



DESCRIPTION

ALUMIQUENCH is a water-based solution of an organic polymer, corrosion inhibitor, antifoam agent, 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. ALUMIQUENCH is non-flammable, non-toxic and provides desirable cooling characteristics with minimal environmental impact.

APPLICATION

ALUMIQUENCH can be used for solution heat treating of a wide range of aluminum alloys including forged, wrought and cast aluminum parts. It reduces residual stresses and dimensional distortion compared to water quenching. ALUMIQUENCH also works well as a quenchant for plain carbon or alloy steels.

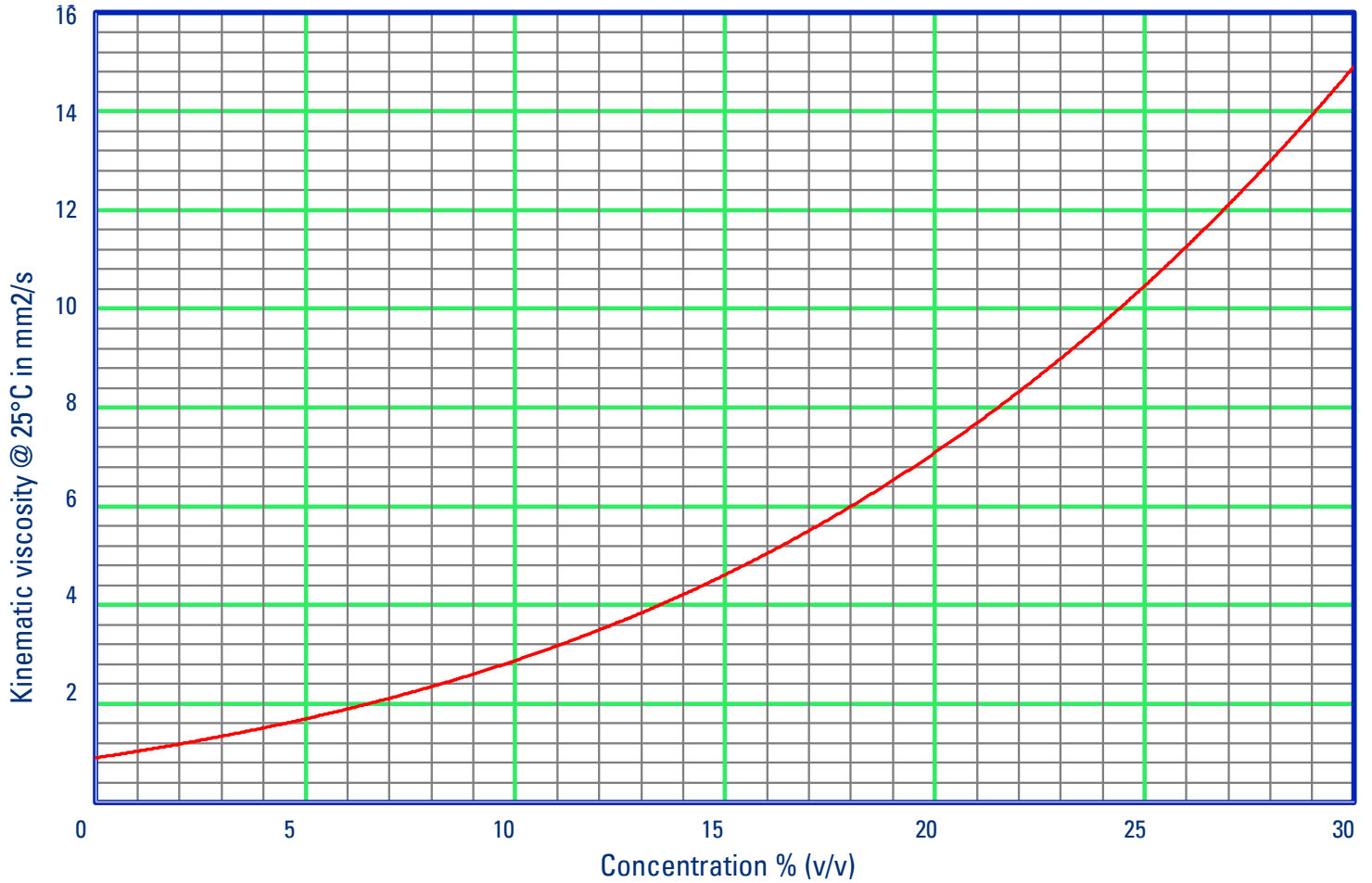
- OPERATING CONCENTRATION RANGE: 0 - 34% (by volume).
- OPERATING TEMPERATURE RANGE: ambient - 60°C
- OPERATING TIME: As required for appropriate metallurgical transformation
- OPERATING EQUIPMENT:
Successfully used in induction systems and IQ furnaces designed for water-based quenchant.
- AGITATION SPEED/VELOCITY: > 0,5 m/s

TYPICAL CHARACTERISTICS

Test	Methods	Units	Grade
Appearance			Slightly hazy, colorless/straw colored liquid
Density @ 20°C	ASTM D1298	Kg/m3	1073
pH	ASTM E70		10,5
pH (15% solution)	ASTM E70		10,4
Kinematic Viscosity @ 20°C	ASTM D445	mm2/s	681
Refractometer factor			2,0

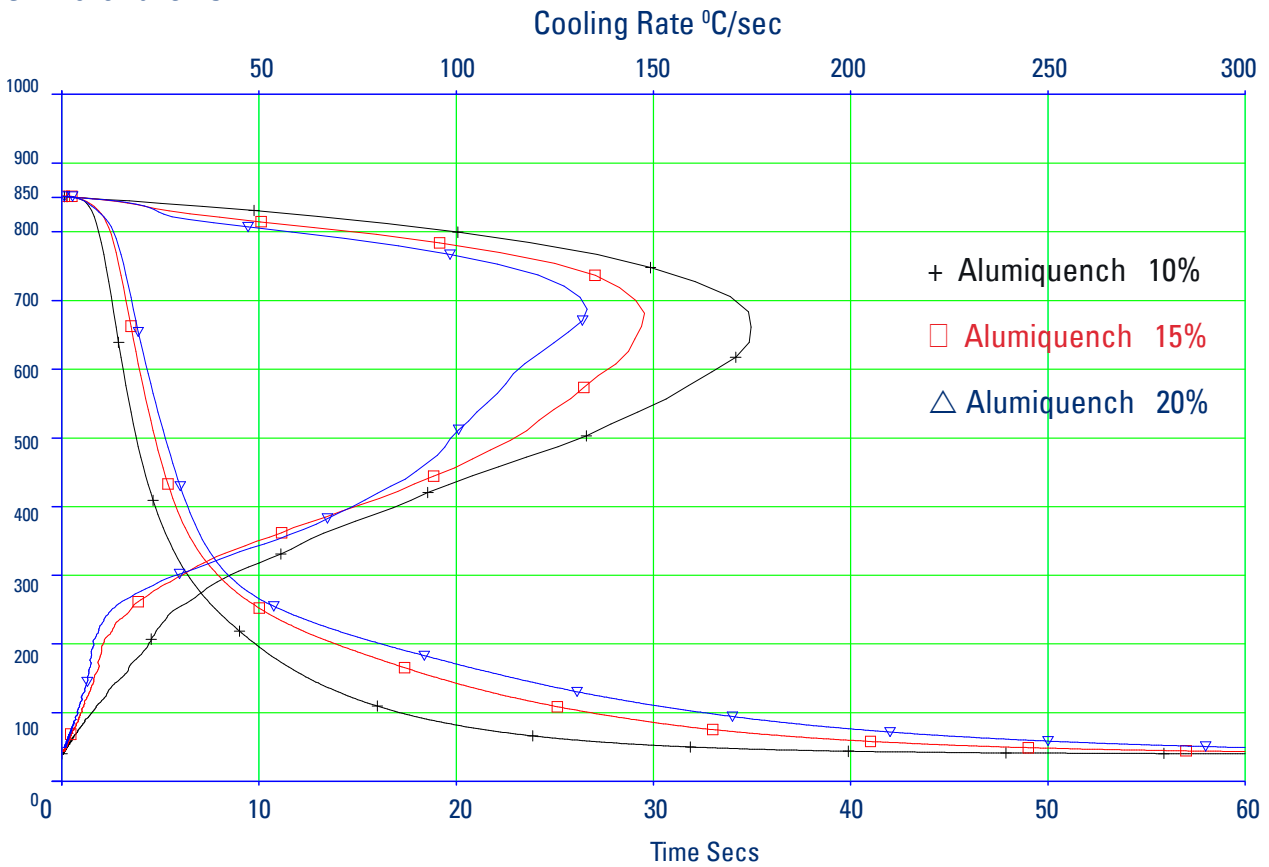
Above figures are typical of those obtained with normal production tolerance and do not constitute a specification.

ALUMIQUENCH | Concentration Control by Viscosity



ALUMIQUENCH | Quenching properties

ASTM 6482 at 32°C



CONTROL

Concentration:

The concentration of a ALUMIQUENCH solution can be determined on site by measuring the refractive index using a hand held refractometer and multiplying the reading by the refractometer factor.

Contaminants will influence the concentration determined by refractometer it is therefore recommended to measure the (kinematic) viscosity of a ALUMIQUENCH solution regularly as well. The corresponding concentration can be read from the table above.

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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