

Reference Hydraulic Fluid Characteristics

The use of proper hydraulic oil is mandatory to achieve maximum performance and machine life. Use a clean, high-quality, anti-wear hydraulic oil with a viscosity index (VI) of 135 minimum. It should have a maximum viscosity of 500 cSt (2000 SSU) at startup (ambient temperature) and a minimum viscosity of 13 cSt (65 SSU) at the maximum oil temperature (generally 80°F above ambient). Using hydraulic oils that do not meet these criteria may cause poor operation and/or damage to the hydraulic components. The following table specifies the oil temperature at various viscosities. Temperature rise of the

hydraulic oil can vary from 30° F to about 80° F over the ambient temperature depending on the pressure setting, age of the pump, wind, etc. Mobil Univis N46 hydraulic oil is installed at our factory. The advantage of this oil is a wider temperature range; however, this oil should not be used for continuous operation below 24° F. For use in extremely cold ambient temperatures, we suggest Mobil DTE 10 Excel 15, which can be used to -16° F. This oil should not be used for continuous operation above 113° F (oil temperature).

NOTE: The Mobil DTE 10 Excel series replaced the DTE 10M series. The Exxon Univis N series are now Mobil Univis N.

Hydraulic Fluid Characteristic Chart

Fluid	cST 100F	cST 210F	VI.	-30°F -34°C	-15°F -26°C	0°F -18°C	15°F -9°C	30°F -1°C	45°F 7°C	60°F 15°C	75°F 24°C	90°F 32°C	105°F 40°C	120°F 49°C	135°F 57°C	150°F 65°C	165°F 74°C	180°F 82°C	195°F 90°C	Range									
Mobil																													
DTE 10 Excel 15	15.8	4.1	168	—————																		-16°F to 113°F -27°C to 45°C							
DTE 10 Excel 32	32.7	6.6	164		—————																			12°F to 154°F -11°C to 68°C					
DTE 10 Excel 46	45.6	8.5	164			—————																					23°F to 173°F -5°C to 78°C		
DTE 10 Excel 68	68.4	11.2	156				—————																					37°F to 196°F 3°C to 91°C	
Univis N32	34.9	6.9	164			—————																						12°F to 150°F -11°C to 66°C	
Univis N46	46	8.5	163				—————																						24°F to 166°F -4°C to 74°C
Univis N68	73.8	12.1	160					—————																				39°F to 193°F 4°C to 89°C	

NOTE: This chart is based on pump manufacturer recommendations of 13 to 500 cSt. Temperatures shown are fluid temperatures not ambient temperatures.



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