



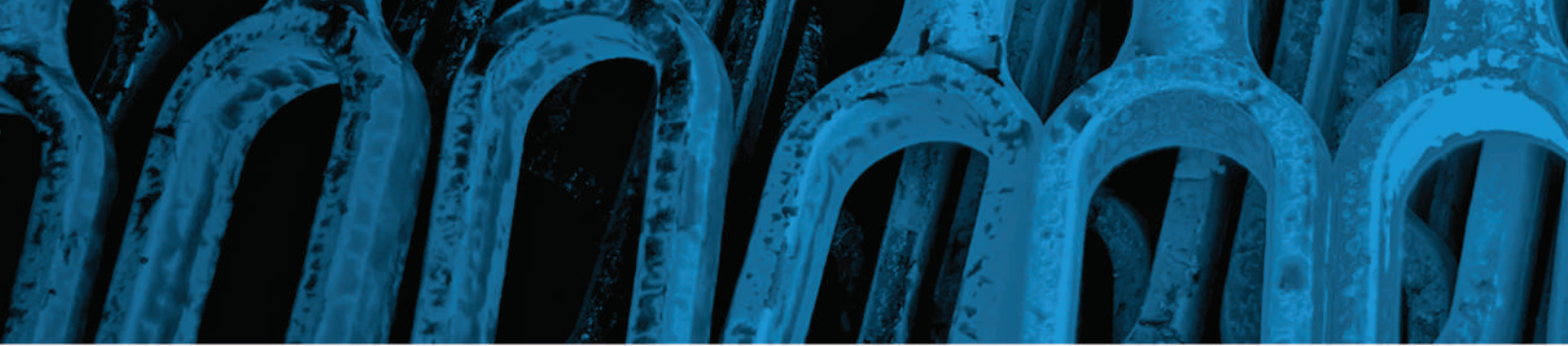
HEAT TREATMENT



# 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 to fast 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 IN** is a fast quenching oil of low viscosity. It is based on paraffinic mineral oils and contains additives which assure stain free surfaces of the quenched work and good aging stability of the oil.

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

**HOUGHTO-QUENCH™ 100** is a normal speed quenching oil of medium viscosity. It is based on paraffinic mineral oils and contains additives which assure strain free surfaces of the quenched work and good aging stability of the oil.

## Hot Quenching Oils

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**MAR-TEMP 355** is a high performance accelerated hot quenching oil suitable for use at temperatures of up to 150°C. It is based upon solvent-refined mineral oils and contains a specialty formulated additive package which provides accelerated quenching characteristics and excellent oxidation resistance and thermal stability. MAR-TEMP 355 has a high flash point and will provide long life under arduous operation conditions.

**MAR-TEMP 890 BH** is a high performance accelerated hot quenching oil suitable for use at temperatures of up to 150°C. It is based upon solvent-refined mineral oils and contains a specialty formulated additive package which provides accelerated quenching characteristics and excellent oxidation resistance and thermal stability. MAR-TEMP 890 BH has a high flash point and will provide long life under arduous operation conditions. This oil is best suitable for controlling the distortion.

## Aqueous Quenchants

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**AQUA-QUENCH™ AL** is an advanced biostable polymer quenchant designed for induction hardening and immersion quenching applications, and represents another breakthrough in technology from Quaker Houghton.

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

**AQUA-QUENCH™ C** is a water soluble quenchant with oil-like quenching characteristics. Aqua-Quench C is an advanced polymer quenchant designed for both comparatively low and high hardenability steel applications. Its quenching characteristics can be varied between those of water and normal speed cold quenching oil by varying the concentration of the solution.

### Quaker Houghton

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