



Mobil Thermrex™ Series

Mobil Industrial , United States

Metalworking Quench Oils

Product Description

The Thermrex Series is a family of three quench oils for the heat treatment of steel and alloy steels. They are comprised of selected solvent-refined base stock additives to provide optimum demulsibility and chemical and thermal stability. The use of such ingredients results in quench oils that provide uniform steel hardness, batch life, resistance to sludge formation, and minimum deformation.

Features and Potential Benefits

Thermrex D-10, R-21, and V-32 are mineral-oil blends carefully selected from controlled distillation ranges base stocks to approximate 100 SUS at 100°F. The consistent Relative Cooling Indices (RCI) of 95 to 160.

Applications

The Thermrex Series oils are excellent media for rapidly cooling steel and alloy steels to achieve optimum strength and toughness. The selection of the particular quench oil depends on the cooling rate desired to prevent cracking and distortion. Thermrex D-10, R-21 and V-32 are most effective with agitation at batch temperatures of less than 150°F.

For safety, it is recommended the flash point of Thermrex D-10 through V-32 should be 150°F above the batch temperature. Minimize water contamination by following effective monitoring and removal procedures.

Typical Properties

	D-10	R-21	V-32
Density @ 15.6 C, ASTM D4052	6.95	7.19	7.12
Kinematic Viscosity, ASTM D445			
cSt at 100°C	4.1	4.13	3.82
cSt at 40°C	20.2	21	15.3
Relative Cooling Index %, M 1442	95/105	120/130	148/162
Pour Point, °C, ASTM D97	-18	-12	-3
Flash Point, ASTM D 92, °C	194	172	176
Cooling Characteristics, ASTM D6200			
Maximum Cooling Rate, °C/s	54.4	64.6	72.2
Temperature at Max. Cooling Rate, °C	513	587	609
Time to 600°C, s	13.4	10.6	10.4
Time to 400°C, s	19.8	15.1	14.5
Time to 200°C, s	49.7	54.4	47.9

Health and Safety

Based on available toxicological information, it has been determined that this product poses no significant health risk when used and handled properly. Information on use and handling, as well as health and safety information, can be found in the Material Safety Data Sheet which can be obtained from your local distributor; or on the Internet on <http://www.msds.exxonmobil.com>.

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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com

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