

46ESS-09: Lubrication Oils for Aero Gas Turbines

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Aero Gas Turbines are systems strongly dependant on a well-designed lubrication system. Within that system, the choice of a good lubrication oil is imperative in order to maintain the mechanical integrity of all moving parts. The lubricant is used to reduce friction and wear on the surfaces of bearings, splines and gears and also provides cooling to these highly demanded parts. Whenever the lubricant film remains unaltered between the metallic surfaces, the friction between both solids will be substituted by internal shear forces within the lubricant. This article covers the different lubricants that a standard Aero Gas Turbine employs, the differences between them and between other lubricants used on rotating machinery, the different properties needed for a lubricant to be adequate to the standards of the industry and an outlook on the future of lubricants.