

CRAFTSMAN'S CRIBSHEET

Miles Free – Director of Technology and Industry Research X Technical Regulatory Quality Management

Relative Machinability of Materials

Machinability of different materials is generally expressed as a percentage compared with a known standard. Carbon and alloy steels are compared with 1212. So are stainless steels. Coppers, brasses and bronzes are compared with 360 Brass. The benchmark grade for aluminum is 2011 at 100 percent. Generally speaking, shorter chips equal better machinability.

CARBON & ALLOY STEELS

STAINLESS STEELS

BRASS, COPPER, BRONZE

ALUMINUM

BETTER MACHINABILITY 100% (1212) 100% 360 Brass 100% 250% 12L14 (360 Brass) (2011)353 Brass 416 200% 90% 90% 2024 145 Te Copper 303 175% 12L14 75% 430F 544 Phosphor 80% Bronze 485 Leaded Naval 80% 7075 150% 70% 430 1215 792 Nickel Silver 125% 6061 60% 70% 11L17 440F Se 624 100% 50% 50% (1212)15-5/ 17-4 PH 60% 40% 1144 41L40 ann. 1018 1141 75% 464 Unleaded 304 **Naval Brass** 4140 ann. 30% 8620 50% 25% 50% 1045 20% 110 Copper 4340 ann. 40% E52100 10% 25%

WORSE MACHINABILITY

All Craftsman's Cribsheets are available for viewing and download at short.productionmachining.com/cribsheets.