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Surface Roughness Conversion:

Introduction:

The table below shows comparisons of various surface roughness scales. The information contained in the table is based on the assumption that metal surfaces are being tested. Comparison values may vary by up to 25%.

| Surface Roughness Conversion Chart | | | | | | | |
|------------------------------------|---------------------|-------|------------|-----|----|----------------|------|
| Ra (micrometers) | Ra (microinches) | RMS | CLA (N) | Rt | N | Cut-off Length | |
| | | | | | | inch | mm |
| 0.025 | 1 | 1.1 | 1 | 0.3 | 1 | 0.003 | 0.08 |
| 0.05 | 2 | 2.2 | 2 | 0.5 | 2 | 0.01 | 0.25 |
| 0.1 | 4 | 4.4 | 4 | 0.8 | 3 | 0.01 | 0.25 |
| 0.2 | 8 | 8.8 | 8 | 1.2 | 4 | 0.01 | 0.25 |
| 0.4 | 16 | 17.6 | 16 | 2 | 5 | 0.01 | 0.25 |
| 0.8 | 32 | 32.5 | 32 | 4 | 6 | 0.03 | 0.8 |
| 1.6 | 63 | 64.3 | 63 | 8 | 7 | 0.03 | 0.8 |
| 3.2 | 125 | 137.5 | 125 | 13 | 8 | 0.1 | 2.5 |
| 6.3 | 250 | 275 | 250 | 25 | 9 | 0.1 | 2.5 |
| 12.5 | 500 | 550 | 500 | 50 | 10 | 0.1 | 2.5 |
| 25 | 1000 | 1100 | 1000 | 100 | 11 | 0.3 | 8.0 |
| 50 | 2000 | 2200 | 2000 | 200 | 12 | 0.3 | 8.0 |

Ra = Roughness Average in micrometers or microinches

RMS = Root Mean Square in microinches

CLA = Center Line Average in microinches

Rt = Roughness Total in microns

N = New ISO (grade) scale numbers

Cut-off Length = Length required for sample