

STANDARD EXPORT SPECIFICATION PETROLEUM COKE

Content	Parameter	Remark
Sulfur Content (%/o)	1 - 2	%
Hydrogen	4 - 6	
Nitrogen	1.89	
Volatile Matter PPM	<400	
Nickel PPM	1.4	
Iron	<100 PPM	
Ash Content (%A)	11.5 - 11.11	%
Fixed Carbon (%)	86-85	%
Volatiles Matter (%@)	8-12	%
Moisture (%no)	< 5	%
Calorific Value	14.5 MJ/kg	
Particle Size	11-5cm	
Gross CV Kcal/KG	8700 - 8600	
Appearance		
Heat treatment temperature		
Shot %	0	

2. STANDARD EXPORT SPECIFICATION LCO

NO	DESCRIPTION	TEST METHOD	UNIT	LIMIT	MIN/MAX
1	Density@15°C	ASTM D4052	Kg/L	0.86	MIN
2	Color ASTM	ASTM D1500	—	1.5	MAX
3	Catane Index	ASTM D4743	—	43.0	MIN
4	Carbon MCRT	ASTM D4530	wt %	0.20	MAX
5	Pour Point	ASTM D97	°C	-2.5	MAX
6	Flash Point, PSI	ASTM D93	°C	55	MIN
7	Distillation IBP	ASTM D86		216-270	REPORT
8	Distillation 90 %	ASTM D86	°C	310	REPORT
9	Distillation EP	ASTM D86	°C	343	REPORT
10	Recovery at 250°C	ASTM D86	Vol %	90	MAX
11	Sulphur mass	ASTM D4294	%	0.15	MAX
12	<u>VISCOS. KIN. @40°C</u> Distillation	ASTM D445	°C m ² /s	4.0	
13	Moisture Content	ASTM D6304	wt/ppm	100	MAX
14	ASH mass	ASTM D482		0.01	MAX
15	Aromatics	IP391	Wt %	51	MIN

3. STANDARD EXPORT SPECIFICATION ESPO (CRUDE OIL).

SPECIFICATIONS EASTERN SIBERIAN PACIFIC OCEAN OIL (ESPO)			
Test	Units	Method	Result
Density at 15°C	kg/L	ASTM D 5002	0.8508
Specific Gravity at 60/60°F	kg/L	ASTM D 5002	0.8512
API gravity		ASTM D 1250	34
Kinematic viscosity at 20°C	CST	ASTM D 445	6.949
Total Acid Number	mg KOH/g	ASTM D 664	<0.050
Pour Point	°C	ASTM D 5853	≤-36
Water by distillation	mass%	ASTM D 4006	0.35
Sediment by extraction	mass %	ASTM D 473	0.01
Chloride salt content	mg/dm ³	GOST 21534-75(A)	17
Organic chlorine content	mg/kg	ASTM D 4929(B)	*1
Sulphur content	mass%	ASTM D4294	0.535
Hydrogen Sulphide	ppm	UOP 163	less 1
Mercaptan Sulphur	ppm	UOP 163	111
Ash content	mass %	ASTM D482	0.011
Nickel	ppm	IP 470	4
Sodium	ppm	IP 470	1
Iron	ppm	IP 470	19
Copper	ppm	AAS	less 1
Vanadium	ppm	IP 470	4
Calcium	ppm	IP 470	2
Paraffin Wax content	mass %	UOP 46	3.3
RVPE	kPa	ASTM D 5191	40.4
Asphaltenes (heptane Distillation)	mass %	IP 143	0.2
		ASTM D 5236	
Cut Range (°C)	Cum % vol		
LPG	% vol.		2.2

4. URALS CRUDE OIL

TEST	UNIT	METHOD	RESULT	TOLERANCE
Density at 15 oC	kg/l	ASTM D 5002	0.8777	+/- 5%
Density at 20 oC	kg/l	ASTM D 5002	0.8743	+/- 5%
API Gravity at 60 F**		calculated	29.63	+/-
Water by distillation	%(v/v)	ASTM D 4006	0.100	
Water by distillation	% mass	ASTM D 4006	0.125	- 5%
Sediments***	%(m/m)	ASTM D 473	0	+/- 5%
Sediments***	% v/v	ASTM D 473	0 (0.001)	+/- 5%
Organic chloride content in the crude oil***	µg/g	ASTM D 4929 (method B)	Less 1 (0.07)	+/- 5%
Organic chloride content in the naphtha fraction up to 204 0C***	µg/g	ASTM D 4929 (method B)	Less 1 (0.37)	+/- 5%
Sulphur	%(m/m)	ASTM D 4294	1.67	+/- 5%
Salts	mg/kg	ASTM D 3230	25.0	+/- 5%
H2S liquid	mass ppm	UOP 163	Less 1	+/- 5%
Mercaptans	mass ppm	UOP 163	259	+/- 5%
Pour point	oC	ASTM 5853 A	MINUS 6	+/- 5%
Total acid number	mgKOH/g	ASTM D 664	0.2	+/- 5%
Electrical conductivity	pS/m	ASTM D 2624	More than 2000	+/- 5%
Calcium	mg/kg	IP 501	5	+/- 5%
Water and sediment content ****	Vol %	calculated	0.101	+/- 5%

* Specification acceptable if actual result within stated tolerance from result as is referred to above.

5. STANDARD EXPORT SPECIFICATION EH590 JOPPM

PROPERTY	TEST METHOD	TEST UNIT	GAURANTEE	LIMIT
Density @ 15 °C		kg/m3		820—845
Polycyclic Aromatic Hydrocarbons	EN 12916	wt%	B	Max
Flash Point	EN 2719	°C	>55	
Cold Filter Plugging Point CFPP	EN 1 6	°C		
Winter Grade			-15	Max
Summer Grade			5	Max
Distillation	EN ISO 3405			
Recovered @ 250°C		vol%	65	Max
Recovered @ 350°C		vol%	85	Min
95% (vol/vol) Recovered @		°C	360	Max
Julphur	EN ISO20846 EN ISO20884	mg/kg	10	Max
Carbon Residue (on 10% residue)	EN ISO 10370	wt%	0.30	Max
Viscosity @ 40°C	EN ISO 3104	Cst	2.0-4.5	
Copper Strip Corrosion (3h @ 50°C)	EN ISO 2160	Rating	No.1	Max
Fatty Acid Methyl Ester (FAM E) Content	EN 14078	Vol%	7.0	Max
Cetane Number	EN ISO S 61 EN 15195		51	Min

Cetane Index	EN ISO 4264	Calculated	46	Min
Water	EN ISO 12937	mg/kg	200	Max
Particulate Matter	EN 12662	mg/kg	24	Max
Oxidation Stability	EN ISO 12205	g/m3	25	Max
Lubricity (wsd1,4) @ 60°C	EN ISO 12156/1	um	450	Max

6. STANDARD EXPORT SPECIFICATION LNG.

Component / Substance	Permissible limits
Gross Heating Value (GCV) range	9,340 — 10,420 Kcal/SCM (1,050 — 1,170 BTU/SCF)
Methane	not less than 85,0 Mol %
Ethane	not more than 9.2 Mol %
Propane	not more than 3.00 Mol %
Butanes and heavier	not more than 2.00 Mol %
Pentanes and heavier	not more than 0.25 Mol %
Nitrogen	1.0 molecular %
Total Sulphur	10.0 ppm (w)
Sulphur in form of Hydrogen Sulphide	10.0 ppm (w)
Maximum variation in Wobbe Index (W1) [WI = LHV (Volumetric Basis) / (Specific Gravity w.r.t. Air) 0.5]	+/- 5.0 0/0
Contaminants	
(a) Trace Metals	
i. Pb + Zn	0.50 ppm (w)
ii. Na + K	0.30 ppm (w)
iii. Vanadium	0.50 ppm (w)
iv. Calcium	2.0 ppm (w)
v. Magnesium	2.0 ppm (w)
vi. Sum of heavy metals (Hg + V + Pb + Zn + Ni + Others)	1.0 ppm (w)
(b) Solids / Particulates	
i. Total for particle size up to 10 microns	
ii. For 2 micron < d < 10 microns	20.0 ppm (w)
iii. For particle size greater than 10 microns	1.50 ppm (w)
	0.30 ppm (w)
(c) Liquid contents	Nil
(d) Moisture	112 kg/million SCM
Hydrogen content	1.00 % (by volume)
Acetylene (C ₂ H ₂)	0.10 % (by volume)
Higher Hydrocarbons for n >= 3	10.0 % (by volume)