

# CASE STUDY

## Heat Treatment: 27% Reduction of fluid consumption

HOUGHTO-QUENCH C 1804

### The Challenge

Our customer is one of the major players in the suspension industry. They have a big plant where they produce many types of springs especially for Trucks. They quenched with a competitor's fluid for a total consumption close to 120 tons.

The goals of the customer were:

- Reduce consumption by 20% with a lower viscosity oil
- Reduce fumes during the tempering process (no cleaning)
- Reduce flames during the quenching
- Improve the HSE profile, less fumes for workers

### The Solution

Quaker Houghton recommended HOUGHTO-QUENCH C 1804, a new generation Synthetic High Performance quenching oil (SHP).

This innovative quenching oils is 12 cSt with still a high Flash point. Competitor oil was 24 cSt. We double checked in our CoE the ability to bring value for this project.

The benefit for the customer is a reduction of the consumption of about 27%.

Thanks to this impressive improvement, the customer now uses the HOUGHTO-QUENCH C 1804 in all their quenching tanks:

- 2 tanks of 15m<sup>3</sup>
- 2 tanks of 30m<sup>3</sup>

Our customer is delighted with the support and we realize 3 analysis per year to verify fluid quality.

### The Benefits

- Consumption reduction
- Less fumes
- Less fire
- Better EHS profile, Operator satisfaction

#### FOCUS ON HOUGHTO-QUENCH C 1804

Highly accelerated Synthetic High Performance (SHP) oil with a low viscosity

Specially selected base oil to minimize oxidation and ensure consistent performance

Low viscosity and so a low consumption

High flash point and low volatility

Carefully formulated to reduce the duration of the vapor blanket cooling stage

### The Trial

Quaker Houghton worked closely with the production department to better understand their quenching production.

A first trial was done on 20 bars with a 200L tank to approved the metallurgy. Many tests were performed and concluded about excellent mechanical properties.

Then a second trial was launched, with the filling of the 15 000L tank in the continuous quenching process. Parameters have been compared to previous year's parameters.

Competitor product consumption was clearly monitored at 4,5Kg for 1T of quenched parts.

The current consumption is now 3,3Kg for 1T.

It means that for our customer the reduction of the consumption is about 27%.

