



CYLESSTIC* oils are formulated to meet the exacting lubrication requirements of steam cylinder and worm gear reducer service. These oils offer the following features and benefits:

- ◆ Provide excellent lubricity under wet or dry condition
- ◆ Good steam diffusion and wetting performance
- ◆ Excellent rust and corrosion control
- ◆ Contains a tackiness additive to improve adhesion and reduce consumption
- ◆ AGMA 7 Compounded and 8 Compounded viscosity grades

Primary Applications

CYLESSTIC oil is available in two compounded grades, TK 460 and TK 680. Each grade has the viscosity-temperature and lubricity characteristics necessary to provide a persistent lubricating film under dry or wet steam conditions or in severe worm gear service.

Worm Gear Lubrication

CYLESSTIC TK oils are excellent lubricants in worm gear reducer service. They are formulated to meet the recommendations of worm gear reducer builders who specify compounded steam cylinder oils. CYLESSTIC TK 460 and 680 have natural oxidation stability and provide excellent corrosion control and AGMA7 compounded and 8 compounded viscosity grade protection. Note that for some David Brown Radicon Series A reducer models, polyalkylane glycol fluids (Mobil Glygoyle HE) are required.

Steam Cylinder Lubrication

Unlike most moving parts, which are lubricated by the direct applications of grease or oil, steam cylinders are generally lubricated by a mist of oil carried by the steam. Oil is injected by means of an atomizer or 'quill' inserted into the steam line ahead of the steam chest. Steam flows through small holes in the quill at relatively high velocities and picks up droplets of oil discharged from the tube. Under the proper conditions, the oil mist produced in this manner is diffused throughout the incoming steam and all moving parts in contact with the steam receive their share of lubricant. To be fully effective, the oil mist must be diffused in extremely minute particles. Oversize droplets settle out of the

steam and may not reach more distant lubricated areas, while in other locations, they may accumulate in excessive quantities. Thorough atomization is essential therefore to assure complete lubrication of the cylinders. The degree of atomization depends on the use and location of the steam quill, on the steam pressure, and on the viscosity of the oil.

CYLESSTIC TK 460 oil is recommended for low pressure saturated steam at temperatures up to 250°C.

CYLESSTIC TK 680 oil is recommended for high pressure saturated steam at temperatures up to 350°C.

Precautions

None of these lubricants are suitable for use in condensing steam systems. Where exhaust steam is used for process or heating requirements or where an engine is of the full condensing type, straight mineral non-compounded oil, such as the TERESSTIC line of steam turbine oils, is required.

Typical Properties

	TK 460	TK 680
ISO Grade	460	680
Density, kg/m ³	923.0	923.6
Viscosity		
cSt @ 40°C	429	627
cSt @ 100°C	30.1	37.8
Pour Point, °C	-7	-7
Flash Point, °C	271	279
Compounding %	5	5
AGMA Grade No.	7 Comp	8 Comp

The values shown above are representative of current production. Some are controlled by manufacturing and performance specifications while others are not. All may vary within modest ranges.

Compounded oils will not separate readily from water and hence leave excessive oily contamination in the condensate. In those exceptional instances where straight mineral steam cylinder oil is required, your Esso sales representative should be contacted, as special oil may be necessary.

CYLESSTIC oils are manufactured from quality petroleum base stocks blended with carefully selected additives. As with all petroleum products, good personal hygiene and careful handling should always be practiced. Avoid prolonged contact with the skin, splashing into the eyes, ingestion, or vapour inhalation. Please refer to the Esso Material Safety Data Sheet for further information.

Note: This product is NOT controlled under the Canadian WHMIS legislation.