

# ALPHAQUENCH 03A-D

## QUENCH OIL

Product Code: 6821000000



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Tenaxol Quench Oil 03A-D is designed for quenching operations which require a high speed quenching oil in order to develop maximum hardness. This dark, low viscosity oil is formulated with a paraffinic base stock fortified with accelerating additives designed to meet the toughest industrial requirements.

It provides a very short vapor stage with greatly increased cooling rates during the critical cooling stage to provide maximum transformation to martensitic form.

## APPLICATIONS

- Tenaxol Quench Oil 03A-D is used in all applications where the highest cooling rates must be applied in order to achieve maximum hardness of the quenched parts.
- Batch and continuous furnace operations employing gas fired and carburizing and/or carbonitriding, or neutral atmospheres with internal or external quench tanks.
- Internal quench furnaces
- This oil can be particularly effective when parts are tightly packed in baskets and optimal circulation is not possible.



## PERFORMANCE

Alphaquench 03A-D is very useful for batch internal quench, continuous, or open tank quenching of gears, shafts, forgings or other ferrous parts requiring the fastest cooling rates offered by oil. It allows for greater depth of hardness on large parts that require deep hardness penetration.

## BENEFITS

- Fast oil for maximum hardness
- Low drag out on parts and minimal evaporation loss
- Contains accelerator to break down vapor phase quickly
- High flash point and low smoke formulation reduce health and safety concerns
- Great stability in service with minimum changes in viscosity and other characteristics



## TYPICAL PHYSICAL PROPERTIES†

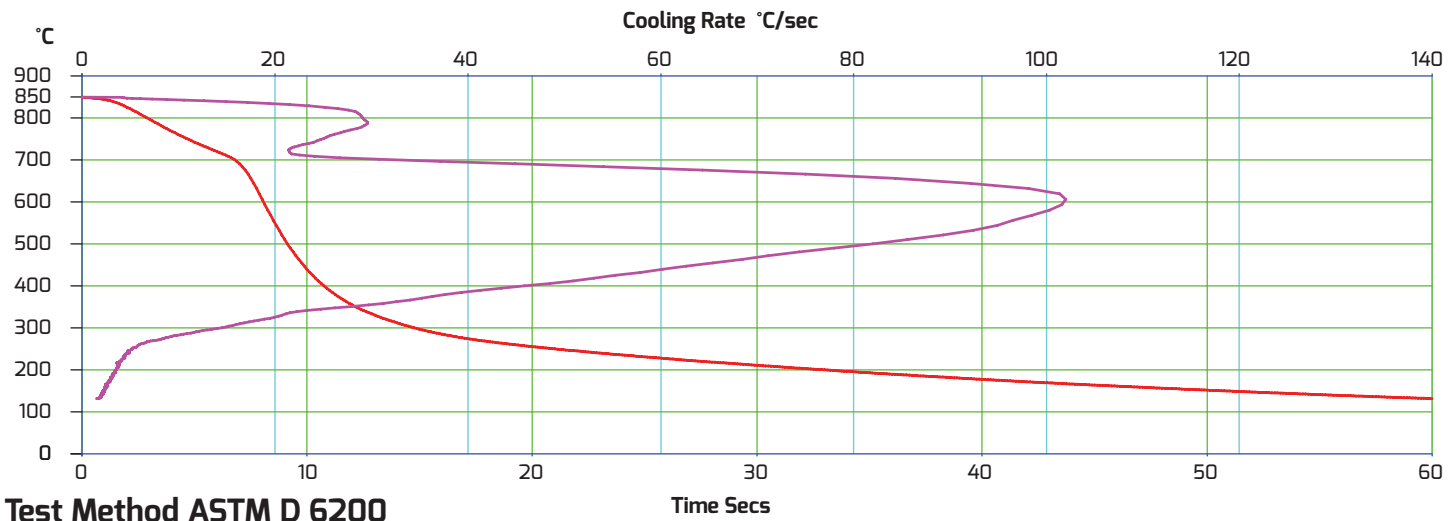
\*GM Quenchometer, ASTM 3520, (Ni Ball)  
Viscosity@ 100 °F  
Flash Point, COC  
Specific Gravity  
Recommended Bath Temperature  
Pour Point

## ALPHAQUENCH 03A-D

9-11 sec  
85 SUS  
345 °F  
0.85  
<200 °F  
+20 °F

Typical physical properties, not to be construed as specifications  
\*Test method is no longer recognized. Data for comparison value only.

# ALPHAQUENCH 03A-D COOLING CURVES



## SPECIFICATIONS

Agitation Flowrate	Static
Test Start Temp	850° C
Media Temp	40° C

## RESULTS

Maximum Cooling Rate	102.00° C/sec
Temp at Maximum Cooling Rate	609.45° C
Temp at Start of Boiling Phase	716.65° C
Time at Start of Boiling Phase	6.250 secs
Temp at End of Boiling Phase	363.92° C
Time at End of Boiling Phase	11.875 secs
Temp Diff between Start & End	352.73° C
Cooling Rate at 600° C	102.00° C/sec
Cooling Rate at 400° C	45.87° C/sec
Cooling Rate at 300° C	12.96° C/sec
Time to reach 600° C	8.000 secs
Time to reach 400° C	10.750 secs
Time to reach 200° C	35.125 secs

## THE PRODUCT

# ALPHAQUENCH 03A-D

### PRODUCT USE PRECAUTIONS

This product is flammable with a flash point of 345°F (Cleveland open cup method). Use precaution to avoid placing flammable objects above or near the quench tank. Do not heat quench tank above 200°F to avoid auto-ignition of the oil. If fire starts, use dry chemicals, sand, dolomite, carbon dioxide, etc. to extinguish the fire.

### SAFETY DISPOSAL

Tenaxol Quench Oil 03A-D contains petroleum hydrocarbon oils. If discharged into natural waterways or sanitary sewers, contact authorities immediately. All products used in Tenaxol Quench Oil 03A-D have been registered with the federal government and have assigned CAS numbers. Dispose of in accordance with local authority requirements. Protective eyewear and chemical resistance gloves are recommended when handling the Tenaxol Quench Oil 03A-D. See MSDS for further information.

### HEALTH AND SAFETY

- Please consult the latest Safety Data Sheet for recommended safe handling and use of this product.

### SHIPPING AVAILABILITY

- ALPHAQUENCH 03A-D (#682100000) is available in:
- 5 gallon pails
  - 55 gallon drums
  - 275 gallon tote
  - Bulk quantities (3,000 to 5,000 gallon)



Call 815-957-4140 or go to [www.tenaxol.com](http://www.tenaxol.com)

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