



WE ARE PLEASED TO OFFER 10 BAR VACUUM HARDENING TO OUR TOOL & DIE CUSTOMERS. THE TERM "10" BAR REFERS TO QUENCH SEVERITY WHICH DIRECTLY RELATES TO INCREASED THERMAL FATIGUE AND IMPACT PROPERTIES.



FEATURES:

- TOOL STEELS INCLUDING M-2
- 3500 POUND CAPACITY, 36" X 36" X 48"
- FLUID BED TEMPERING—MORE UNIFORM HEATING & TRANSFORMATION
- COOLING RATE AS FAST AS 200 ° F / MIN
- INTERRUPTED QUENCH— CONTROL DISTORTION & QUENCH CRACKING
- 100% PC CONTROLS WITH RECIPES

TECHNICAL OVERVIEW

Steel Performance, microstructures and hardness are a function of :

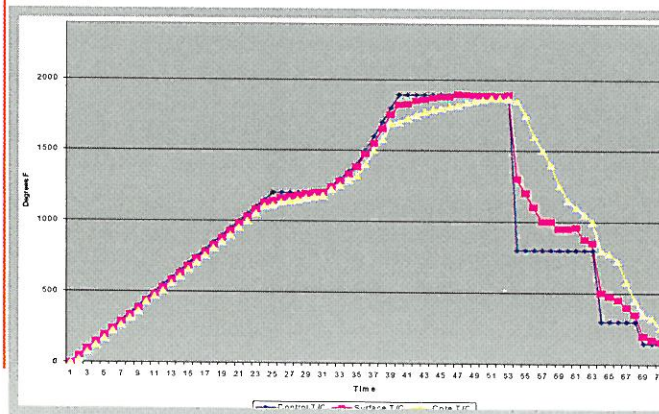
- **Chemistry,**
- **Cross section,**
- **Austenitizing temperature,**
- **Quench severity and**
- **Tempering method and temperature.**

This can be illustrated by using a high carbon, high chromium, cold working steel such as D-2. The high carbon and chromium are the alloying elements that give the material its hardenability.

A 1" cross section will have greater hardenability than a 10" cross section. If the austenitizing or hardening temperature is too low, the alloys will never reach their solution level and if too high, the material can experience grain growth and carbide pooling. If not quenched severely enough, the mechanical properties are reduced. Last but, not least, the same Rockwell "C" values, i.e. 58–62 can be achieved by tempering at 400 ° F or 1000 ° F. By tempering at 1000 ° F, much greater toughness can be achieved.

Therefore, it is always recommended that microstructures be the primary objective when specifying a material.

TYPICAL VACUUM, RAMP – SOAK PROFILE



Achieve the Optimum in Heat Treating Quality on Tool and High Speed Steels Today!

- Approved by General Motors DC 9999 Rev 17 Ford Motor Co. AMTD 2010
- Meets the requirements of NADCA 207-97 DaimlerChrysler NP 2080
- Dimensional control comparable to salt with interrupted quenched.
- When combined with **DYNA-BLUE®**, reduce tooling costs 50% or more.
- ISO 9002 with QS 9000 Accredited with Eagle Registrars.
- Tier 1 Supplier
- Aerospace and FDA Approved
- Competitive Pricing
- 2-3 day turnaround typical



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John 20:19 "... Peace be with you!"