

## LUBRICANT TEST CHART

*Source: "Practical Lubrication for Industrial Facilities, Third Edition,"  
by Kenneth Bannister and Heinz Bloch, Chapter Three, River Publishers*

TEST PARAMETER	TEST	DESCRIPTION
Air Entrainment	DIN 51 381	A test to determine steam turbine and hydraulic fluid air release properties. Entrained air in a lubricant can disrupt the lubricating film and if compressed can cause inefficiency in hydraulic systems
Aniline Point	ASTM D 611/D 1012	A test to determine the solvent power of the lubricant. For a lubricating or hydraulic oil, aniline point is an indication of its tendency to cause softening and swelling of rubber parts contacted by the oil
Ash Content	ASTM D 874	A test for sulphated residue. The ash content of a lubricating oil is related to the quantity of incombustible materials that may be present in the oil
Auto Ignition Temperature	ASTM D 2155	A test to determine the temperature at which the lubricant will ignite spontaneously, without any external source of ignition
Copper Strip Corrosion	ASTM D 130	Many types of industrial equipment have parts of copper or copper alloys. It is essential that any oil in contact with these parts be non-corrosive to them. This test determines the oil's compatibility with copper.
Demulsibility	ASTM D 1401/D 2711	A test used to determine how effectively oil separates from water when at rest. Water is never desirable in any bearing surface area.
Dropping Point of Grease	ASTM D 566/D 2265	A test to determine the temperature at which a particular lubricating grease becomes so hot as to lose its plastic consistency.
Flash / Fire Points - Open Cup	ASTM D 92	Test to determine the temperature at which the vapor/air ratio will support combustion if an ignition source, such as a spark or flame, is present. The fire point is slightly higher and is determined by the temperature at which the combustion is sustained. Test performed in an open container or cup.
Flash Point - Closed Cup	ASTM D 56 / D 93	Similar to above but performed in a covered container or cup.
Foaming Characteristics - Oil	ASTM D 892	Foaming (rapid air release at lubricant surface) in an industrial oil system is a serious service condition that may interfere with satisfactory system performance and even lead to mechanical damage
Four Ball Wear Test	ASTM D 2266	A test to determine the lubricant's load carrying ability
Four- Ball EP Test	ASTM D 2596	As above
Gravity	ASTM D 287	The Gravity test determines the weight-to-volume relationship of a product

Grease Consistency	ASTM D 217 / D 1403	Resistance to deformation under an applied force defines the consistency of lubricating grease. This test determines the relative stiffness or hardness, of the grease
Neutralization Number	ASTM D 664 / D 974	Depending on its source, additive content, refining procedure, or deterioration in service, petroleum oil may exhibit certain acid or alkaline (base) characteristics. Data on the nature and extent of these characteristics may be derived from the product's neutralization number
Oil Separation in Grease Storage	ASTM D 1742	Test to provide an indicator of the tendency of grease to separate oil while in containers in storage.
Oxidation Stability - Greases	ASTM D 942 / D 1402 / D 1261	A test used to evaluate the oxidation stability of grease during the storage of machine parts (e.g. inventoried bearings, etc.) to which it had been applied.
Pour Point and Cloud Point	ASTM D 97	A test to determine how cold a petroleum oil can become before it loses its fluid characteristics.
Power Factor	ASTM D 924	A test to determine the inherent dielectric property for insulating oils
Refractive Index	ASTM D 1218	Refractive index is one test often used either alone or in combination with other physical tests as an indication of composition uniformity
Rotary Bomb Oxidization Test	ASTM D 2272	RBOT is a test to rapidly determine the relative oxidation life of a turbine oil
Rust Preventive Characteristics	ASTM D 665	Used to test an oil's ability of to prevent the rusting of ferrous parts
Vapor Pressure	ASTM D 323	For a given temperature, the vapor pressure of a liquid is used as a measure of its volatility
Viscosity	ASTM D 88 / D 445	Probably the most significant physical property of a petroleum lubricating oil. It is the measure of the oil's flow characteristics. The thicker the oil, the higher its viscosity, and the greater its resistance to flow. The mechanics of establishing a proper lubricating film depend largely upon viscosity.
Viscosity Index	ASTM D 567 / D 2270	A test to measure a lubricant's property of resisting changes in viscosity due to changes in temperature
Water Washout	ASTM D 1264	Test to determine the ability of a grease to resist washout when working in wet conditions
Water and Sediment	ASTM D 95 / D 96 / D473	Test to measure the water and sediment content in the oil
Wax Melting Point	ASTM D 87 / D 127 / D 938	Test to determine the transition point a lubrication wax becomes a fluid
Wheel Bearing Grease Leakage	ASTM D 1263	A test used to determine a greases resistance to softening and leaking from a bearing under load