



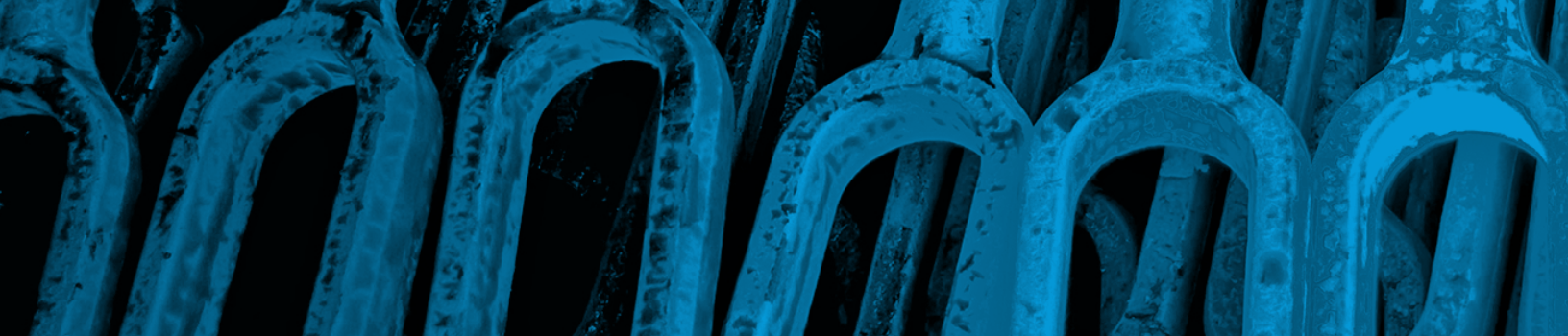
HEAT TREATMENT



# Quenching Metals. Together.

Products for the Heat Treatment Industry





## Overview

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In the heat treatment process, quenching is defined as the controlled extraction of heat from the component to be hardened. Since the development of the first petroleum based quenching oil around 1880 by Quaker Houghton, and the industry's first biostable aqueous quenchant for induction and immersion quenching applications, we continue to offer a comprehensive portfolio including cold quenching oils, martempering oils and aqueous quenchants. Quaker Houghton delivers superior industrial solutions to meet required metallurgical properties and reduce distortion in heat treated components to the automotive, aerospace, bearing and commercial heat treatment industries.

## Cold Quenching Oils

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**HOUGHTO-QUENCH™ K** is an accelerated quenching oil suitable for use at temperatures up to 180°F (82°C). It is based upon specialty solvent refined base oil to minimize oxidation and ensure consistent performance under the most arduous of operating conditions. A carefully formulated additive package is incorporated into HOUGHTO-QUENCH™ K to reduce the duration of the vapor blanket cooling stage and provide accelerated quenching characteristics, together with excellent oxidation resistance and thermal stability.

**HOUGHTO-QUENCH™ G** is a medium speed quenching oil suitable for use at temperatures up to 180°F (82°C). It is based upon specialty solvent refined base oil to minimize oxidation and ensure consistent performance under the most arduous of operating conditions. A carefully formulated additive package is incorporated into HOUGHTO-QUENCH™ G to reduce the duration of the vapor blanket cooling stage and provide moderately accelerated quenching characteristics, together with excellent oxidation resistance and thermal stability.

**HOUGHTO-QUENCH™ 3440** is a fast quenching oil of low viscosity. It is based on paraffinic mineral oils and contains additives which assure bright surfaces of the quenched work and good aging stability of the oil.

**HOUGHTO-QUENCH™ 3430** is a moderately fast quenching oil of low viscosity. It is based on paraffinic mineral oils and contains additives which assure bright surfaces of the quenched work and good aging stability of the oil.

**DASCO QUENCH LBA 15** is a high speed quenching oil designed to provide the highest hardness of steel with minimum distortion. This dark colored, low viscosity oil is made of specially selected virgin paraffinic base stocks fortified with accelerating additives designed to meet the toughest industrial requirements.

**VACU-QUENCH 430** is an accelerated vacuum quenching oil which provides consistent quenching characteristics over a wide range of operating temperatures from 68°F to 176°F

(20°C to 80°C) ensuring optimum and reproducible hardness/mechanical properties in quenched components. VACU-QUENCH 430 is designed specifically for use in vacuum furnaces, and is ideally suited for the quenching of carburized, low hardenability steels.

## Martempering Oils

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**MAR-TEMP 355** is a high performance accelerated hot quenching oil suitable for use at temperatures of up to 375°F (190°C). It is based upon solvent-refined mineral oils and contains a specialty formulated additive package which provides accelerated quenching characteristics, excellent oxidation resistance and thermal stability. MAR-TEMP 355 has a high flash point and will provide long life under arduous operation conditions.

**DASCO QUENCH MPA 60** is a medium viscosity, dark colored, dual-purpose quenching oil based on selected virgin paraffinic base stocks enhanced with unique additive package, to assure desired hardness along with unsurpassed cleanliness of quenched parts after heat treatment. It is designed for both fast quenching and marquenching applications. It provides unusually fast quenching speed at elevated temperatures. Therefore, parts quenched in this oil attain the same hardness as comparable parts quenched in low viscosity fast quench oils at conventional temperatures.

## Aqueous Quenchants

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**AQUA-QUENCH™ 140 US** is specifically designed for induction hardening applications to minimize residual sticky deposits on equipment and quenched parts.

**AQUA-QUENCH™ 145** is an advanced biostable polymer quenchant designed for induction hardening and immersion quenching applications.

**AQUA-QUENCH™ 245** is an advanced biostable polymer quenchant designed for induction hardening and immersion quenching applications. With slower heat extraction than AQUA-QUENCH™ 145.

**AQUA-QUENCH™ 251** is an oil free, nonflammable, water soluble synthetic quenchant for the hardening of ferrous alloys and solution treatment of aluminum alloys.

**AQUA-QUENCH 222** is an advanced biostable polymer quenchant with oil like quenching characteristics for higher hardenability steels in both induction hardening and immersion quenching applications.

**AQUA-QUENCH™ 3699J** is an advanced, biostable, polymer quenchant with oil-like quenching characteristics designed for both low and high hardenability steel applications. Its quenching characteristics can be varied between those of water and normal speed cold quenching oil by varying concentration.