

Iloquench 768 Aqua FF

Water soluble polymer quenchant

Description

Castrol Iloquench™ 768 Aqua FF is a fully synthetic aqueous heat treatment fluid containing water-soluble polymers of high molecular weight, corrosion inhibitors and antifoam agents. The product is formulated without formaldehyde releasing agents.

Iloquench 768 Aqua FF has low residue and reduced dragout characteristics.

Application

Iloquench 768 Aqua FF has been developed for quenching of steel components in induction or flame hardening applications to reduce the occurrence of warping of cracks.

Typical components treated are crankshafts, gear, axles, transmission shafts, saw blades, rolling mill cylinders, rocker arms and push rods.

Iloquench 768 Aqua FF provides a quenching rate which is intermediate between water and oil and which can be varied by altering the concentration.

Conditions of Use

Temperature of bath:		20 - 45 °C
Typical concentrations:	- Carbon steel and low alloy steel	5 - 15%
	- High alloy steel	15 - 25%
	- Austenitic steel metals, pipes, profiles	5 - 10%

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

- Minimises the creation of a stable insulating water vapor layer (Leidenfrost phenomenon) and hence reduces the risk of soft spots and cracks
- Water-based heat treatment fluid provides a safer working environment reducing the fire hazard risk
- Excellent in-process corrosion protection
- Superior cleanability minimises impact on downstream cleaning processes
- Controlable quenching speed helps reducing the scrap rate
- Low foaming formulation
- Reduced drag-out and elimination or significant reduction of deposits on handling machines and quenched work
- Formulated without formaldehyde releasing biocides which helps to fulfill aspects of legislative and waste treatment requirements that specify that these chemicals are excluded

Typical Characteristics

Description	Test Method	Unit	Value
Concentrate			
Appearance	Visual	-	Blue, cloudy liquid
Density @ 15 °C	ASTM D4052	g/ml	1.07
pH	ASTM E70/97	-	9.5
Dilution			
pH (15% in DI-water)	ASTM E70/97	-	9.2
Refractive Index (15% in DI-water)	NFT 60-212	-	1.343
Cast Iron Corrosion (15% TH40)	DIN 51360/2	-	0

Subject to usual manufacturing tolerances.

Concentration Control

BY REFRACTOMETER:

The concentration of the Iloquench 768 Aqua FF 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 considered:

- The sample should be clean and filtered, if necessary
- The refractometer must be zeroed
- Concentration Iloquench 768 Aqua FF in % = refractometer reading x factor **1.83**

(It is recommended to verify the factor thru analysis of fresh standard solutions at different concentrations with the water used to prepare the bath).

User Advice

Since significant contamination can substantially affect the quenching performance it is strongly recommended to minimise the drag-in of soils, such as quenching salts, coolants, corrosion preventive agents and hydraulic oils (particularly HLP-D) as best as possible.

Storage

To avoid product deterioration always keep the container/drum tightly sealed. Store the product in a cool, dry place away from direct sunlight. Prevent exposure to frost and avoid water ingress. For optimum product stability, it is preferable to store the product indoors between 5°C and 45 °C / 41°F and 113°F.

For more details, please refer to the product safety data sheet.

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