Product Data

Iloquench™ 1

General Purpose Cold Quenching Oil

Description

Castrol Iloquench™ 1 is a general purpose, low viscosity quenching oil. It is based on selected solvent refined mineral oil highly resistant to oxidation and therefore offers long service life with minimum deterioration of properties during service.

Application

Iloquench 1 is a universal quenching oil for use in cold quenching applications of medium to high carbon as well as low alloy steels to impart the desired hardness to the components without metallurgical distortion or stress.

Iloquench 1 is suitable for use in continuous furnaces, sealed quench furnaces and open quench tanks. It may also be employed for quenching parts heated in cyanide salt baths. Due to the low sulphur content Iloquench 1 is not affected adversely by the carry-over of cyanide salts.

Iloquench 1 is particularly suitable for the quenching of small components because its low viscosity enables the surfaces of small, intricate profiles to be wetted effectively, enabling the most efficient heat transfer. Its low viscosity also reduces drag out losses to a minimum. Typical treated parts used to be nuts, bolts, ball bearings, hand tools and springs.

Conditions of Use

Temperature of use open to atmosphere:	30 - 80 °C
Temperature of use under controlled atmosphere (inert gas):	50 - 100 °C

Advantages

- Inherently resistant to oxidation and thermal degradation leading to a longer service life.
- Consistent quenching performance and metallurgical standards of output.
- Provides clean surfaces, free of stains, patches, spots and marbling aspects.
- Low viscosity ensures minimum drag out losses helps to ensure the most effective heat transfer.
- Versatile - compatible with all methods of component heating, including salt bath heating.
- Easy to clean-off by using alkaline process cleaner, also available from Castrol.

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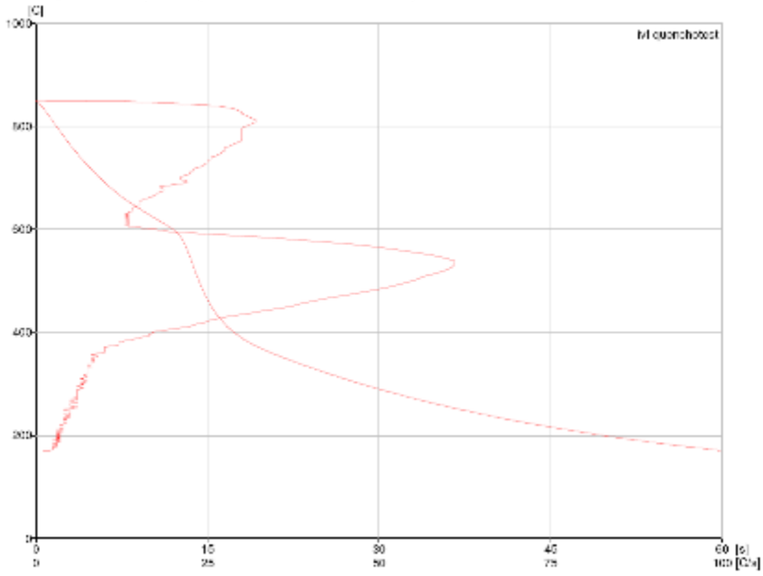
Typical Characteristics

Description	Test Method	Unit	Value
Appearance	Visual	-	Clear yellow liquid
Density @ 15 °C	ASTM D1298	g/ml	0.87
Kinematic Viscosity @ 40 °C	ASTM D445	mm²/s	20 - 30
Kinematic Viscosity @ 100 °C	ASTM D445	mm²/s	4 - 5
Flash Point, PMCC	ASTM D93	°C	> 190
Pour Point	ASTM D97	°C	< -9
Water Content	ASTM D1744	ppm	< 500
Acid Number	ASTM D974	mg KOH/g	< 0.1
Severity of Quench @ 50 °C			
Transition Temperature - Theta 1 (Vaporization - Boiling)	NFT 60-178	°C	480 - 550
Transition Temperature - Theta 2 (Boiling - Convection)	NFT 60-178	°C	350 - 375
Castrol Index	-	-	11.8 - 12.3

Subject to usual manufacturing tolerances.

Typical Physical Characteristics

Quenching Characteristics @ 60 °C (IVF Quenchtest, ISO 9950):



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Additional Information

APPROVALS

- Rolls Royce CSS 153

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 the product safety data sheet.

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