



# PAG Steel Quench 100

**DuBois**

## *Aqueous Polymer Quenchant*

### DESCRIPTION:

**PAG STEEL QUENCH 100** is a water-based solution of an organic polymer, nitrite corrosion inhibitor, and biocide. The polymer is inversely soluble in water. Above 74°C the polymer falls out as an insoluble precipitate. Below 74°C the polymer dissolves back into solution. During quenching, the polymer deposits on the surface of the hot metal and becomes one of the controlling factors in the heat transfer process from the part into the quenchant. The actual quenching results are determined by the combined action of concentration, temperature, and degree of agitation. It is non-flammable, non-toxic and provides desirable cooling characteristics with minimal environmental impact.

**PAG STEEL QUENCH 100** can be used for hardening ferrous forgings, castings, stampings, and machined parts. It reduces residual stresses and dimensional distortion compared to water quenching.

**PAG STEEL QUENCH 100** can be used in open quench tanks, continuous furnaces and induction hardening equipment.

### TYPICAL PROPERTIES:

Appearance:	Slightly hazy, straw color
Viscosity at 40°C:	272 cSt
Freezing Point:	0 °C
Solubility:	Soluble in water (all proportions)
Specific Gravity:	1.07
pH:	10.0
Refractometer Factor:	2.6

### USE INSTRUCTIONS:

Concentration:	1 – 40% by volume
Temperature:	Ambient – 60 °C
Agitation:	≥ 0.5 m/s recommended
Time:	As required for appropriate Metallurgical transformation

### MATERIAL COMPATIBILITY:

Tanks may be constructed of mild steel.

### CONCENTRATION CONTROL:

#### Shell Cup Test Method (Shell Cup #2)

1. Submerge the cup in the 80°F sediment and air free solution. Allow approximately 30 seconds for the cup to attain sample temperature.
2. Lift the cup vertically out of the solution, starting the stopwatch as the cup breaks the surface.
3. Record the time required for the cup to empty, stopping the watch when the stream first breaks.
4. Read concentration from the plot of time (seconds) versus percent by volume concentration.

### SAFE HANDLING & STORAGE CONDITIONS:

Use **PAG STEEL QUENCH 100** with adequate ventilation. Read the current Safety Data Sheet thoroughly before using this product.

### DISPOSAL:

Any disposal of this product should be in compliance with all federal, state, and local regulations. Please refer to the Safety Data Sheet (SDS) for instructions regarding proper disposal of this product.

### PRECAUTIONS:

#### **KEEP OUT OF THE REACH OF CHILDREN.**

Please refer to the label and Safety Data Sheet (SDS) for all warnings, recommendations for safety equipment, and other regulatory information. Copies of the SDS can be ordered by calling 800-438-2647.

This information is presented in good faith, but no warranty, expressed or implied is given. The final determination of the suitability of the products for the application contemplated by the user is the sole responsibility of the buyer. This is an uncontrolled copy and changes can be made to this document without notice.



**PAG STEEL QUENCH 100**

**TIME VS CONCENTRATION**

**NO. 2 SHELL CUP AT 80F**

