

## HARDENING/TEMPERING DATA

### For #496 Oil Hardening (Dimensionally Stable) Precision Ground Flat Stock And Die Stock

#### AISI O1 SPECIFICATIONS:

##### HARDENING

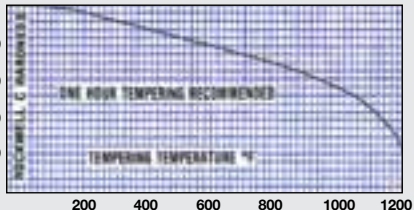
It is recommended that stock be heated uniformly to 1,450° - 1,500°F and quenched in oil. Temperature of the quenching oil should be 120° - 140°F for best results. Do not quench in water as this is an oil hardening steel.

Sizes	Temperature	Quench	Rockwell C
All sizes	1,450° - 1,500°F	Oil	64 - 66

##### TEMPERING

For maximum toughness, a tempering time of one hour at temperature is recommended. Use chart for selecting desired Rockwell C hardness and corresponding tempering temperature. The following table may also be used as a guide depending on type of work:

Cutting Tools	300° - 350°F (Light Straw)
Solid Punches & Dies	400° - 450°F (Straw)
Spring Temper	750° - 800°F (Blue)
Annealing	1,450°F (Furnace cool 40° per hour to 900°F.)



### For #497 Regular And #499 Oversized Air Hardening (Dimensionally Stable) Precision Ground Die Stock

#### AISI A2 SPECIFICATIONS:

##### HARDENING

#497 Air Hardening Precision Ground Die Stock has a wide hardening range of 1,700° to 1,800°F with 1,750°F recommended for mostwork. For the heavier sections use the high side of the range. Heat uniformly throughout but do not soak longer than necessary. Cool in still air. No pre-heat is required if pack or atmosphere controlled furnace methods are used, but with the open furnace method a pre-heat of, 450°F is recommended.

Sizes	Temperature	Cool	Rockwell C
All sizes	1,700° - 1,800°F	Still Air	63.5 - 65

##### TEMPERING

A tempering time of two hours at temperature is recommended. Use chart for selecting desired Rockwell C hardness and corresponding tempering temperature. For maximum toughness, double temper for two hours at each temperature recommended. The following table may also be used as a guide, depending on type of work:

Light Blanking Punches & Dies	400° - 425°F
Heavy Blanking Punches & Dies	700°F
Annealing	1,525°F - 1,575°F
(Furnace cool at not more than 50° per hour to 800°F for maximum softness)	

