

CYLESSTIC

Steam Cylinder Oils

Product Description

Cylesstic is the trademark for a line of quality steam cylinder oils formulated to meet exacting lubrication requirements. The compounded grades also provide excellent protection against wear in worm gear drives and are recommended for steam engines operating on saturated or slightly superheated steam at either high or low pressures. Cylesstic lubricants are also recommended where condensate on cylinder walls is present. The non-compounded grade is the recommended oil for use with high-pressure superheated steam systems.

Cylesstic steam cylinder oils are available in four viscosity grades. These grades conform to the International Standards Organization (ISO) viscosity classification system. Three grades; Cylesstic 460, 680, and 1000, are compounded with acidless tallow to provide lubrication under the wet conditions encountered with saturated steam. The fourth grade, Cylesstic 1500 is not compounded, but is formulated specifically for the dry, high-temperature operating conditions associated with super-heated steam.

Features & Benefits

- Good wear protection
- Ready separation from condensate
- Good atomization characteristics

Applications

STEAM CYLINDER LUBRICATION

All four grades are suitable for use where separation of the lubricant from condensate is desirable. Cylesstic 460 is recommended for low-pressure saturated steam systems. Cylesstic 680 and Cylesstic 1000 are recommended for high-pressure saturated steam systems. All of these compounded grades can help reduce overall consumption, provide good adhesion to the cylinder walls, and offer good separation from exhaust steam.

ATOMIZATION

Unlike most moving parts, which are lubricated by the direct application of grease or oil, steam cylinders are generally lubricated by a mist of oil carried by the steam. Oil is injected into the steam by means of an atomizer inserted into the steam line ahead of the steam chest. As the steam flows past the open end of this atomizer at relatively high velocity, it picks up droplets of oil discharged from the atomizer tube. Under the proper conditions, the oil mist produced in this manner is diffused throughout the incoming steam. All moving parts in contact with the steam receive a share of lubricant.

To be effective, the oil mist must be diffused in minute particles. Oversize droplets settle out of the steam and may not reach the more distant areas to be lubricated. In other locations, they may accumulate in excessive quantities, leaving residues on the wearing surfaces. Thorough atomization is essential, therefore, to complete lubrication of the cylinders. Proper atomization is partly dependent upon characteristics of the oil, such as viscosity. An oil that is too heavy does not break up into droplets that are sufficiently small. On the other hand, an oil that is too light will not carry the required loads.

ExxonMobil Lubricants & Specialties

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The Cylesstic oils, have inherently good atomization characteristics, and can be applied in the correct viscosity for complete atomization and for effective protection to the lubricated surfaces.

In addition to meeting difficult steam engine lubricating requirements, Cylesstic, in the compounded grades, is an excellent lubricant for many worm gears. Worm gears, threaded shafting, and other such lubricant applications are characterized by a high degree of sliding motion under heavy pressure. The compounded Cylesstic grades have extra oiliness that provides good lubrication, which minimizes wear in machine elements of this type.

Typical Properties

Cylesstic	460	680	1000	1500
ISO viscosity grade	460	680	1000	1500
Gravity, ° API	21.8	21.7	21.5	20.5
Specific Gravity at 15.6°C (60°F)	0.9230	0.9236	0.9248	0.9309
Viscosity				
cSt @ 40°C	429	627	925	1600
cSt @ 100°C	30.1	37.8	46.7	64.2
Viscosity index	99	97	93	92
Pour point, °C (°F)	-7 (20)	-7 (20)	-1 (30)	-1 (30)
Flash Point, °C (°F)	271 (520)	279 (535)	288 (550)	313 (595)
% Compounding	5	5	5	

Health & Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contact office, or via the Internet. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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