Wallover

Metalworking Fluids

Quenching Oil Selection Chart

Typical Specifications	Wocoquench 115	Wocoquench 715	Wocoquench 1010	Wocoquench 1015	Marquench 800
Viscosity @ 100°F SUS	95	95	76	95	700
Flash Point, °F	370	365	335	370	470
Fire Point, °F	400	390	355	365	515
Quench Speed, Sec	16.0	11.0	10.0	10.5	18.4
Cooling Rate					
Max. Rate, °F/Sec	83.0	116.0	146.0	135.0	127.9
Temp @ Max Rate, °F	1018.0	1087.0	1162.0	1215.0	1137.4
Rate @ 572°F, °/Sec	11.0	28.0	11.0	11.0	9.8
Time to 1112°F, Sec	14.374	9.625	7.625	8.125	11.250
Time to 752°F, Sec	20.375	13.375	12.125	12.625	18.375
Time to 392°F, Sec	51.125	32.000	43.125	42.000	58.250

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Quenching Oils

Wallover quenching oils are formulated from highly refined base stocks with inherently high thermal stability. Additives include anti-oxidants for longer bath life at elevated temperatures, rust inhibitors, wetting agents that alter surface tensions and aid cooling during the vapor phase and other accelerators to achieve specific quenching characteristics.

The quenching of steel involves cooling at a sufficiently fast rate to reach your desired hardness and avoid the formation of soft constituents, cracking or distortion. When a steel is quenched, the surface is cooled more rapidly than the center. By increasing the cooling rate, the center will reach the desired full hardness. Cooling rate can be influenced by steel composition, thickness, type of quenchant, temperature and mechanical characteristics of the quench bath.

When selecting a heat treating fluid, cooling characteristics can either be shown as a graph of temperature against time or temperature against cooling rate. Your local Wallover representative can assist you in proper fluid selection.

The performance of quenching oils can change dramatically during extended use due to dilution of additives, oxidation, water and dirt contamination. Therefore, the oil should periodically be checked for its chemical and physical condition. Wallover has state of the art facilities to test these oils and issue recommendations as to their continued use. Tests typically run are viscosity, flash point, water and solids, total acid number, quench speed and infra-red analysis.