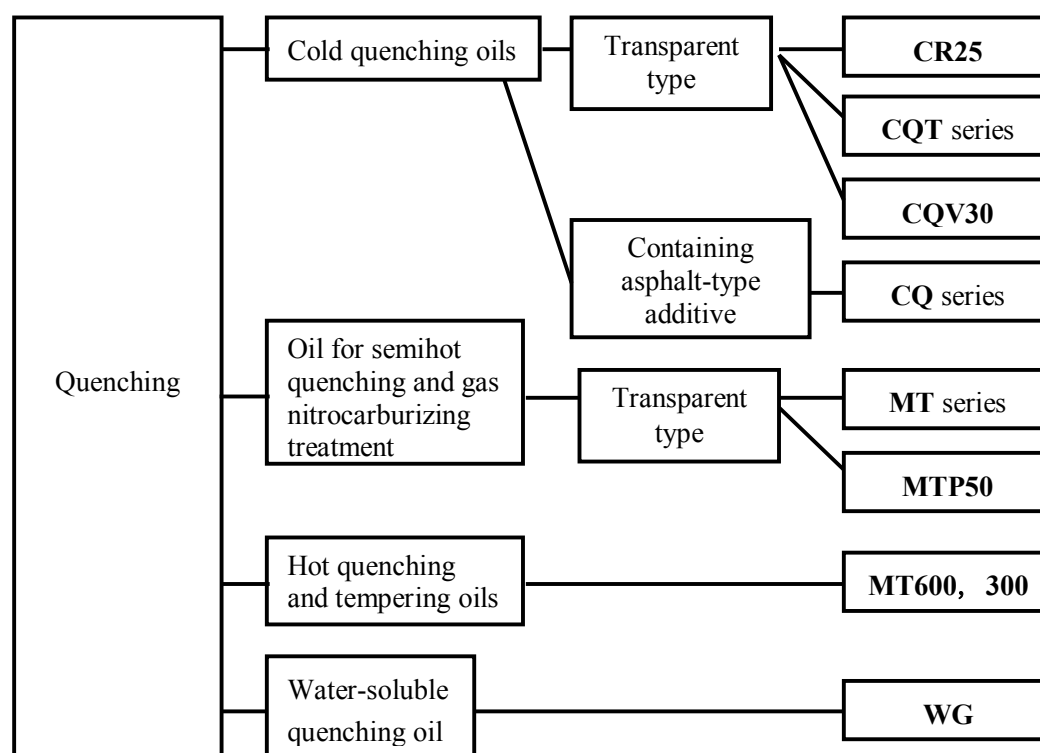


UNIQUENCH

Heat Treating Oils for Steel (Quenching oils)

UNIQUENCH series has arranged various products which have excellent performances as quenching oils in the metalworking industry. For cold quenching oil, semi hot quenching oil, hot quenching and tempering oil, a highly refined paraffinic mineral oil is used to achieve the best treatment of steel in a wide range of quenching operations. Those quenching oils are excellent in oxidation stability. Moreover, they give bright finish on parts being quenched. As water-soluble quenching liquid, UNIQUENCH WG is recommended. This fluid is based on polyalkylene glycol with a preservative agent.

● INTRODUCTION of UNIQUENCH series



● TYPICAL PROPERTIES

● Water-soluble quenching oil

Product Name		WG
Appearance		Light yellow, Liquid
Viscosity(40°C)	mm ² /s	215
Density(15°C)	g/cm ³	1.07
pH		9.1

● **Transparent type cold quenching oils**

Product Name		CR25	CQT10	CQT15	CQT20S	CQT20	CQV30
Viscosity(40°C)	mm ² /s	20	13	15	18	22	25
Flash Point(COC)	°C	210	170	182	182	208	230
Color(ASTM)		L0.5	L0.5	L0.5	L0.5	L0.5	L0.5
Thermal Stability(JIS K2242)		Pass	Pass	Pass	Pass	Pass	Pass
<u>Cooling Power</u>							
Oil Temperature	°C	80	80	80	80	80	80
Characteristic Temperature	°C	511	614	600	614	636	662
Cooling Time(800-400°C)	sec	4.7	3.5	3.5	3.5	2.9	2.7
H Value*	cm ⁻¹	0.103	0.150	0.144	0.140	0.130	0.122
JIS K 2242 Category		1-1	1-2	1-2	1-2	1-2	1-2

*H value is calculated based on the cooling time from 800°C to 300°C.

In general, larger H value indicates the better quenching performance.

● **Cold quenching oils containing asphalt-type additive**

Product Name		CQ10W	CQ20S	CQ20	CQ30W
Viscosity(40°C)	mm ² /s	10	17	22	26
Flash Point(COC)	°C	166	190	200	218
Color(ASTM)		D7.0	D8.0	D8.0	D4.0
Thermal Stability(JIS K2242)		Pass	Pass	Pass	Pass
<u>Cooling Power</u>					
Oil Temperature	°C	80	80	80	80
Characteristic Temperature	°C	595	626	631	612
Cooling Time(800-400°C)	sec	3.4	2.8	2.8	3.2
H Value	cm ⁻¹	0.149	0.133	0.127	0.118
JIS K 2242 Category		1-2	1-2	1-2	1-2

● **Oils for semihot quenching and gas nitrocarburizing treatment**

Product Name		MTP50	MT100	MT150	MT300	MT600
Viscosity(40°C)	mm ² /s	42	86	130	227	470
Viscosity(100°C)	mm ² /s	7	10	14	20	31
Flash Point(COC)	°C	232	264	280	300	320
Color(ASTM)		L0.5	L1.0	L2.0	L3.0	L3.5
Thermal Stability(JIS K2242)		Pass	Pass	Pass	Pass	Pass
<u>Cooling Power</u>						
Oil Temperature	°C	120	120	120	160	160
Characteristic Temperature	°C	652	589	620	644	683
Cooling Time(800-400°C)	sec	3.2	5.0	5.5	6.1	7.0
H Value	cm ⁻¹	0.102	0.089	0.083	0.072	0.068
JIS K 2242 Category		2-1	2-1,3-1	2-1,3-1	2-2,3-1	2-2,3-2



Handling Precautions

UNIQUENCH CQ·CR·MT Series

▼ Follow these precautions when handling this product.

<p>! CAUTION</p> <p>Handling Precautions</p>	<ul style="list-style-type: none"> ● <u>Inflammation can occur if oil enters the eyes.</u> When handling this oil, wear <u>protective goggles</u> or take other measures to <u>prevent eye contact</u>. ● <u>Inflammation can occur if oil comes into contact with skin.</u> When handling this oil, wear <u>protective gloves</u> or take other measures to <u>prevent skin contact</u>. ● Do not drink this oil. (Swallowing this oil can cause diarrhea and nausea.) ● <u>Keep out of reach of children.</u> ● Read the Safety Data Sheet (SDS) for this product before using the product. Obtain the SDS from where you purchased the product.
<p>First Aid</p>	<ul style="list-style-type: none"> ● In case of eye contact, rinse eyes thoroughly with clean water and consult with a physician. ● In case of skin contact, wash skin thoroughly with soap and water. ● If this oil is swallowed, do not induce vomiting. Consult with a physician immediately.
<p>Disposal of Used Oil and Containers</p>	<ul style="list-style-type: none"> ● Do not apply pressure to empty containers. The containers may burst if pressure is applied. ● Do not weld, heat, drill, or cut the containers. The remaining oil may ignite and the containers may explode. ● Follow all applicable laws and regulations when disposing of used oil or containers. If you are unsure of the proper disposal methods, consult first with the seller of the oil.
<p>Storage Method</p>	<p>Seal the container tightly after use in order to prevent dirt, moisture, etc., from entering the oil. Store in a dark location. Avoid direct sunlight.</p>

PL-42

IND-6501-0307E



Handling Precautions

UNIQUENCH WG

▼ Follow these precautions when handling this product.

<p>! CAUTION</p> <p>Handling Precautions</p>	<ul style="list-style-type: none"> ● Do not drink this fluid. (Swallowing this fluid is harmful, and there is a possibility of dying.) ● <u>Inflammation or loss of eyesight may occur if oil enters the eyes.</u> When handling this fluid, wear <u>protective goggles</u> or take other measures to <u>prevent eye contact</u>. ● <u>Inflammation can occur if oil comes into contact with skin.</u> When handling this fluid, wear <u>protective gloves</u> or take other measures to <u>prevent skin contact</u>. ● Inhaling mist of this fluid may come to feel sick. When handling this fluid, wear a gas mask (against organic gases) whenever required or take other measures in <u>order not to inhale mist</u>. ● As this fluid contains ethanalamine, please avoid contact with the antiseptic containing nitrite salt. If not, cancer-causing nitrosamine may be generated. ● <u>Keep out of reach of children.</u> ● Read the Safety Data Sheet (SDS) for this product before using the product. Obtain the SDS from where you purchased the product.
<p>First Aid</p>	<ul style="list-style-type: none"> ● When this fluid is swallowed please spit out immediately and consult with a physician. ● In case of eye contact, rinse eyes thoroughly with clean water for 15 minutes and consult with a physician. ● In case of skin contact, wash skin thoroughly with soap and water. ● When this liquid mist is inhaled, please move to the place of fresh air and cover the body with blankets, keep it warm, keep rest, and receive the diagnosis of the doctor.
<p>Disposal of Used Oil and Containers</p>	<ul style="list-style-type: none"> ● Do not apply pressure to empty containers. The containers may burst if pressure is applied. ● Do not weld, heat, drill, or cut the containers. The remaining oil may ignite and the containers may explode. ● Follow all applicable laws and regulations when disposing of used oil or containers. If you are unsure of the proper disposal methods, consult first with the seller of the oil.
<p>Storage Method</p>	<p>Seal the container tightly after use in order to prevent dirt, moisture, etc., from entering the oil. Store in a dark location. Avoid direct sunlight.</p>

PL-41

IND-6501-0307E