

# A2 AIR HARDENING TOOL STEEL

## ANNEALING

Heat uniformly to 1650°F; soak at temperature for approximately two hours and cool slowly in the furnace.

## STRESS RELIEVING

When heavy machining cuts are employed the resultant stresses may be relieved by heating the material to 1200°F to 1250°F for one hour and cooling in still air. Finish machine after stress relieving.

## HARDENING

Preheat thoroughly to 1450°F - 1500°F. Then raise temperature to 1750°F - 1800°F and hold it uniformly heated through. Use high side of hardening range for thicker sections. Soak at temperature 20 - 25 minutes per inch of thickness. To minimize surface decarburization, use salt bath, controlled atmosphere furnace or pack harden. Quench in still air or dry air blast to below 150°F and temper immediately.

## TEMPERING

Should be tempered as soon as cooled to approximately 125°F or until it can be handled with bare hands. The usual tempering temperature is 400°F to 500°F but may be varied to suit individual requirements. Temper a minimum of two hours for sections under two inches and a minimum of one hour per

## APPLICATIONS

Blanking dies, block and ring gauges, coining, cold forming, cold trimming and forming dies, cold shears, rolls, knurls and knurling tools, machine parts, mandrels, punches and punch plates, reamers, shear and slitter blades, stamping dies and threading tapes.

TEMPERING TEMPERATURE	ROCKWELL HARDNESS
As quenched	C 62-65
300°F	C 61-64
400°F	C 59-62
500°F	C 58-61
600°F	C 57-60
800°F	C 56-59
900°F	C 55-58
1000°F	C 56-59

The tempering table shows the hardness values obtained at various tempering temperatures on a two inch cube of steel quenched in still air from 1800°F and tempered two hours.

NOMINAL ANALYSIS			
C	Cr	Mo	V
1.0	5.0	1.0	.25

*NOTE: This information is intended to serve only as a guide. Variations in analysis, size, heat treatment, etc., may result in slight deviations from this data.*



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