TENAXOL™ QUENCH ULTRA 2500

POLYMERIC QUENCHANT

PRODUCT DESCRIPTION

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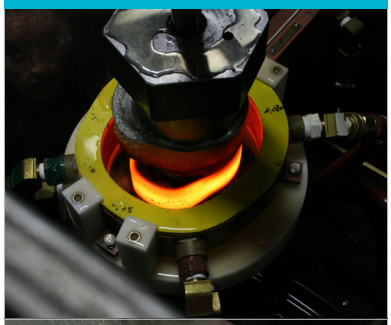
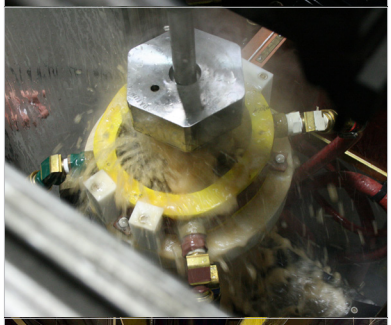
Tenaxol Quench Ultra 2500 is a nonflammable polymeric quenchant. It is an aqueous solution of a water-soluble organic polymer that incorporates a non-nitrite corrosion inhibitor, defoamer, and biocide. This combination results in a homogenous solution. When hot metal is quenched in a diluted solution of Tenaxol Quench Ultra 2500, a film of organic polymer is deposited on the surface. The rate at which this metal is cooled is governed by the thickness of this polymer rich film. The thickness of this film is controlled by the concentration of the Tenaxol Quench Ultra 2500 in the quench bath. This film is fully water soluble at all quenching temperatures.

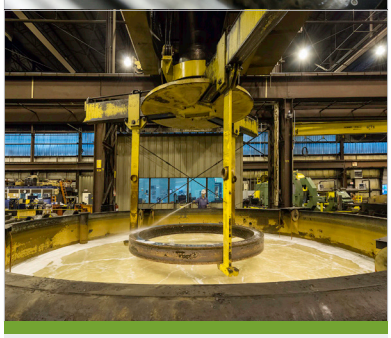
FEATURED BENEFITS

- Tenaxol Quench Ultra 2500 is not tacky and there is a minimum of residue to remove prior to finishing operations.
- Minimizes replacement control because of its low deterioration and/or oxidation rate. The major make-up requirement is for water loss due to evaporation.
- Eliminates smoke, soot and residues common to oil based quenchants. Equipment maintenance and plant cleanliness are easier to achieve and maintain.
- Completely water soluble and has a built-in bactericide to resist biological infestation.
- Can be operated within a wide temperature range since the polymer employed is soluble and will not precipitate like other quenching polymers.
- Reduces drag-out of components because it is uniquely water soluble over a wide temperature range.

APPLICATION







TYPICAL APPLICATIONS

The heat treatment of carbon and alloy steels by flame, induction, and submerged induction heating. Ideal for alloyed steels like 4340 or 4140.

Works well on intricate geometries, gears, crankshafts, camshafts, etc.

TENAXOL QUENCH ULTRA 2500

TECHNICAL DATA

PRODUCT APPLICATION / PERFORMANCE

Tenaxol Quench Ultra 2500 is readily adaptable to induction and flame hardening, both spray quench and immersion, for items such as gears, crankshafts, camshafts and other intricate geometries and metallurgies.

Tenaxol Quench Ultra 2500 may follow either oxidative or protective atmosphere furnaces of shake, pit rotary or continuous design. They may be utilized for continuous case quenching and for general hardening of forged and cast steels and cast irons.

Tenaxol Quench Ultra 2500 provides cooling rates in all three stages of quenching that are similar to that of medium to fast quench oils. These conditions, necessary for achieving maximum hardness in steel with minimum distortion or cracking, can be achieved.

PRODUCT USE PRECAUTIONS

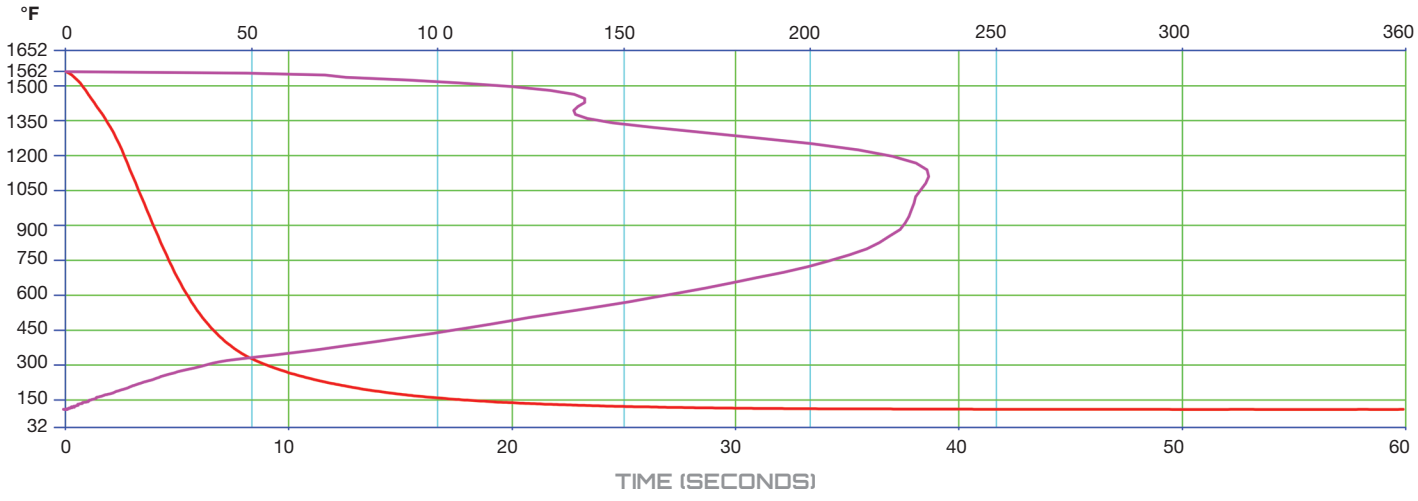
Vapor inhalation under ambient conditions is normally not a problem. Small amounts of organic vapors can be evolved during quenching. Use adequate workplace ventilation to avoid accumulation of vapors and prevent irritation.

IMPORTANT! Immediately rinse with water for at least 15 minutes. Contact physician of irritations persists. Remove contaminated clothing. Wash skin thoroughly with soap and water. Contact physician if irritation persists. DO NOT induce vomiting! Remove victim immediately from source of exposure. Get medical attention. Administer large amounts of water. Never give anything by mouth to an unconscious person.

TYPICAL PROPERTIES

Fluid Type	Quench oil
Weight, lb/gal., 68°F (20°C)	8.6
Specific Gravity, 68°F (20°C)	1.026
Rust Inhibition, ASTM D 665A	Pass
Refractometer Multiplier	6.5
pH (concentrate)	9 – 10
Viscosity, 100°F	220 – 250 cSt

COOLING RATE °F/SEC - 10% STANDARD CURVE



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TECHNICAL DATA

SPECIFICATIONS

Agitation Flowrate	15 Ltr/min
Test Start Temp	1562°F (850°C)
Media Temp	100°F (38°C)

RESULTS

Maximum Cooling Rate	232.21°F (111.23°C) /sec
Temp at Maximum Cooling Rate	1110.71°F (599.28°C)
Temp at Start of Boiling Phase	1359.71°F (737.62°C)
Time at Start of Boiling Phase	1.750 secs
Temp at End of Boiling Phase	506.01°F (263.34°C)
Time at End of Boiling Phase	6.125 secs
Temp Difference between Start & End	853.69°F (456.49°C)
Cooling Rate at 1112°F (600°C)	231.74°F (110.97°C) /sec
Cooling Rate at 752°F (400°C)	210.77°F (99.32°C) /sec
Cooling Rate at 572°F (300°C)	151.35°F (66.31°C) /sec
Time to reach 1112°F (600°C)	2.875 secs
Time to reach 752°F (400°C)	4.500 secs
Time to reach 392°F (200°C)	7.250 secs
Time from 1112°F to 392°F (600°C to 200°C)	4.380 secs

Cooling curve developed using Drayton Quenchalyzer

PRODUCT CODE

6884300000

HEALTH AND SAFETY

For health and safety guidance, please refer to the Chemtool SDS (Safety Data Sheets).

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