

Testing Laboratory

Accreditation Scope of Attock Refinery Limited (ARL), Rawalpindi, Pakistan.

Permanent laboratory premises

Materials/ Products tested	Types of test/ Properties measured	Range of measurement	Minimum detection limit	Uncertainty of Measurement (where applicable) MU (±)	Standard specification/ Techniques/ equipment used
Export Naphtha	Specific Gravity	0.600-1.100	0.400	0.0383	ASTM D1298
	Copper Corrosion	Rating Scale 1a – 4 c	Rating Scale 1a	1a	ASTM D130
	Distillation	Ambient to <400°C	Ambient Temperature	IBP = 1.7 FBP = 1.8	ASTM D86
	Reid Vapour Pressure	1 psi - 26 psi	0.5 psi	1.0 psi	ASTM D323
	PONA	2 Vol % - 99 Vol. %	1 Vol. %	0.2	ASTM D1319
Premium Motor Gasoline (PMG)	Specific Gravity	0.600-1.100	0.600	0.0383	ASTM D1298
	Distillation	Ambient to <400°C	Ambient Temperature	IBP = 1.7 FBP = 1.8	ASTM D86
	Reid Vapour Pressure	1 psi – 26 psi	0.5 psi	1.0 psi	ASTM D323
	Research Octane No.	45 RON – 120 RON	40 RON	0.3 RON	ASTM D2699
Solvent Oil	Specific Gravity	0.800-1.100	0.600	0.0383	ASTM D1298
	Distillation	Ambient to <400°C	Ambient Temperature	IBP = 1.7 FBP = 1.8	ASTM D86
JP-1 / JP-8	Total Acidity	0.000 mg - 0.100 mg KOH/g	0.000 mg KOH/g	0.001	ASTM D3242
	Aromatics	5Vol. % - 99 Vol. %	5 Vol. %	0.38	ASTM D1319
	Sulfur Content	0.015 mass% - 5 mass%	0.015 mass%	0.030	ASTM D4294
	Distillation	Ambient to <400°C	Ambient Temperature	IBP = 1.5 FBP = 1.0	ASTM D86
	Flash Point ABLE	-18°C to 71°C	-18°C	0.4	IP170
	Density	0.600-1.100	0.600	0.0169	ASTM D1298
	Freezing Point	Ambient to -75°C	Ambient Temperature	0.5	ASTM D2386
	Viscosity - 20°C	0.2 cst - 300,000 cst	0.2 cst	0.016	ASTM D445 ASTM D7042
	Copper Corrosion	Rating Scale 1a – 4c	Rating Scale 1a	1a	ASTM D130
	JFTOT	Rating Scale	Rating Scale	1.0	ASTM D3241

Date

Director

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		0 to 4	0		
	Existent Gum	1 mg - 10 mg / 100 ml	1 mg/ 100 ml	68 mg/ml	ASTM D381
	Water Separo- meter Index	(50 - 100) M-Sap Index	50 M-Sap Index	9 M-Sap Index	ASTM D3948
	Electrical Conductivity	0 pS/m - 2000	0 pS/m	2	ASTM D2624
Kerosene	Distillation	Ambient to <400°C	Ambient Temperature	IBP = 1.5 FBP = 1.0	ASTM D86
	Flash Point ABLE	-18°C to 71°C	-18°C	0.4	IP170
	Specific Gravity	0.600-1.100	0.600	0.0169	ASTM D1298
Mineral Turpentin e Oil (MMT)	Distillation	Ambient - <400°C	Ambient Temperature	IBP = 1.5 FBP = 1.0	ASTM D86
	Flash Point ABLE	-18°C to 71°C	-18°C	0.4	IP170
	Specific Gravity	0.600-1.100	0.600	0.0169	ASTM D1298
High Speed Diesel (HSD)	Specific Gravity	0.600-1.100	0.600	0.0685	ASTM D1298
	Cloud Point	-60°C - +49°C	-60°C	2	ASTM D2500 ASTM D5771
	Pour Point	-57°C - +51°C	-57°C	± 3	ASTM D97 ASTM D5950
	Distillation	Ambient - <400°C	Ambient Temperature	IBP = 0.7 FBP = 0.4	ASTM D86
	Color ASTM	Rating Scale D 0.5 - D 8	Rating Scale 0.5	0.5	ASTM D1500
	Flash Point PMCC	40°C - 360°C	40°C	1.2	ASTM D93
	Sulfur Content	0.015 mass% - 5 mass%	0.015 mass%	0.009	ASTM D4294
	Kinematic Viscosity	0.2 cst - 300,000 cst	0.2 cst	0.017	ASTM D445 ASTM D7042
	Water Content	0 Vol.% - 25 Vol.%	0 Vol.%	0.7	ASTM D95
Jute Batching Oil (JBO)	Specific Gravity	0.600-1.100	0.600	0.0685	ASTM D1298
	Color ASTM	Rating Scale D 0.5 - D 8	Rating Scale 0.5	0.5	ASTM D1500
	Kinematic Viscosity	0.2 cst - 300,000 cst	0.2 cst	0.017 cst	ASTM D445 ASTM D7042

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	Pour Point	-57°C - +51°C	-57°C	3 °C	ASTM D97 ASTM D5950
	Flash Point PMCC	40°C - 360°C	40°C	1.2 °C	ASTM D93
Diesel Fuel Oil (DFO)	Specific Gravity	0.600-1.100	0.600	0.0685	ASTM D1298
	Colour ASTM	Rating Scale D0.5 - D8	Rating Scale 0.5	0.5	ASTM D1500
	Kinematic Viscosity	0.2 cst - 300,000 cst	0.2 cst	0.017 cst	ASTM D445 ASTM D7042
	Pour Point	-57°C - +51°C	-57°C	3	ASTM D97 ASTM D5950
	Flash Point PMCC	40°C - 360°C	40°C	1.2	ASTM D93
Furnace Fuel Oil (FFO)	Specific Gravity	0.600-1.100	0.600	0.0685	ASTM D1298
	Flash Point PMCC	40°C - 360°C	40°C	1.2	ASTM D93
	Kinematic Viscosity	0.2 cst - 300,000 cst	0.2 cst	0.017	ASTM D445 ASTM D7042
	Pour Point	-57°C - +51°C	-57°C	3	ASTM D97 ASTM D5950
	Water Content	0 Vol.% - 25 Vol.%	0 Vol.%	0.7	ASTM D95
	Sulfur Content	0.015 mass% - 5 mass%	0.015 mass%	0.003	ASTM D4294
Bitumen	Ductility	0 cm - 120 cm		Not Applicable	ASTM D113
	Flash Point COC	79°C - 400 °C	79°C	0.5	ASTM D92
	Loss on Heating	0 % - 100 %	0 %	0.025	ASTM D6
	Penetration	2 mm - 360 mm	1 mm	2 mm	ASTM D5
Refinery Waste Water	Chemical Oxygen Demand (COD)	20 ppm - 900 ppm	20 ppm	28	USEPA 410
	Biological Oxygen Demand (BOD)	10 ppm - 42000 ppm	2 ppm	8.3 pm	USEPA 405.1

Date

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**ACCREDITATION
DOCUMENT**

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Materials/ Products tested	Types of test/ Properties measured	Range of measurement	Minimum detection limit	Uncertainty of Measurement (where applicable) MU (±)	Standard specification/ Techniques/ equipment used
All Petroleum Products	Total Dissolved Solids (TDS)	2 ppm - 10000 ppm	0.5 ppm	0.8 ppm	USEPA 160.1
	Sampling from Tanks	All Petroleum Products	Not Applicable	Not Applicable	ASTM D4057

Date

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