Water-based quenching liquid

Performance Overview

Maxtop water's water-based quenching fluid uses polyalkylene glycol (PAG) as a thickener, adding functional agents such as anti-rust agents, defoaming agents, bactericides and PH regulators, and water to prepare water-soluble quenching fluids of different concentrations. The cooling speed is between water and oil. Water-based quenching fluids with different contents and water mixing ratios can be customized according to customer requirements.

Features

01

When the concentration used exceeds 5%, the workpiece has a good anti-rust effect after quenching.

02

It is safe to use, non-toxic, harmless, clean and environmentally friendly, not easy to age or deteriorate, and has a long service life.

03

It is miscible with water in any proportion, and the cooling speed can be adjusted arbitrarily to meet different cooling performance requirements.

04

The quenching hardness is high and the quenching layer is uniform, which greatly reduces the quenching deformation of the workpiece and avoids the risk of quenching cracks and soft spots.

Application Scenario

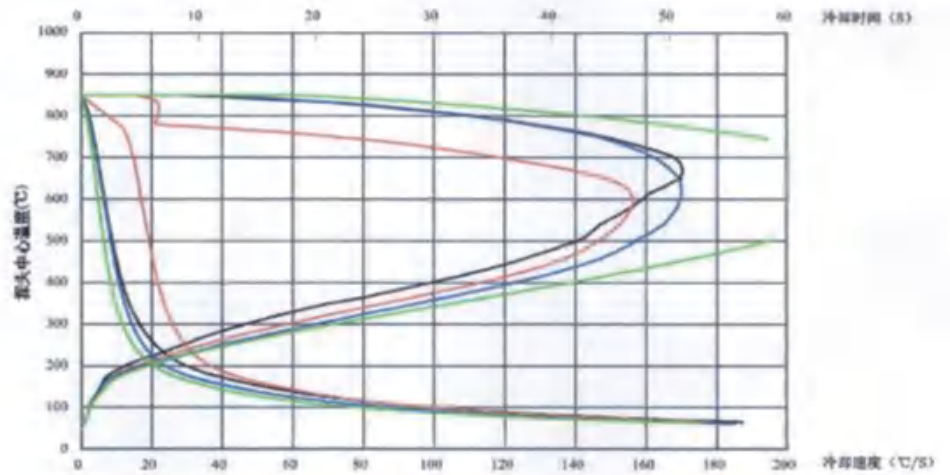
Suitable for overall quenching of carbon steel, alloy steel, cast iron, high chromium cast iron, heat treatment of forgings, etc. Solid solution treatment of aluminum alloys.

No. 138, Guanshan Road, Shuangliu District, Chengdu, China (Sichuan) Pilot Free Trade Zone
TEL: +8613541155698 EMAIL: maxtop@maxtop-oil.com
TEL: +864008330667 Website: www.maxtop-oil.com

Water-based quenching liquid performance indicators

Project		Quality indicators
Appearance		Colorless to light yellow liquid
Pour point, ℃	not more than	-9
Density (20℃) g/ cm3		1.0~1.2
Liquid phase corrosion test, distilled water		Rust-free
Reverse melting point, ℃		70~80
Kinematic viscosity (25% aqueous solution, 40℃), mm 2 /s		5.0~7.0
PH value (25% aqueous solution)		8.0~10.0
Defoaming property (25% aqueous solution), mL/10min	not more than	2
Cooling performance (25℃, 25% aqueous solution)		
Characteristic temperature, ℃	not less than	750
Maximum cooling rate, ℃/s	not less than	120
300℃ cooling rate, ℃/s	not more than	50
800℃→400℃ time, s	not more than	11
800℃→300℃ time, s	not more than	15

Cooling characteristics of water-based quenching medium with different concentrations



Comparison of cooling characteristics of water-based quenching medium with different concentrations

Medium temperature	Max Cooling rate	Maximum cooling rate Corresponding temperature	300 ℃ Cooling rate	850℃ to below temperature time			Peculiarity temperature	Peculiarity time
				600℃	400℃	200℃		
40	170.27	666.35	45.89	2.00	3.50	9.00	846.18	1.00
40	156.21	603.75	56.57	5.20	6.60	11.10	782.73	4.80
40	170.02	621.13	67.16	2.00	3.30	7.30	842.63	1.40
40	236.24	657.89	71.70	1.40	2.50	6.20	842.30	1.00

Note: The unit of time is S, the unit of speed is C /S, and the unit of temperature is C

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