



# MAKER IBERTEM 99 F

## Description

A natural paraffin mineral oil with high viscosity, formulated with highly refined selected base oils and special additives, which provide the properties required to overcome the difficult conditions needed for hot, rapid steel hardening. It is particularly suitable for use in hot, rapid hardening, where the bath temperature is between 150 and 180 °C and even higher if there is an enclosed atmosphere. This kind of oil is used with non-alloy or low alloy parts.

## Properties

- High cooling speed.
- Contains additives to achieve magnificent resistance to oxidation and sludge formation, thus prolonging its useful life.
- Very good thermal stability and low volatility, which reduces smoke and the risk of fire.
- Good foam resistance.
- Avoids surface blackening of the piece to be hardened.
- Uniform and lasting hardening capacity.

## Technical specifications

	UNIT	METHOD	VALUE
Appearance	-	Visual	B & T
Colour	-	ASTM D1500	<7
Density at 15 °C	g/mL	ASTM D4052	0.910
Viscosity at 40 °C	cSt	ASTM D445	215
Viscosity at 100 °C	cSt	ASTM D445	18.5
Maximum cooling rate (MCR)	°C/s	ISO 9950	70.93
Temperature for MCR	°C	ISO 9950	643.71
Cooling speed at 300 °C	°C/s	ISO 9950	5.81
Time at 600 °C	s	ISO 9950	10.87
Time at 400 °C	s	ISO 9950	21.12
Time at 200 °C	s	ISO 9950	60
Cooling curve			Annex

The above mentioned characteristics are typical values and should not be considered product specifications.



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