



CHARACTERISTICS

ENVIROQUENCH is a new working environment friendly water based polymer quenchant that can provide quenching response similar to that of fast quench oil. It is far superior to oil in its safety characteristics. It is non-flammable, provides desirable cooling characteristics, more reliable control in use, Improved working environment and better economy.

APPLICATION

Unlike polyalkylene glycols, ENVIROQUENCH is completely water soluble at all concentrations and temperatures. It causes little or no foaming and is fortified with suitable additives to prevent multi-metal corrosion. At 25% concentration, 50°C and good agitation, ENVIROQUENCH provides quenching response at all stages of quenching that approximates those exhibited by fast quench oils. Consequently, those conditions necessary for achieving maximum hardness in steel with minimum distortion or cracking can be realized. However to obtain the best results for a particular quenching application, it is highly recommended to optimize the main operating parameters such as concentration, temperature, agitation, duration of quenching, loading pattern etc. This optimization is essential since different conditions may be required for different steel or parts made of the same steel but differing in size.

Most of the polymer film deposited on the metal surface during quenching re-dissolves in the solution thus minimizing the drag-out losses. The remaining film is quickly and completely washed off with just plain water at ambient temperature.

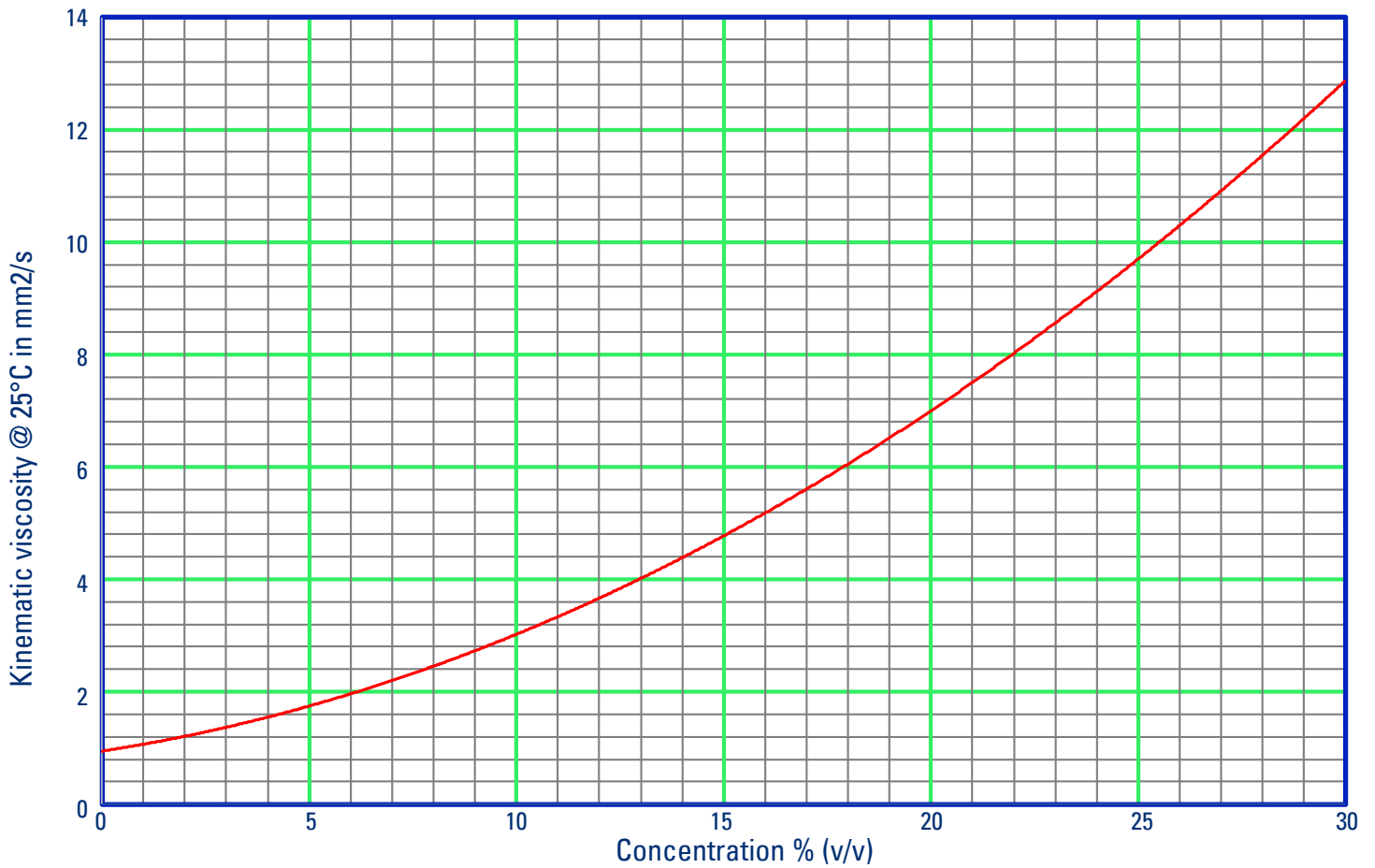
- OPERATING CONCENTRATION RANGE: 1 – 30% (by volume).
- MIX PREPARATION: Add the right amount of product into the tank already filled with water and agitate until a homogeneous mixture is obtained in the entire mix tank.
- OPERATING TEMPERATURE RANGE: ambient - 90°C.
- OPERATING TIME: As required for appropriate metallurgical transformation.
- OPERATING EQUIPMENT: Successfully used in induction systems and IQ (Integral Quench) furnaces designed for water-based quenchants.
- AGITATION SPEED/VELOCITY: > 0,5 m/s.

TYPICAL CHARACTERISTICS

Test	Methods	Units	Grade
Appearance			Transparent liquid
Density @ 20°C	ASTM D 1298	Kg/m ³	1032
pH	ASTM E70		10,5
pH (15% sol)	ASTM E70		10,4
Kinematic Viscosity @ 20°C	ASTM D445	mm ² /s	284
Refractometer factor			5,0

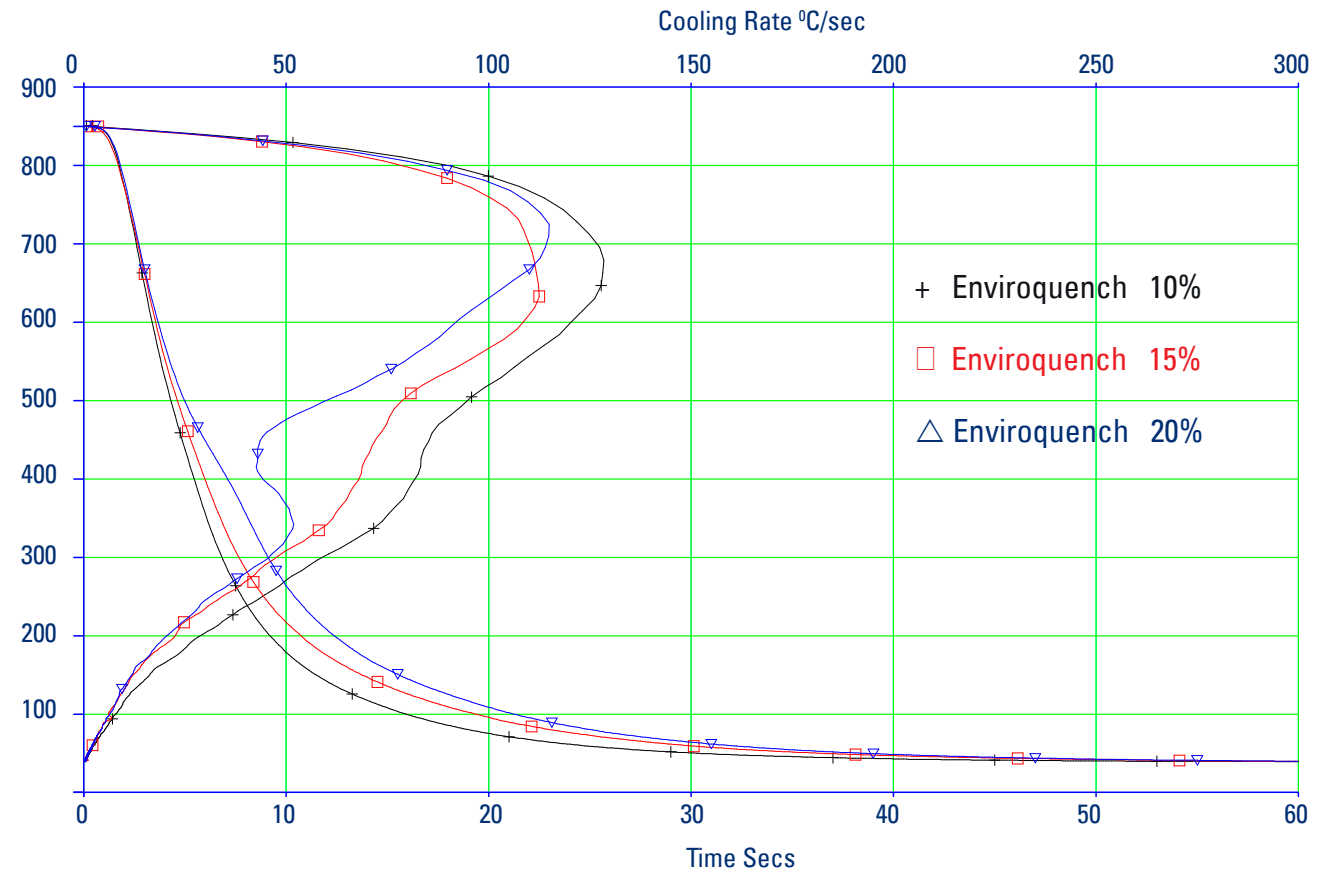
Above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

ENVIROQUENCH | Concentration Control by Viscosity



ENVIROQUENCH | Quenching properties

ASTM 6482 at 32°C



CONTROL

Concentration:

The concentration of an ENVIROQUENCH solution can be determined on site by measuring the refractive index using a hand held refractometer. The resultant reading has to be multiplied by the refractometer factor. Contaminants will influence the concentration determined by refractometer it is therefore recommended to measure the (kinematic) viscosity of an ENVIROQUENCH solution regularly as well. The corresponding concentration can be read from above table.

SAFETY:

The Safety Data Sheet should be consulted for specific information and information on Health, Safety and Environment when handling this product.

HANDLING AND STORAGE

Protect from freezing, direct sun and store dry between 5 - 35°C in a well-ventilated area.

Packaging types: 20, 200 and 1000 litre.

NON-WARRANTY

The information contained in this bulletin is believed by DuBois Chemicals to be accurate, genuine and complete. Recommended parameters are based on typical processes and may be altered to accommodate specific requirements. However, the final use of this product is beyond our control; therefore, no warranty of results is expressed or should be implied by this technical data sheet.



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