

PETROLEUM TESTING SERVICES

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Tti Testing Laboratories

ISO/IEC 17025 Accredited Testing Laboratory
ISO/IEC 17020 Accredited Inspection Body
CPSC Accredited Testing Laboratory
EPA Certified Testing Laboratory



OUR PETROLEUM TESTING SERVICES

Tti is a world class, globally recognized, ISO/IEC 17025 accredited testing facility and ISO/IEC 17020 accredited inspection body having the honor of being the first lab approved by US consumer product safety commission (CPSC) for consumer safety testing in Pakistan. Tti is also approved from Punjab Environmental Protection Agency as an EPA certified lab. Tti has a country-wide network of Labs and customer centers including a state of the art purpose built main testing facility in Lahore followed by liaison offices in Karachi, Faisalabad and Sialkot. We at Tti have been in service since 1995 serving a wide range of Industries including Oil & Gas, Environmental Protection, the government sector, Textiles, Leather, Chemical, Food and Paint/Coatings. We provide our clients a one stop comprehensive spectrum testing services which helps them add more value to their complex Supply chain, Regulatory Compliance and Brand Integrity.

LUBRICANT / TRANSFORMER OIL ANALYSIS

- Lubricating Oil Analysis
- Diesel Engine Oil
- Gasoline Engine Oil
- Generator Engine Oil
- Marine Engine Oil
- Natural Gas Genset Oil
- Gear Oil Automobile
- Gear Oil Industries
- Differential Oils
- Turbine Oil Analysis
- Transformer / Insulating Oil Analysis
- Hydraulic Oil Analysis
- Compressor Oil
- Heat Transfer Oil
- Lubricating Greases Analysis
- Brake Fluids
- Automatic Transmission Fluids

FUEL OILS ANALYSIS

- Furnace Oil / Heavy Fuel Oil (HFO)
- Gasoline / Petrol
- Jet Fuel (JP)
- HSD / LDO (Diesel)
- Naptha
- Motor Spirit

Lubricating Oil Testing

Lubricant analysis and oil condition monitoring from a machine or a unit is same as taking a blood sample from a human being, the results of lubricant analysis determine the health status of a machine or a component. Tti oil Analysis report helps our customers to take precautionary steps before hand. Which saves our customers from un-expected costly shut downs, expensive maintenance resulting in reduction in operating costs.

Tests Name	Test Method	Tests Name	Test Method
Kinematic Viscosity @ 40°C	ASTM D 445	Elemental and Wear Metal Analysis by ICP-OES & AAS	ASTM D 5185; ASTM D 6481; ASTM D 7751
Kinematic Viscosity @ 100°C	ASTM D 445	ASH	ASTM D 482
Viscosity Index	ASTM D 2270	Cold Cranking Simulator	ASTM D 5293
Density by Hydrometer	ASTM D 1298	Water Content	ASTM D 6304
Color	ASTM D 1500	Copper Strip Corrosion	ASTM D 189
Pour Point	ASTM D 97	FTIR	ASTM E 2412, JOAP Method;
Cloud Point	ASTM D 2500	Air Release Properties	ASTM D 3427
Sulphated Ash	ASTM D 874	Water Separability or Emulsibility	ASTM D 1401
Flash Point COC	ASTM D 92	Toluene Insoluble	UOP 614
Flash Point PMCC	ASTM D 93	Pentane Insoluble	ASTM D 893
Total Acid Number	ASTM D 664	Particle Count / ISO Cleanliness	ISO 4406; NAS 1638
Total Base Number	ASTM D 2896	Foaming Test	ASTM D 892

Transformer Oil Testing

Tti Transformer oil lab is equipped with sophisticated latest equipment to measure all properties of transformer oil mentioned in IEC 60296 and helps its clients to determine that the new transformer oil contains all the desired properties, which includes dielectric strength, Water content, di-electric dissipation factor and many more.

Transformers has life of ten years and even more if the continuous condition monitoring program is being followed. Tti transformer oil condition monitoring program allow its customers to predict any unwelcome faults transformers.

Tests Name	Test Method	Tests Name	Test Method
Viscosity @ 40°C	ASTM D 445; ISO 3104	Conductance	IEC 61620
Viscosity @ -20 °C	IEC 61868	Furfural Contents (ppm)	IEC 61198
Flashpoint PMCC	ISO 2719	Interfacial Tension	ASTM D 971
Density by Hydrometer	ISO 3675	Polycyclic Aromatics (PCA,%)	IP 346
Breakdown Voltage (Di-electric Strength)	IEC 60156	Poly Chlorinated Bi-phenyls (PCB, ppm)	IEC 61619
Water Content	IEC 60814	Dissolve Gas Analysis (DGA)	ASTM D 3612; IEC 60567
Pour point	IEC 3016	Total Acid Number	IEC 62021-1
Tangent Delta @ 90°	IEC 60247	Corrosive Sulphur	ASTM D 1275
Resistivity	IEC 60247	Potentially Corrosive Sulphur	-

LUBRICATING GREASES

Lubricating grease is the complex mixture of base oils, fats and soaps. Tti has the facility of analyzing number of tests to facilitate its customers.

Tests Name	Test Method	Tests Name	Test Method
Dropping Point	ASTM D 566	Oil Separation	ASTM D 1742; ASTM D6184
Cone Penetration	ASTM D 217	Evaporation Loss	ASTM D 972; IP 183
Oxidation Stability	ASTM D 942	Wear Metals	ASTM D 5185
Copper Corrosion	ASTM D 130	-	-

FUEL TESTING

Tti Testing Laboratory diverse fuels e.g. furnace oil, petrol, diesel, for full quality specifications following regulatory standards such as ASTM, ISO, and IP standards. In-house expertise and analytical resources make Tti an ideal fuel testing provider for trouble-shooting and trace contamination issues.

Tests Name	Test Method	Tests Name	Test Method
Kinematic Viscosity @ 50°C	ASTM D 445	Base Sediments & Extraction	ASTM D 473
Kinematic Viscosity @ 40°C	ASTM D 445	Reid Vapor Pressure @ 37.8 °C	ASTM D 323
Density by Hydrometer	ASTM D 1298	Calorific Value	ASTM D 240
Color	ASTM D 1500	Sulphur Content	ASTM D 4294
Pour Point	ASTM D 97	Lead Content	ASTM D 3237
Cloud Point	ASTM D 2500	Manganese Content	ASTM D 3831
Flash Point PMCC	ASTM D 93	Iron Content	ICP / AAS
Strong Acid Number	ASTM D 664	Doctor Test	ASTM D 4952
Conradson Carbon Residue	ASTM D 189	Mercaptan Sulphur	ASTM D 3227
ASH	ASTM D 482	Distillation	ASTM D 86
Trace Metals	ASTM D 3237/ ASTM D 5059/ IP 224/ IP 352	Cetane Index	ASTM D 976; ASTM D 4737
Water Content	ASTM D 95	Research Octane Number	ASTM D2699; ASTM D 2700
Copper Strip Corrosion	ASTM D 189	Induction Period	ASTM D 525



Our Services

Textile Testing
 Apparel Testing
 Leather Testing
 Environmental Testing
 Petroleum Testing
 Restricted Substances Testing
 Inspections and Audits
 Trainings



Tti Testing Laboratories

ISO/IEC 17025 Accredited Testing Laboratory
 ISO/IEC 17020 Accredited Inspection Body
 CPSC Accredited Testing Laboratory
 EPA Certified Testing Laboratory

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