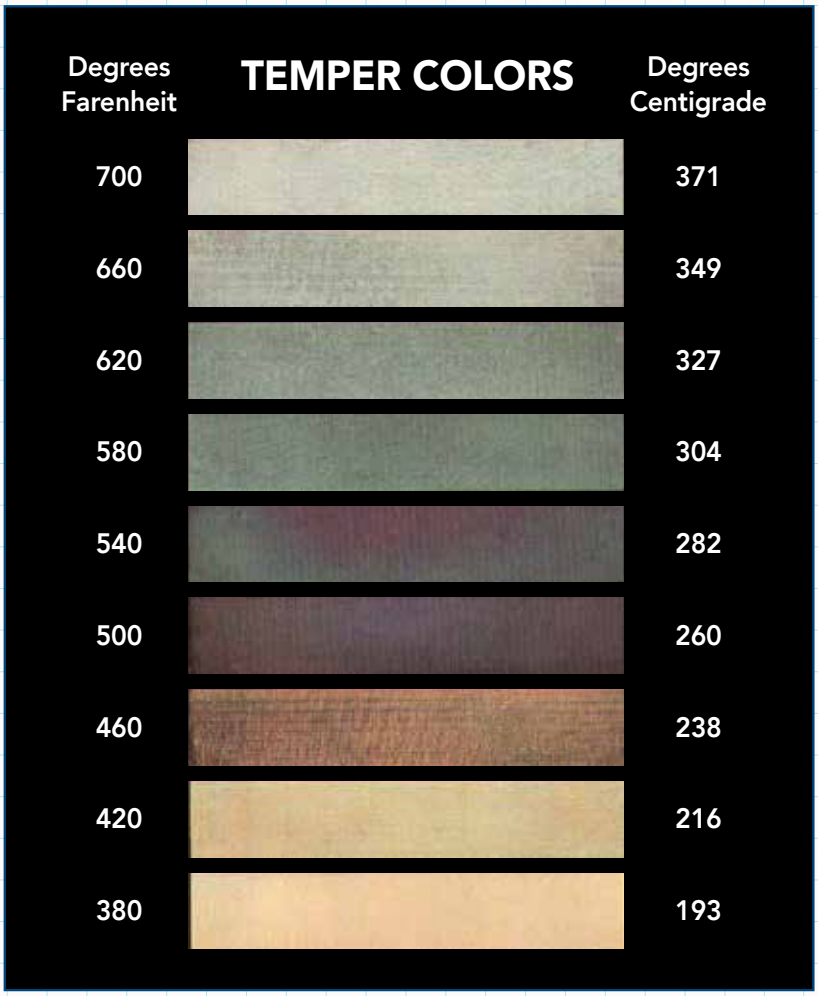
Craftsman's Cribsheet

NUMBER 39

Miles Free – Director of Technology and Industry Research

☒ Technical ☐ Regulatory ☐ Quality ☐ Management

Tempering Steel



In steel, tempering is reheating hardened steel to a temperature below the lower critical temperature for the purpose of decreasing hardness and increasing toughness.

(The lower critical temperature is the temperature of the austenite-to-pearlite eutectoid transformation. In steels below this temperature, austenite does not exist.)

Tempering is sometimes applied to normalized steels for similar reasons: It decreases hardness and improves toughness.

The chart above shows the colors that are elicited by tempering a 0.95-percent carbon content steel at the temperatures shown.

(For example, think about a drill rod.)

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