Variability Gauge

Variability Chart for Thickness
Gauge R&R

Measurement Source | Variation \((6\times\text{StdDev})\) | which is \(6\times\text{sqrt of}\) | Component Var | % of Total Plot%
--- | --- | --- | --- | ---
Repeatability \((\text{EV})\) | 0.1964179 Equipment Variation | \(V(\text{Within})\) | 0.00392250 | 9.45
Reproducibility \((\text{AV})\) | 0.3203592 Appraiser Variation | \(V(\text{Operator}) + V(\text{Operator*Wafer})\) | 0.00107167 | 2.58
Operator | 0.2281593 | \(V(\text{Operator})\) | 0.00285083 | 6.87
Operator*Wafer | 0.2248852 | \(V(\text{Operator*Wafer})\) | 0.03759759 | 90.55
Gauge R&R \((\text{RR})\) | 0.3757792 Measurement Variation | \(V(\text{Within}) + V(\text{Operator}) + V(\text{Operator*Wafer})\) | 1.1634059 | 28.03
Part Variation \((\text{PV})\) | 1.1634059 Part Variation | \(V(\text{Wafer})\) | 1.2225888 | 30.7364
Total Variation \((\text{TV})\) | 1.2225888 Total Variation | \(V(\text{Within}) + V(\text{Operator}) + V(\text{Operator*Wafer})\) | 1.6563459 | 41.2271

\(k = 6\)

30.7364 \% Gauge R&R = 100\*(RR/TV)

0.323 Precision to Part Variation = RR/PV

4 Number of Distinct Categories = 1.41(PV/RR)

Using last column 'Wafer' for Part.

Variance Components for Gauge R&R

<table>
<thead>
<tr>
<th>Component</th>
<th>Var Component</th>
<th>% of Total Plot%</th>
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