



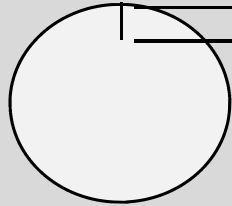
Machining / Grinding Allowances for Cold Finished Steel Bars

Standard Carbon Grades Such as 10XX - 1018, 1045, etc.

Standard Alloy Grades Such as 41XX & 43XX - 4140, 4340, etc.

Resulphurized Grades Such as 11XX & 12XX - 1144, 1215, etc.

How to calculate allowable seam defect depth



.001" per side per 1/16" of diameter for non-resulphurized grades.

Or finish size multiplied by 1.032

.0015" per side per 1/16" of diameter for resulphurized grades.

Or finish size multiplied by 1.048

This is the generally accepted industry standard for seam depth in carbon & alloy steels.

Theoretical Minimum Starting HR Size Based on Specific Finish Diameter - Use Next HR Size Up

| Finish Diameter (Rd) | Non-Resulphurized - 10XX Carbon & 4XXX | | Resulphurized - 11XX & 12XX Series |
|-------------------------|---|--------|---------------------------------------|
| | Alloy | | |
| 5/8 | 0.645 | 0.655 | |
| 3/4 | 0.774 | 0.786 | |
| 7/8 | 0.903 | 0.917 | |
| 1 | 1.032 | 1.048 | |
| 1 1/4 | 1.290 | 1.310 | |
| 1 1/2 | 1.548 | 1.572 | |
| 1 3/4 | 1.806 | 1.834 | |
| 2 | 2.064 | 2.096 | |
| 2 1/4 | 2.322 | 2.358 | |
| 2 1/2 | 2.580 | 2.620 | |
| 2 3/4 | 2.838 | 2.882 | |
| 3 | 3.096 | 3.144 | |
| 3 1/4 | 3.354 | 3.406 | |
| 3 1/2 | 3.612 | 3.668 | |
| 3 3/4 | 3.870 | 3.930 | |
| 4 | 4.128 | 4.192 | |
| 4 1/4 | 4.386 | 4.454 | |
| 4 1/2 | 4.644 | 4.716 | |
| 4 3/4 | 4.902 | 4.978 | |
| 5 | 5.160 | 5.240 | |
| 5 1/4 | 5.418 | 5.502 | |
| 5 1/2 | 5.676 | 5.764 | |
| 5 3/4 | 5.934 | 6.026 | |
| 6 | 6.192 | 6.288 | |
| 6 1/2 | 6.708 | 6.812 | |
| 7 | 7.224 | 7.336 | |
| 7 1/2 | 7.740 | 7.860 | |
| 8 | 8.256 | 8.384 | |
| 8 1/2 | 8.772 | 8.908 | |
| 9 | 9.288 | 9.432 | |
| 10 | 10.320 | 10.480 | |
| 11 | 11.352 | 11.528 | |
| 12 | 12.384 | 12.576 | |