

Castrol Iloquench 500 Aqua

Water soluble polymer quenchant

Description

Castrol Iloquench™ 500 Aqua is a fully synthetic aqueous heat treatment fluid based on water-soluble polymers of high molecular weight. It further contains phenol-free biocides, nitrite free corrosion inhibitors and antifoam agents.

Classification: AFNOR NFT 60-512 - UAE

Application

Iloquench 500 Aqua has been designed for use in mass quenching operations of carbon and alloyed steels parts. Iloquench 500 provides a quenching rate which is intermediate between water and oil and which can be varied by altering the concentration.

Typical parts treated are forgings, nuts and bolts, pretreated bars, springs and torsion bars and agricultural equipment.

Conditions of Use

Temperature of bath:		20 – 45 °C
Typical concentrations:	- Carbon steel and low alloy steel	2 – 10%
	- Medium alloy steel	10 – 15%
	- High alloy steel	15 – 35%

The quenching result is affected by many parameters, such as the metal alloy and the geometry of the part, the required depth of effective quenching and the method of application. It is recommended to perform preliminary tests on the unit under consideration for optimising the process parameters.

Advantages

- Water-based heat treatment fluid provides a safer working environment reducing the fire hazard risk.
- Superior cleanability minimises impact on downstream cleaning processes.
- Excellent in process corrosion protection.
- Controllable quenching speed helps reducing the scrap rate.
- Elimination or significant reduction of deposits on handling machines and quenched work.

Typical Characteristics

	Method	Unit	Value
Appearance	Visual		Viscous, opalescent liquid
Density at 15°C	ISO 12185	kg/m ³	1073
Viscosity at 40°C	ISO 3105	mm ² /s	630
Water Content	ISO 3733	%	50
pH, concentrate	NFT 60-193	-	10
pH, distilled water (15%)	NFT 60-193	-	9,5
Pourpoint, concentrate	ISO 3016	°C	-24
Refractive index at 20°C	NFT 60-212	-	1,410

Concentration Control

BY REFRACTOMETER:

The concentration of the Iloquench 500 Aqua can be easily measured on site with a hand held refractometer. It is important to realise that refractometer readings are dependent upon the type of refractometer and water used.

Certain rules should be observed:

- The sample should be clean and filtered, if necessary.
- The refractometer must be zeroed.
- The conversion factor to change refractometer reading to % Iloquench 500 Aqua can vary from 1.7 to 2.4, depending on the nature of the water.
It is recommended to determine this on new standard solutions made at several concentrations with the water used to prepare the bath.

Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. The product should not be stored above 40°C, exposed to hot sun or freezing conditions.

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