 21 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0004
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:02:39.552107

Defect Class: Normal
Confidence Score: 0.9991
Defect Percentage: 38.98%

Reason: Defect Percentage: 38.98% (<=50% threshold), Defect Class: Normal, Confidence: 99.91%

Wafer 22 Inspection Decision

Wafer ID: Thermal_THERM_02_W0003
Decision: FAIL

Machine Type: Thermal
Machine ID: THERM_02
Timestamp: 2025-12-27T02:02:39.596817

Defect Class: Random
Confidence Score: 0.9999
Defect Percentage: 77.80%

Reason: Defect Percentage: 77.8% (>50% threshold), Defect Class: Random, Confidence: 99.99%

Wafer 23 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0005
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:41.779093

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 33.69%

Reason: Defect Percentage: 33.69% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 24 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0005
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:42.055166

Defect Class: Scratch
Confidence Score: 1.0000
Defect Percentage: 43.74%

Reason: Defect Percentage: 43.74% (<=50% threshold), Defect Class: Scratch, Confidence: 100.00%

Wafer 25 Inspection Decision

Wafer ID: Thermal_THERM_01_W0004
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_01
Timestamp: 2025-12-27T02:02:45.735844

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 36.60%

Reason: Defect Percentage: 36.6% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 26 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0005
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:02:46.827970

Defect Class: Local
Confidence Score: 0.9995
Defect Percentage: 46.48%

Reason: Defect Percentage: 46.48% (<=50% threshold), Defect Class: Local, Confidence: 99.95%

Wafer 27 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0005
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:02:46.924518

Defect Class: Scratch
Confidence Score: 1.0000
Defect Percentage: 43.32%

Reason: Defect Percentage: 43.32% (<=50% threshold), Defect Class: Scratch, Confidence: 100.00%

Wafer 28 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0006
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:47.198297

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 38.11%

Reason: Defect Percentage: 38.11% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 29 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0006
Decision: FAIL

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:47.362430

Defect Class: Donut
Confidence Score: 1.0000
Defect Percentage: 51.08%

Reason: Defect Percentage: 51.08% (>50% threshold), Defect Class: Donut, Confidence: 100.00%

Wafer 30 Inspection Decision

Wafer ID: Thermal_THERM_02_W0004
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_02
Timestamp: 2025-12-27T02:02:48.605312

Defect Class: Normal
Confidence Score: 0.9998

Defect Percentage: 34.56%

Reason: Defect Percentage: 34.56% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 31 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0007
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:52.453469

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 33.33%

Reason: Defect Percentage: 33.33% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 32 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0006
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:02:52.573226

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 33.38%

Reason: Defect Percentage: 33.38% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 33 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0007
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:52.925734

Defect Class: Normal
Confidence Score: 0.9995
Defect Percentage: 39.46%

Reason: Defect Percentage: 39.46% (<=50% threshold), Defect Class: Normal, Confidence: 99.95%

Wafer 34 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0006
Decision: PASS

Machine Type: Mechanical

Machine ID: MECH_01
Timestamp: 2025-12-27T02:02:53.964524

Defect Class: Edge-Loc
Confidence Score: 1.0000
Defect Percentage: 49.16%

Reason: Defect Percentage: 49.16% (<=50% threshold), Defect Class: Edge-Loc, Confidence: 100.00%

Wafer 35 Inspection Decision

Wafer ID: Thermal_THERM_01_W0005
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_01
Timestamp: 2025-12-27T02:02:54.551032

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 36.54%

Reason: Defect Percentage: 36.54% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 36 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0008
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:02:57.717932

Defect Class: Local
Confidence Score: 0.9987
Defect Percentage: 49.77%

Reason: Defect Percentage: 49.77% (<=50% threshold), Defect Class: Local, Confidence: 99.87%

Wafer 37 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0007
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:02:58.307214

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 34.76%

Reason: Defect Percentage: 34.76% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 38 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0008
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:02:58.845537

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 39.16%

Reason: Defect Percentage: 39.16% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 39 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0007
Decision: FAIL

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:02:59.431815

Defect Class: Edge-Ring
Confidence Score: 0.9805
Defect Percentage: 56.51%

Reason: Defect Percentage: 56.51% (>50% threshold), Defect Class: Edge-Ring, Confidence: 98.05%

Wafer 40 Inspection Decision

Wafer ID: Thermal_THERM_02_W0005
Decision: FAIL

Machine Type: Thermal
Machine ID: THERM_02
Timestamp: 2025-12-27T02:03:00.277623

Defect Class: Edge-Ring
Confidence Score: 0.9941
Defect Percentage: 58.00%

Reason: Defect Percentage: 58.0% (>50% threshold), Defect Class: Edge-Ring, Confidence: 99.41%

Wafer 41 Inspection Decision

Wafer ID: Thermal_THERM_01_W0006
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_01
Timestamp: 2025-12-27T02:03:00.851152

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 31.07%

Reason: Defect Percentage: 31.07% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 42 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0009
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:03:02.899208

Defect Class: Normal
Confidence Score: 0.9997
Defect Percentage: 35.74%

Reason: Defect Percentage: 35.74% (<=50% threshold), Defect Class: Normal, Confidence: 99.97%

Wafer 43 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0008
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:03:03.477365

Defect Class: Normal
Confidence Score: 0.9995
Defect Percentage: 39.51%

Reason: Defect Percentage: 39.51% (<=50% threshold), Defect Class: Normal, Confidence: 99.95%

Wafer 44 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0008
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:03:04.511404

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 33.33%

Reason: Defect Percentage: 33.33% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 45 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0009
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:03:04.851216

Defect Class: Normal

Confidence Score: 0.9999
Defect Percentage: 38.54%

Reason: Defect Percentage: 38.54% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 46 Inspection Decision

Wafer ID: Thermal_THERM_01_W0007
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_01
Timestamp: 2025-12-27T02:03:08.513996

Defect Class: Scratch
Confidence Score: 1.0000
Defect Percentage: 44.29%

Reason: Defect Percentage: 44.29% (<=50% threshold), Defect Class: Scratch, Confidence: 100.00%

Wafer 47 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0010
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:03:08.616149

Defect Class: Normal
Confidence Score: 0.9997
Defect Percentage: 34.83%

Reason: Defect Percentage: 34.83% (<=50% threshold), Defect Class: Normal, Confidence: 99.97%

Wafer 48 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0009
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:03:09.078472

Defect Class: Normal
Confidence Score: 0.9998
Defect Percentage: 33.45%

Reason: Defect Percentage: 33.45% (<=50% threshold), Defect Class: Normal, Confidence: 99.98%

Wafer 49 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0010
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:03:10.111529

Defect Class: Normal
Confidence Score: 0.9997
Defect Percentage: 34.71%

Reason: Defect Percentage: 34.71% (<=50% threshold), Defect Class: Normal, Confidence: 99.97%

Wafer 50 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0009
Decision: FAIL

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:03:10.497112

Defect Class: Random
Confidence Score: 1.0000
Defect Percentage: 70.54%

Reason: Defect Percentage: 70.54% (>50% threshold), Defect Class: Random, Confidence: 100.00%

Wafer 51 Inspection Decision

Wafer ID: Thermal_THERM_02_W0006
Decision: PASS

Machine Type: Thermal
Machine ID: THERM_02
Timestamp: 2025-12-27T02:03:10.721723

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 32.13%

Reason: Defect Percentage: 32.13% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 52 Inspection Decision

Wafer ID: Electrical_ELEC_02_W0011
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_02
Timestamp: 2025-12-27T02:03:14.362035

Defect Class: Normal
Confidence Score: 0.9995
Defect Percentage: 39.51%

Reason: Defect Percentage: 39.51% (<=50% threshold), Defect Class: Normal, Confidence: 99.95%

Wafer 53 Inspection Decision

Wafer ID: Electrical_ELEC_01_W0011
Decision: PASS

Machine Type: Electrical
Machine ID: ELEC_01
Timestamp: 2025-12-27T02:03:15.423546

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 38.54%

Reason: Defect Percentage: 38.54% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 54 Inspection Decision

Wafer ID: Mechanical_MECH_02_W0010
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_02
Timestamp: 2025-12-27T02:03:15.804507

Defect Class: Normal
Confidence Score: 0.9999
Defect Percentage: 30.44%

Reason: Defect Percentage: 30.44% (<=50% threshold), Defect Class: Normal, Confidence: 99.99%

Wafer 55 Inspection Decision

Wafer ID: Mechanical_MECH_01_W0010
Decision: PASS

Machine Type: Mechanical
Machine ID: MECH_01
Timestamp: 2025-12-27T02:03:17.704458

Defect Class: Normal
Confidence Score: 0.9997
Defect Percentage: 35.74%

Reason: Defect Percentage: 35.74% (<=50% threshold), Defect Class: Normal, Confidence: 99.97%

Batch Summary

Total wafers: 55
PASS: 47 | **FAIL:** 8
PASS rate: 85.45%

Top 5 Highest Defect Percentages

• Thermal_THERM_02_W0003 (Thermal): 77.80% [Random]
• Mechanical_MECH_01_W0009 (Mechanical): 70.54% [Random]
• Thermal_THERM_02_W0005 (Thermal): 58.00% [Edge-Ring]
• Mechanical_MECH_01_W0007 (Mechanical): 56.51% [Edge-Ring]
• Electrical_ELEC_01_W0004 (Electrical): 53.59% [Edge-Ring]

Distribution by Machine Type

• Electrical: 22 wafers
• Mechanical: 20 wafers
• Thermal: 13 wafers

Distribution by Defect Class

• Normal: 39 wafers
• Scratch: 4 wafers
• Edge-Loc: 3 wafers
• Local: 3 wafers
• Edge-Ring: 3 wafers
• Random: 2 wafers
• Donut: 1 wafers

AI-Enhanced Engineering Summary

The batch yield is 85.45%, with 8 out of 55 wafers failing. The primary defect classes impacting yield are Random and Edge-Ring defects, predominantly observed in Mechanical and Thermal machines. The highest defect percentages are associated with Random defects on Thermal and Mechanical machines, followed by Edge-Ring defects across all machine types. These defect patterns suggest process instability in both mechanical handling and thermal processing steps.

Estimated batch yield impact: Medium

Key Risks

• High Random defect rates on Thermal and Mechanical machines
• Significant Edge-Ring defects across multiple machine types
• Potential process variability in mechanical and thermal steps

Recommended Actions

• Perform detailed root cause analysis on Random defects in Thermal and Mechanical processes
• Investigate and optimize edge handling and ring protection methods
• Review and tighten process controls on Mechanical and Thermal equipment