



Industrial Lubricants

Sah Petroleums Limited

Contents

<i>Product</i>	<i>Page</i>
<i>Industrial Oils</i>	4
Circulating Oils (R & O Type)	4
Circulating Oils (Antiwear Type)	4
Circulating Oils (HLP Type)	5
Turbine Oils	5
High Speed Spindle Oils	5
Stationary Diesel Engine Oils	6
Textile Machinery Oils	6
General Machinery Oils	7
Gear & Bearing Lubricants	7
High Speed Machinery Lubricants	7
Machine Tool Way Oils	8
Industrial Gear Oils	8
Steam Cylinder Oils	8
Sugar Lub Oils (Conventional Type)	9
Sugar Lub Oils (Non-Bituminous Type)	9
Air Tool Oils	9
Open Gear & Wire Rope Compounds	10
Refrigeration Oils	10
<i>Industrial Greases</i>	11
High Temperature Greases	11
Molyplex Greases	11
Multipurpose Greases	11
Heavy Duty Bearing Greases	12
Graphited Greases	12
<i>Metal Working Products</i>	13
Neat Cutting Oils	13
Honing Oil	14
Precision Machine Coolants	15
Honing cum Lapping Oil	15
High Speed Machine Coolant	15
Emulsifiable Coolants	16
Synthetic Coolant	17
Semi Synthetic Coolant	18
Drawing Lubricants	18
Spark Erosion Oils	19
Rolling Oils	19

Product

Page

<i>Industrial Speciality Oils</i>	20
Specialities – Quenching & Tempering Oils.	20
Rust Preventives (Oil based)	20
Rust Preventives (Dry Film)	21
Rust Preventives (De-watering Type)	21
Rust Preventives (Acid Resistant)	21
Rust Preventive (Translucent Dry Film)	22
Heat Transfer Oils	22
Cable Oil	22
Cable Compound	23
Ink Oils	23
Cleaning Agent	23
Glass Mould Oils	24
Cement Mould Oils	24
Antistatic Oils	25



Industrial Lubricants

CIRCULATING OILS (R & O TYPE)

IPOL CIRCULATING OIL (R & O)

IPOL Circulating Oils are manufactured from specially selected base oils duly fortified with adequate quantities of correct Oxidation and Rust Inhibitors (R&O) for use in enclosed systems. They have very good demulsibility and antifoam characteristics.

IPOL Circulating Oils are available in viscosity grades ranging from ISO VG 32 to ISO VG 460 and are used for circulating systems operating upto 70 kg/cm². ISO VG grades 32, 46, 68, 100 and 150 meet IS 3098/83 specifications.

Typical Inspections										
Characteristics	Test Methods	32	46	68	100	121	150	220	320	460
Density at 15° C	D-1298	0.87	0.875	0.880	0.89	0.90	0.90	0.91	0.92	0.92
Flash Point °C COC	D-92	190	200	210	220	220	230	230	240	240
Viscosity at 40° C cSt	D-445	32	46	68	100	120	150	220	320	460
Viscosity Index	D-2270	95	95	95	95	90	90	90	90	90

CIRCULATING OILS (ANTIWEAR TYPE)

IPOL CIRCULATING OIL (ANTIWEAR)

IPOL Circulating Oil AW grades 15 to 150 meet ISO VG requirement (IS:10522-1993) and are blends of high Viscosity Index chemically stable base oils, and specially selected antiwear, anti-oxidation, antirust and anti-foam additives. These oils have good demulsibility characteristics. They meet the requirements of very high pressure hydraulic systems (1000 psi and above) and also of systems where high speed actuations are desired. These can also be used in enclosed gear boxes, compressors, chain drives, machine tools, circulation oiling systems, etc.

Typical Inspections													
Characteristics	Test Methods	AW 15	AW 22	AW 32	AW 37	AW 46	AW 57	AW 68	AW 100	AW 150	AW C220	AW 320	AW 460
Viscosity at 40° C cSt	D 445	15	22	32	37	46	57	68	100	150	227	320	455
Viscosity Index, (Min.)	D 2270	98	98	98	95	95	95	95	95	95	95	95	90
Flash Point °C COC, Min.	D 92	160	160	195	195	205	205	215	215	215	230	230	230
TAN mg KOH/gm (Max.)	IS:1448 P:2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Rust Preventive Characteristics	D 665B	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Pump Wear in mgms (Vicker's 104° C Pump Test)	D 2882	-	-	50	50	50	50	50	50	50	50	50	N.A.
Pour Point				-9		-6	-3	-6	-3		3		6
Emulsion Characteristics (minutes)	D 1401	40-37-3 (10)	-	40-37-3 (10)	40-37-3 (15)	40-38-2 (15)	40-37-3 (20)	40-37-3 (20)	40-37-3 (30)	40-37-3 (30)		N.A.	N.A.
Foaming Characteristics ML Stability			-										
Seq. I		Nil		Nil	Nil	Nil	Nil	Nil	Nil		Nil		Nil
Seq. II		Nil		Nil	Nil	Nil	Nil	Nil	Nil		Nil		Nil
Seq. III		Nil		Nil	Nil	Nil	Nil	Nil	Nil		Nil		Nil



CIRCULATING OILS (HLP TYPE)

IPOL CIRCULATING OIL (HLP TYPE)

IPOL HLP Circulating Oils are of the antiwear type having extreme pressure characteristics. These are blended from specially selected high viscosity index base-oils with additives to obtain the required anti-wear characteristics. These oils are also fortified with rust and oxidation inhibitors. They also have excellent good demulsibility and anti-foam characteristics.

Typical Inspections						
Characteristics	Test Methods	32	46	68	100	150
Colour Max.	D-1500	3.0	3.5	4.0	4.5	5.0
Flash Point °C COC	D-92	196	200	210	210	210
Viscosity at 100° C cSt	D-445	5.1	6.5	7.6	9.6	12.0
Viscosity Index	D-2270	95	95	95	90	90

TURBINE OILS

IPOL Turbisol

IPOL Turbine Oils are premium quality Turbine Oils which are used as initial fill and for top-up of lubrication systems of steam, gas and hydraulic turbines for obtaining reliable service.

Typical Inspections					
Characteristics	Test Methods	32	46	57	68
Flash Point °C COC	D 92	200	205	205	210
Viscosity at 40° C cSt	D 445	31	45	57	67
Viscosity Index	D 2270	102	98	96	95

HIGH SPEED SPINDLE OILS

IPOL SPINDLE OILS

IPOL Spindle Oils have been developed to meet the requirements of high speed spindles of machine tools, plain and anti-friction bearings of textile spindles and other hydraulic applications of precision machines where a very light bodied oil is needed.

Typical Inspections							
Characteristics	Test Methods	2	5	10	12	15	22
Flash Point °C COC	D 92	70	70	144	150	150	180
Viscosity at 40° C cSt	D 445	2	5	10	12	15	22
Pour Point	D 97	-6	-6	-6	-6	-3	-3



STATIONARY DIESEL ENGINE OILS

IPOL DELGEN OILS

IPOL Heavy Duty Stationary Diesel Engine Oils are blended from selected base oils and a combination of additives to offer a superior performance. These oils have excellent oxidation and chemical stability needed for high temperature operation. These are dispersant/detergent oils that help clean the engine and keep the insolubles in suspension while functioning as a lubricant. They also have the necessary reserve alkalinity to withstand the corrosive effects of acids formed during combustion of the fuel. It is blended to meet MIL-L-2104 A specification.

Typical Inspections			
Characteristics	Test Methods	HD 100	HD 150
Flash Point °C COC	D 92	200	215
Viscosity at 100° C cSt	D 445	8.2	10.5
Viscosity Index	D 2270	98	95

TEXTILE MACHINERY OILS

IPOL LOOM OILS

IPOL Loom Oils comprise a range of lubricants which have been specifically designed for all loss systems of textile looms. Their wide range enables the user to select the correct grade as per his requirements. These are user friendly in as much as the grades have been formulated to perform well, both for boundary as well as dynamic lubrication conditions.

Typical Inspections								
Characteristics	Test Methods	32	68	100	150	220	320	460
Flash Point °C COC	D 92	180	210	220	230	230	240	240
Pour Point °C	D 97	+ 9	+ 9	+ 9	+ 9	+ 9	+ 9	+ 9
Viscosity at 40° C cSt	D 445	32	68	100	150	220	320	460

IPOL IPOTEX

IPOL Ipotex Oils are mainly designed for use in boundary lubrication systems. They are fortified with additives to provide oiliness, adhesiveness, film strength, rust inhibition and scourability characteristics. Therefore these oils can also be used in enclosed systems such as comb boxes etc.

Typical Inspections						
Characteristics	Test Methods	32	68	100	150	220
Density at 15° C	D 1298	0.880	0.885	0.889	0.896	0.902
Flash Point °C COC	D 92	145	170	180	185	190
Pour Point °C	D 97	+ 5	+ 5	+ 5	+ 5	+ 5
Viscosity at 40° C cSt	D 445	33	70	102	145	210

IPOL GINNING OILS

IPOL Ginning Oils are recommended in case of oil lubricated bearings which are designed as all-loss systems. These are formulated for their excellent adhesive properties so that the "oil-throw" is minimal.

Typical Inspections				
Characteristics	Test Methods	460	550	680
Flash Point °C COC	D 92	205	205	205
Pour Point °C	D 97	6	6	10
Viscosity at 40° C cSt	D 445	460	550	680



GENERAL MACHINERY OILS

IPOL LUB OILS

IPOL Lub Oils comprise specially selected mineral oils with ISO viscosity grades ranging from 10 cSt to 220 cSt at 40° C. These are also used by the industry for once-thru all-loss lubrication systems. These are invariably used in enclosed systems where the use of high grade products is not desired because of copious leakage from oil seals and the consequent heavy make-up. IPOL ISO VG grades 10, 32,46, 68, 100, 150, 220, 320 and 460 meet IS : 493 (Part I & Part II) - 1981 specifications.

Typical Inspections										
Characteristics	Test	IPOL Lub Oils								
		Methods	10	32	46	68	100	150	220	320
Density at 15° C	D-1298	0.850	0.870	0.870	0.890	0.88	0.89	0.89	0.90	0.90
Flash Point °C COC	D-92	140	180	180	210	220	230	230	240	240
Viscosity at 40° C cSt	D-445	10	33	46	69	102	152	210	320	460

GEAR & BEARING LUBRICANTS

IPOL G & B LUBRICANTS

IPOL Gear Box & Bearing Lubricants are formulated to give full fluid film conditions when used for the lubrication of bearings and gears. These are not compounded with fixed oils or soaps.

Typical Inspections						
Characteristics	Test Methods	IPOL G & B Lubricants				
		100	150	220	320	460
Colour	D-1500	5	5	6	6	7
Flash Point °C COC	D-92	210	210	220	230	240
Viscosity at 40° C cSt	D-445	100	150	220	320	460

HIGH SPEED MACHINERY LUBRICANTS

IPOL HM LUBRICANTS

IPOL HM Lubricants are manufactured from selected base oils which change less in terms of viscosity with temperature. These oils are fortified with additives to offer long service. However during their selection, care has been taken to ensure non-clogging of sintered bush bearings.

Typical Inspections							
Characteristics	Test	IPOL HM Lubricant					
		32	37	46	68	100	150
Colour	D-150	3	3.5	3.5	4.0	5.0	7.5
Flash Point °C COC	D-92	180	180	180	210	220	220
Viscosity at 40° C cSt	D-445	32	37	46	68	102	152
Viscosity Index	D-2270	95	95	95	93	93	93
Copper Strip Corrosion at 100° C/3 hrs.	D-130	Not worse than 1					



MACHINE TOOL WAY OILS

IPOL NON DRIP SPL OILS

IPOL Hydraulic-Cum-Way Oils are blended from high quality base oils used for hydraulic oils and fortified with anti-wear, anti-rust and tackiness additives required in way-lubricants. These oils would perform the function of a hydraulic fluid in non-critical systems and at the same time give the necessary stick-slip characteristics required of a way-oil under moderate load conditions.

Typical Inspections					
Characteristics	Test Methods	HY 32	HY 57	HY 68	HY 68
Density at 15° C	D-1298	0.870	0.875	0.880	0.890
Flash Point °C COC	D-92	150	150	150	230
Viscosity at 40° C cSt	D-445	31	57	68	102

INDUSTRIAL GEAR OILS

IPOL COMPOUND OILS

IPOL Compound Grades are marketed over a wide viscosity range to take care of the variety of "speed-load" conditions encountered by the industry. These contain chemically active additives which react with the metal of the gear teeth to form an antiwelding film between them. All these grades meet IS 8406/93 specifications.

Typical Inspections									
Characteristics	Test Methods	IPOL COMPOUND							
		68	100	150	220	257	320	460	680
Colour	Visual	O P A Q U E							
Flash Point °C COC	D-92	200	205	205	210	210	210	220	240
Viscosity at 40° C cSt	D-445	68	100	150	220	257	320	460	680
Copper Corrosion	D-130	Not Worse than No.1							

STEAM CYLINDER OILS

IPOL CYLINDER OILS

IPOL Steam Cylinder Oils are highly refined oils having good chemical and thermal stability and low deposit forming tendency at elevated temperatures. These oils have excellent film strength and oiliness characteristics and provide low friction and good sealing properties.

Typical Inspections								
Characteristics	Test Methods	460	680	800	1000	EP 460	EP 530	EP 680
Appearance	Visual	O P A Q U E						
Flash Point °C COC	D-92	220	220	220	280	220	220	220
Viscosity at 40° C cSt	D-445	460	685	805	1000	460	530	685



SUGAR LUB OILS (CONVENTIONAL TYPE)

IPOL SUGAR LUB

IPOL Sugar Mill Bearing Lubricants. These are formulated to withstand the extremely high shock load conditions together with slow speeds encountered by the white metal/gun-metal bearings of sugar mills. These also successfully overcome the washing effect of raw juice as well as the boundary lubrication conditions encountered by the bearings.

Typical Inspections						
Characteristics	Test Methods	2L	2	3	4	6
Colour	Visual	Black				
Viscosity at 100° C cSt	D 445	32-43	38-49	60-70	83-103	120-130
Viscosity at 37.8° C cSt		800	1040	1250	1600	2300
EP Characteristics	Presence	Yes	Yes	Yes	Yes	Yes

SUGAR LUB OILS (NON-BITUMINOUS TYPE)

IPOL SUGAR LUB NB

IPOL Sugar Lub NB has been specially developed after considerable R&D efforts. Its use ensures –

1. Energy savings.
2. Eco-friendliness.
3. Economy in use.
4. One winter/summer grade.
5. Free from asphalt.

The product has been extensively evaluated to verify the above claims in field trials.

Typical Inspections	
Characteristics	IPOL Sugar Lub NB
Viscosity at 100° C cSt	40
Flash Point °C COC	270
Neutralisation Value mg KOH/gm	1.8
4 Ball Weld Load kgs. Min.	315

AIR TOOL OILS

IPOL ROCK DRILL OILS

IPOL Air Tool Oils are formulated to obtain good chemical stability to prevent oxidation and deposit formation, to have low pour point for easy flowability and high film strength for protection against wear. Special additives are used in their formulation to provide maximum resistance to water washing, good lubricity at high operating speeds and impact resistance to shock loading.

Typical Inspections				
Characteristics	Test Methods	No.1	No.2	No.3
Flash Point °C COC	D-92	150	155	170
Viscosity at 40° C cSt	D-445	40	100	220
Foaming Characteristics	D-892	Passes		
Rust Test	D-665	Passes		



OPEN GEAR & WIRE ROPE COMPOUNDS

IPOL GEAR COMPOUNDS

IPOL Open Gear & Wire Rope Lubricants are bituminous compounds blended to the right viscosity to provide the necessary film strength and adhesiveness. These products are viscous enough to give an unruptured film and yet sufficiently free flowing to offer adequate heat dissipation. The grades with suffix e.g. F-50 contain a solvent for ease of application, since the thicker variety of open gear lubricants need to be heated.

For Wire Rope Lubrication, both a lubricant and a rust preventive are often needed. In such instances Open Gear Lubricants are used, since these bituminous compounds offer excellent protection in case of heavily loaded situations. Whilst IPOL Gear Compound 1000 can be applied neat, IPOL Gear Compound 2000 is applied after heating it adequately.

Typical Inspections							
Characteristics	Test Methods	IPOL Gear Compound					
		250	1000	2000	5000	F-30	F-50
Colour	Visual	Black					
Density at 30° C	D-1298	1.00	1.005	1.013	1.020	—	—
Flash Point °C COC Min.	D-92	180	180	190	210	—	—
Viscosity at 100° C cSt	D-445	50	220-260	433-476	1000-1150	—	—
Viscosity at 50° C cSt	D-445	—	—	—	—	1400	2900

IPOL COMPOUND OILS

IPOL Compound Oils are recommended for traction motors in gears of electric locomotives, non critical girth gears/pinions in cement mills, rod mills, paper mills, bull gears, etc.

Typical Inspections					
Characteristics	Test Methods	IPOL Compounds			
		R 10	R 20	R 30	R 40
Colour	Visual	Black	Black	Black	Black
Kinematic Viscosity at 100° C cSt	ASTM D 445	86 - 103	410 - 450	770 - 900	1000-1200
Flash Point °C COC Min.	ASTM D 92	250	280	280	280
Copper Strip Corrosion at 100° C 3 hrs. max.	ASTM D 130	1a	1a	1a	1a
Four Ball Weld Load Test, kgs. Min.	ASTM D 2783	250	250	250	250

REFRIGERATION OILS

IPOL COOL PRESS

IPOL Cool Press Oils are manufactured from specially selected base oils that possess low temperature fluidity and good chemical stability. These oils have inherent oxidation resistant characteristic and high dielectrics strength needed by sealed units of air conditioners and refrigerators.

Typical Inspections								
Characteristics	Test Methods	12	32	46	68	100	32 FR	57 FR
Flash Point °C COC	D 92	142	156	162	172	202	154	166
Pour Point °C	D 97	-39	-30	-27	-24	-24	-30	-24
Viscosity at 40° C cSt	D 445	13	32	45	64	95	32	56



INDUSTRIAL GREASES

IPOL HIGH TEMPERATURE GREASES

IPOL High Temperature Grease HT is a lithium soap grease with graphite, while IPOL High Temperature Grease BN is a bentanite base gel with heavy bodied mineral oil having high drop points.

Characteristics			
Properties	Test Methods	HT	BN
Colour	Visual	Greenish Black	Brown
Structure	Touch	Short Fibre	Smooth
Worked Penetration 60 double stroke at 25° C	ASTM D 217	275	200
Drop Point °C	ASTM D 5116	175	260

IPOL MOLYPLEX GREASES

IPOL Molyplex Greases provide protection against corrosion in splined shafts, pivot pins, ball and socket joints and on parts subjected to oscillating and sliding motions operating under adverse working conditions e.g., water vapour, rain, dust and shock loads.

Typical Inspections			
Characteristics	Test Methods	Molyplex 30	Molyplex 100
Colour	Visual	Grey black	Grey black
Texture	Feel	Smooth	Smooth
Drop Point °C Min.	ASTM D 5116	180	180
Worked Penetration 60 double strokes at 25° C	ASTM D 217	265 – 295	265 – 295
Four Ball Weld Load Kgs. Min.	ASTM D 2783	210	250
Copper Corrosion at 100° C for 24 hrs. Max.	ASTM D 4048	1	1

IPOL MULTIPURPOSE GREASES

IPOL Multipurpose Grease No. 1, 2 & 3 are dispersion of lithium in carefully selected base oils with performance additives.

Typical Inspections				
Characteristics	Test Methods	No. 1	No. 2	No. 3
Appearance	Visual	Light Brown	Light Brown	Light Brown
Structure	Touch	Smooth	Smooth	Smooth
Base Soap	–	Lithium	Lithium	Lithium
Drop Point °C, Min.	ASTM D 5116	180	180	180
Worked Penetration 60 double stroke at 25° C	ASTM D 217	310 - 340	265 - 295	220 - 250



HEAVY DUTY BEARING GREASES

IPOL SOBEX GREASES

IPOL Sobex Grease No. 1 & 2 are a dispersion of high quality low ash lubricating oil in lime-lead matrix.

Typical Inspections			
Characteristics	Test Methods	No. 1	No. 2
Colour	Visual	Dark	Dark
Texture	Touch	Smooth	Smooth
Worked Penetration 60 double strokes at 25° C	ASTM D 217	310 - 340	265 - 295
Drop Point °C, Min.	ASTM D 5116	90	90

GRAPHITED GREASES

IPOL GRAPHITED GREASES

IPOL Graphited Greases are calcium based greases containing micro fine graphite. These greases are used for general lubrication under comparatively high load and low relative displacement of interacting surfaces. These greases have excellent water resistance and have good mechanical stability.

Typical Inspections			
Characteristics	Test Methods	IPOL Graphited Greases	
		GRADE - 1	GRADE - 3
Colour	Visual	Black	Black
Structure	Feel	Smooth	Smooth
Drop Point °C Min.	ASTM D 5116	95	95
Graphite by mass %	ASTM D 128	6 – 15	45 – 55
Worked Penetration 60 double strokes at 25° C	ASTMD 217	310 - 340	175 – 205



NEAT CUTTING OILS

IPOL ST CUT 55

IPOL ST Cut 55 is recommended at locations where the surface finish requirements are rigid and the productivity is of prime importance. It has proved its effectiveness over a wide range of metal alloys including stainless steels, high tensile steels and heat resistant alloys.

Typical Inspections		
Characteristics	Test Methods	Results
Flash Point °C COC	D 92	160
Pour Point °C	D 97	+ 5
Viscosity at 40° C cSt	D 445	37
Copper Corrosion 3 hrs. at 100° C	D 130	4
Sulphur	—	+ ve
Chlorine	—	+ ve
EP Weld Load Kgs. Min.	—	800

IPOL ST CUT BR OILS

Both IPOL ST Cut BR-103 and IPOL ST Cut BR-105 offer satisfactory performance over a wide range of machine tool speeds and depths of cuts. IPOL ST Cut BR 105 which meets IS:3065:1985 type 3 Grade III is more potent than IPOL ST CUT BR-103 which meets IS:3065:1985 type 3 Grade II and has therefore been found more effective in Automats.

Typical Inspections			
Characteristics	Test Methods	BR - 103	BR – 105
Colour	D 1500	2.0	4.0 Max.
Flash Point °C COC	D 92	165	180
Pour Point °C	D 97	- 3	- 3
Viscosity at 40° C cSt	D 445	24.0	31.7
Copper Corrosion 3 Hrs, 100° C	D 130	4	4
EP Weld Load Kgs. Min.	D 2783	800	800



IPOL ST CUT OILS

IPOL Non-corrosive Straight Cutting Oils are marketed in the following grades.

IPOL ST Cut 12 is a neat cutting oil blended from high Viscosity Index base oils. It is recommended for use as an economical replacement of soluble cutting oils for obtaining a better finish on ferrous and non-ferrous metals.

IPOL ST Cut 13 offers better cutting and cooling properties since it is fortified with adequate dosage of sulphurised oiliness additives.

IPOL ST Cut 14 is formulated with chlorine and oiliness additives. It thus offers better performance as compared to IPOL ST CUT 13. It meets IS:3065-1985 Type 2 Grade II requirements. Water entry into the system should be prevented. Recommend for surface and flute grinding of hardened parts.

IPOL ST Cut 14 A is formulated with chlorinated organic additives as well as oiliness additives. Because of its higher viscosity it withstands heavier loading resulting in higher productivity. Avoid ingress of water into such systems.

IPOL ST Cut 14 B is an all purpose cutting oil suitable for various operations on both hard and soft materials. It is formulated with treated fat and chlorine to give extreme pressure properties for low and high temperature cutting operations. Ingress of water in the systems with IPOL ST Cut 14 B should be avoided.

IPOL ST Cut 14 P2 SC is blended with a specially selected fatty acid which helps it to perform in arduous conditions and provides a fine finish to the job. It meets IS:3065-1985 Type 1 Grade II.

IPOL ST Cut 14 P3 SC is a non staining type of neat cutting oil suitable for multiple operations involving very severe metal grinding processes such as flute grinding of Drills, Reamers and other Form-Grinding Tools. It may also be used for Cold Die Forging of bolt-heads. It meets requirements of IS:3065-1985 Type 2 Grade III.

IPOL ST Cut 14 P4 SC is a general purpose neat cutting oil suitable for use in automats used for precision machining in the antifriction bearing manufacturing industry.

Typical Inspections								
Characteristics	Test Methods	12	13	14	14A/14B	14P2SC	14P3SC	14P4SC
Appearance	Visual	B R I G H T & C L E A R						
Density at 15° C	D 1298	0.86	0.89	0.90	0.91	0.89	0.90	0.88*
Flash Point °C COC	D 92	150	140	140	140	160	160	130
Pour Point °C	D 97	+ 8	+ 8	+ 8	+ 8	+ 6	+ 6	0
Viscosity at 40° C cSt	D 445	12.0	21.0	22/25	25/29	23	40/45	20/24
Saponifiable Matter	P-55 of IS:1448	Nil	—	10	—	10	10	—
EP Weld Load, kgs.	D 2783	350	350	400	400	126	126	126

*Specific Gravity at 30° C

HONING OIL

IPOL CUT 40 SF

IPOL ST Cut 40 SF is a low viscosity neat cutting petroleum based coolant having good cleaning properties. Its use helps flushing of fine swarf from the honed surface. It satisfies the essential requirements of honing oil, which should provide controlled lubrication as well as maintain the honing stone "open" and "free cutting". It is a "ready to use" product having excellent heat dissipation properties and can be used for both ferrous and non-ferrous applications. It meets IS: 3065:1985 type 1 Grade I requirements.

Typical Inspections		
Characteristics	Test Methods	IPOL CUT ST 40 SF
Appearance	Visual	Bright and Clear
Density at 15° C	D-1298	0.820
Flash Point °C COC	D-92	128
Viscosity at 40° C cSt	D-445	5.2
Copper Strip Corrosion	D-130	< 1
EP Weld Load, kgs. Min.		126



PRECISION MACHINE COOLANTS

IPOL CUT SF

IPOL Cut SF Coolants are used by the Engineering Industry at locations where mirror surface finishes are desired from high speed machines. Their use helps in the manufacture of precision parts with close tolerances. The selection of the grade is based on the material type and tool, the depth of the cut, speed of cutting, the job material, the desired surface finish, and the rigidity of the tooling. Work experience therefore assumes added importance in recommending the correct grade.

Typical Inspection			
Characteristics	Test Methods	60 SF	80 SF
Appearance	Visual	S e m i - T r a n s p a r e n t	
Density at 15° C	D 1298	0.880	0.885
Flash Point °C COC	D 92	150	170
Pour Point °C	D 97	+ 8	+ 15
Viscosity at 40° C cSt	D 445	12	15
Copper Strip Corrosion at 100° C, 3 hours	D 130	1a	1a

HONING CUM LAPPING OIL

IPOL ST CUT 90 SF

IPOL ST Cut 90 SF is specially formulated with a unique organic acid soap, which imparts lower coefficient friction to the formulation. It not only ensures a mirror finished surface but the same is untarnished and bright in appearance.

Typical Inspection		
Characteristics	Test Methods	Results
Appearance	Visual	Bright & Clear
Colour	Visual	Red
Density at 15° C	D 1298	0.820
Flash Point °C COC	D 92	120
Pour Point °C	D 97	- 3
Viscosity at 40° C cSt	D 445	5.0
Copper Strip Corrosion	D 130	10
EP Weld Load, kgs. Min.	D 2783	126

HIGH SPEED MACHINE COOLANT

IPOL ST CUT 91 SF

IPOL ST Cut 91 SF is a thermally stable light viscosity mineral oil imparted with oiliness characteristics. It has been fortified with adequate quantity of halogenated additives having extreme pressure properties. It provides excellent service in moisture free conditions and can be used for machining ferrous metals with ease.

Typical Inspections		
Characteristics	Test Methods	Results
Appearance	Visual	Bright & Clear
Density at 15° C	D 1298	0.820
Pour Point °C	D 97	0
Flash Point °C COC	D 92	100
Viscosity at 40° C cSt	D 445	3.5 – 5
Copper Strip Corrosion	D 130	< 1
EP Weld Load, kgs. Min.		126



EMULSIFIABLE COOLANTS

IPOL CUT 125

IPOL Cut 125 is fortified with appropriate additives to prevent bacterial degradation of the emulsion. It also prevents rusting of the work piece and machine tool beds. It is recommended for a variety of cutting operations on both ferrous and non-ferrous metals. For general machining operations the emulsion is normally prepared with 5% oil and for grinding operation the emulsion has 2% of oil.

Typical Inspections		
Characteristics	Test Methods	Results
Appearance	Visual	Bright & Clear
Density at 15° C	D 1298	0.880
Ash % Wt.	D 482	0.865
Copper Strip Corrosion	D 130	Passes
Cast Iron Corrosion	IP 125	Passes
Emulsion Stability & Frothing	D 1479	Passes

IPOL CUT EP OILS

IPOL Cut EP Oils offer higher EP characteristics for heavy machining operations and are recommended for alloy steel and high speed steels. These provide good emulsion stability and enhanced tool life.

Typical Inspections				
Characteristics	Test Methods	IPOL CUT EP OILS		
		EP 60	EP 66	EP 70
Appearance	Visual	Brown	Brown	Brown
Specific Gravity at 60° F	D 1298	0.880	0.890	0.906
Flash Point °C COC	D 92	156	156	158
Viscosity at 40° C cSt	D 445	20-40	50	50
Copper Corrosion Test	D 130	Passes	Passes	Passes
Cast Iron Corrosion	Standard	Passes	Passes	Passes

IPOL CUT 140 AS

IPOL Cut 140 AS has been found to offer good service for machining ferrous and non-ferrous metals including copper and Aluminium alloys. It also meets IS-1115 specifications for general purpose soluble cutting oil.

Typical Inspections		
Characteristics	Test Methods	IPOL 140 AS
Specific Gravity at 30° C	IS1448-P16	0.878
Flash Point °C COC	IS1448-P69	156
Viscosity at 40° C cSt	IS1448-P25	25
Emulsion stability with 600 ppm hard water	IS1448-P98	Passes
Cast Iron Corrosion	Standard	Passes



IPOL CUT 180 H

IPOL Cut 180 H is specifically designed for locations where very hard water exceeding 500 ppm are not uncommon. It is known to offer good service even when the water hardness exceeds 1000 ppm. This is achieved by the use of a unique emulsifier which keeps the emulsions stable even when the water hardness is high.

Typical Inspections		
Characteristics	Test Methods	Results
Appearance liquid	Visual	Bright and clear
Density at 29.5° C	D 1298	0.87
Emulsion 3% in 1000 ppm hard water	D 1479	Passes
Cast Iron Corrosion	IP 125	Passes
Copper Strip Corrosion	D 130	Passes
4 Ball Weld Load in kg	D 2783	130
pH (2% Emulsion)	Std Test Method	8

IPOL CUT 501

IPOL Cut 501 has been specially formulated for non-ferrous operations. Though it may also be used for ferrous machining. When regularly cleaned of swarf, it has offered trouble free operations over extended periods (over 1 year) in CNC machining centers. The product also exceeds the requirements of IS 1115-1986, and has been specially fortified with a biocide to take care of the type of bacteria which selectively converts Sulphates in water to H₂S, the culprit for tarnishing of metal surfaces.

Typical Inspections		
Characteristics	Test Methods	Results
Appearance	Visual	Clear & Bright
Density at 15° C	D 1298	0.875
Ash % wt.	D 482	2.0
Copper Strip Corrosion	D 130	Passes
C.I. Corrosion	IP 125	Passes
Emulsion stability & frothing	D 1479	Passes
Weld E P load 1:40 Emulsion, Kgs.	D 2783	100

SYNTHETIC COOLANT

IPOL SYNTHCUT 1140

IPOL Synthcut 1140 is a non-nitrite synthetic coolant ideal for grinding operations involving cast iron. Its mild EP properties help the product in providing superior surface finish where the mineral based products have been found wanting due to inadequate flushing.

Typical Inspections		
Characteristics	Test Methods	Results
Sulphated Ash % Wt.	IS-1448 : P:4	0.94
pH 3% Emulsion	D 664	8.7
C.I. Corrosion	IS-1115	Passes
Copper Corrosion	IS-1448 : P:15	1 (a)



SEMI SYNTHETIC COOLANT

IPOL SYNTHCUT HD 2005

Recent development in the field of additives and organic chemistry have helped in developing suitable molecules which, when involved in rubbing loads, help in providing lower coefficients of friction and are also are miscible with water.

Typical Inspections		
Characteristics	Test Methods	Results
Appearance – neat - 5% Emulsion	Visual	Bright & Clear Translucent
Ash % wt	IS-1448 : P-4	2.51
Copper Strips Corrosion at 100° C 3 hrs	IS-1448 : P-15	1 A
Aluminum Corrosion at 100° C 3 hrs	IPOL	Passes
C.I. Corrosion 2.5% & 5.0% in d/w & 400 ppm h/w	IS-1115	Passes
Emulsion Stability and frothing	IS-1448 : P-98	Passes
pH of 5% Emulsion Distilled Water	D-664	8.77

DRAWING LUBRICANTS

IPOL REFILL TUBE MANUFACTURING OILS

IPOL Refill Tube Drawing Lubricants are specially developed, metal working fluids for intricate machining operations performed on PPM machines. The base oils and additive packages used in formulating these products are specially selected to provide good lubricity and high film strength for these critical machining operations.

Typical Inspections			
Characteristics	Test Methods	IPOL ST CUT 190	IPOL ST CUT 5
Pour Point	D 97	-3	0
Flash Point COC °C	D 92	180	145
Viscosity at 40° C cSt	D 445	30	10.5
Copper Corrosion	D 130	1	1

IPOL WIRE DRAWING OILS

IPOL Wire Drawing Fluids may be applied by flooding, dipping or rolling on the parts depending on the method and equipment used for drawing.

IPOL Wire Draw 10 is recommended for general purpose light duty drawing operations of soft material.

IPOL Wire Draw 17 is designed for drawing of aluminium wire used in the manufacture of aluminium cables.

IPOL Wire Draw 32 is recommended for drawing stainless steel wires.

IPOL Wire Draw 540 - is recommended for manufacture/drawing in heavy duty operations.

Typical Inspections					
Characteristics	Test Methods	IPOL Wire Draw			
		10	17	32	540
Flash Point °C COC	D-92	210	210	134	180
Viscosity at 40° C cSt	D-445	200	300	25.2	130
Saponification Value	D-94	19	10	158	100
Copper Strip corrosion 3 hrs at 100° C	D-130	1	1	4b	1b



SPARK EROSION OILS

IPOL SPARK EROSION OILS

IPOL Spark Erosion Oils are highly refined mineral oils of narrow boiling range manufactured to meet the di-electric strength requirements of end use.

Typical Inspections				
Characteristics	Test Methods	SEO 203	SEO 350	SEO 450
Flash Point °C COC	D-92	80	130	106
Pour Point °C	D-97	-5	-4	-9
Viscosity at 40° C cSt	D-445	4	4.8	2.3
Copper Corrosion	D-130	1	1	1
Di-electric Strength	IS-6792	40	40	40

ROLLING OILS

IPOL ROLLING OILS

IPOL Metal Rolling Oils designed for cold rolling, are based on specially selected base oils having excellent heat carrying away properties together with good oxidation stability. These may be applied by flooding, dipping or spraying. Depending on the type of machine or requirements, these are manufactured to meet a wide range of viscosity specifications.

IPOL Metal Rolling Oils are available in the following grades:-

IPOL Rolling Oil N-34 It is recommended for use in cold rolling of copper and its alloys. Since it is suitably fortified with a polar additive it is also used for cold rolling of stainless steel and carbon steel strips where surface finish is of importance.

IPOL Rolling Oil 40/40G These are used for rolling both ferrous and non-ferrous metals. The base oils used in their formulation have been selected because of their excellent corrosion inhibiting properties. IPOL Rolling Oil 40G, being a lower viscosity product, is specifically recommended for obtaining mirror finished surfaces from thin rolled sheets and also be used for machining of aluminium parts.

IPOL Rolling Oil V45 This is a premium product which can withstand maximum loading because of the compounding used in its formulation. It is particularly useful for cold rolling of carbon and alloy steels, brass and copper sheets.

Typical Inspections					
Characteristics	Test Methods	N - 34	40	40G	V - 45
Flash Point °C COC	D-92	150	160	106	170
Viscosity at 40° C cSt	D-445	10	24	2.5	25
Saponification Value	D-94	2.5	-	-	9
Copper Strip Corrosion	D-130	1	1	1	1

* Specific Gravity at 30° C.



SPECIALITIES – QUENCHING & TEMPERING

IPOL QUENCHING OILS

IPOL Quenching Oil 32 X is a general purpose quenching oil having low volatility and inherent oxidation stability.

IPOL Quenching Oil 32 XC is accelerated quenching oil with special polar additives to give higher hardness during prolonged service.

IPOL Quenching Oil 32 XL is a low viscosity index quenching oil having low volatility and inherent thermal stability. It meets IS 2664/93 requirements and has offered a quenching time of 19.8 secs. in one of the results reported by IIP Dehradun.

IPOL Quenching Oil 100 XX is a high viscosity quenching oil suitable for systems without cooling facilities.

IPOL Quenching Oil 150 XXX is a marquenched meeting IS:4543-1980 (reaffirmed in 1987)

IPOL Quenching Oil 22 XFQ is a narrow range petroleum based product which has been suitably fortified with a special additive. It meets the requirements of IS 2664/93 and in one of the tests performed by IIP Dehradun the average quenching time in seconds reported with its use was 14.0 secs.

Typical Inspections							
Characteristics	Test Methods	32 X	32XC	32XL	100 XX	150 XXX	22 XFQ
Flash Point °C COC	D-92	200	195	200	220	246	205
Viscosity at 40° C cSt	D-445	32	32	30	168	167*	22
Viscosity Index	ASDM 39 B D-2270	90 –	90 –	90 –	90 –	98 –	– 95
Conradson Carbon	IS-1448 : P-122	0.08	0.2	0.08	0.31	0.25	–

* Viscosity at 100° C cSt is 16

IPOL TEMPERING OIL

IPOL Lub Oil 320 XXX is a specially developed tempering oil having excellent thermal and oxidation stability. It has a high flash point and can be heated to higher temperatures without incurring abnormal evaporation losses.

Typical Inspections		
Characteristics	Test Methods	Results
Flash Point °C COC	D-92	250
Viscosity at 40° C cSt	D-445	350*
Viscosity at 100° C cSt	D-445	90

* Viscosity @100° C cSt is 24.6

RUST PREVENTIVES (OIL BASED)

IPOL ANTI-RUST GRADES

Steel parts after manufacture need protection to prevent their surfaces from rusting. These surfaces may be inaccessible places of assembled machines such as internal combustion engines, compressors, gear boxes, precision ball bearings etc, or for pressed sheets and other machined parts that need protection during inter-process storage. These oil based grades are used over a wide variety of locations.

Typical Inspections							
Characteristics	Test Methods	OB 50	OB 52	OB 560	OB 54	OB 55	OB 56
Appearance	Visual	Semi – Transparent					
Density at 15° C	D-1298	0.868	0.880	0.887	0.885	0.88	0.895
Flash Point °C COC	D-92	85	150	200	180	150	150
Viscosity at 40° C cSt	D-445	3.9	9.0	39	150	10.0	125/112



RUST PREVENTIVES (DRY FILM)

IPOL ANTI RUST ASDF GRADES

IPOL Dry Film Rust Protectives are asphaltic products which offer excellent adhesion to the applied surface. On applying the protective the solvent evaporates and leaves an uniform protective film which does not easily peel or chip off. The solvent is so selected that it enables good penetration of the product and is also safe to use.

Typical Inspection			
Characteristics	Test Methods	82 B	86-T
Appearance	Visual	Opaque	Opaque
Flash Point °C COC	D 92	45	45
Viscosity Ford Cup No. 4 (secs.)	—	16	32

RUST PREVENTIVES (DE-WATERING TYPE)

IPOL DE-WATERING RUST PROTECTIVES

IPOL De-watering Rust Protectives are non-asphaltic type products consisting of film forming agents and rust inhibitors in a suitable hydrocarbon carrier. On application the carrier evaporates leaving a thin self-healing rust protective film on the metal surface. These can be applied cold by dip, brush, swab or spray and are extensively used for protection of machined auto parts, tubes, sheets, etc.

IPOL Anti-Rust DW 42 has excellent properties for preventing finger print corrosion and is ideal for use on highly polished precision parts.

IPOL Anti-Rust DW 48 provides a thicker film and gives longer protection as compared to IPOL DW 42.

IPOL Anti-Rust DW 110 is a product specially developed for the anti-friction bearing industry. It can be used as inter-process rust preventive after diluting with a suitable solvent as well as for final packing

IPOL Anti-Rust DW 551, 552 & 559B are our solvent based exclusive products having soft films and meeting humidity cabinet control test exceeding 7 days indicating excellent salt spray protection. The protection provided by DW 559 B is the highest and by DW 552 the lowest in this range.

Typical Inspections							
Characteristics	Test Methods	DW-551	DW-552	DW 559B	DW-42	DW-48	DW-110
Appearance	Visual	Semi-Transparent		Dark Fluid	Semi-Transparent		
Flash Point °C COC	D-92	45	45	38° C **	45	45	45
Viscosity at 40° C cSt	D-445	3.9	2.9	4.5 cSt	2.2	5.2	24

** Flash Point by Abel

RUST PREVENTIVES (ACID RESISTANT)

IPOL ANTIRUST CR GRADES

IPOL Antirust CR 1250, CR 1920 and CR 2880 are mineral oil based low viscosity products which provide excellent protection from salty conditions to sheets and strips during sea transport, or when facing acidic conditions in sheds located near pickling tanks and in the open. The selection between these three grades for end use depends on the method of application and economics.

Typical Inspections				
Characteristics	Test Methods	CR 1250	CR 1920	CR 2880
Flash Point °C COC Min.	IS-1448 : P-68	60	60	60
Resistance to acidic fumes (5% HCL)	Proprietary Test	Passes for 125 hrs.	Passes for 192 hrs.	Passes for 288 hrs.
Salt Spray Test	ASTM D-117	Passes for 48 hrs.	Passes for 72 hrs.	Passes for 110 hrs.
Nature of film	Touch	Smooth & Oily	Smooth & Oily	Smooth & Oily
Film coverage approx.		110m ² / Litre	100m ² /litre	50m ² /litre
Film thickness (non drying)		7 to 12 Microns	7 to 9 Microns	7 to 9 Microns



RUST PREVENTIVE (TRANSLUCENT DRY FILM)

IPOL ANTIRUST TL 802

IPOL Antirust TL 802 is a medium viscosity liquid, which may be applied with a brush, swab, or a pressure spray, on to the metal surface devoid of oil or grease. It has excellent adhesiveness and dries gradually to leave a hard lasting film, which does not peel off easily. Its thin film has proved its effectiveness in sheets, coils, strips, bars and wire ropes.

Typical Inspections		
Characteristics	Test Methods	Results
Appearance	Visual	Bright light brown
Viscosity Ford Cup No. B 4	–	15.6
Film thickness, microns	–	12-15
Area Coverage M ² / L	–	25.8
Resistance to 3% H ₂ SO ₄ sol	–	Passes
Alkaline Resistance 25% KOH sol	–	Passes

HEAT TRANSFER OILS

IPOL HEAT TRANSFER OILS

IPOL Heat Transfer Oils are manufactured from highly paraffinic base oils having high viscosity index. These base stocks with exceptional oxidation stability have been found ideal for blending of heat transfer oils. These have high thermal conductivity and adequate specific heat to offer effective heat transfer.

IPOL Heat Transfer Light is a low viscosity heat transfer oil that is suitable for use in pressurised heat transfer systems.

IPOL Heat Transfer 550 has the correct viscosity for obtaining optimum heat transfer rates from well designed systems. It also functions as a lubricant for the circulating pumps.

Typical Inspections			
Characteristics	Test Methods	LIGHT	550
Flash Point °C COC	D-92	180	200
Viscosity at 40° C cSt	D-445	22	32
Viscosity Index	D-2270	95	95

CABLE OIL

IPOL CABLE OIL N

IPOL Cable Oil N has been specially developed to meet the impregnating requirements of paper insulated cables. It has a very high di-electric value, resistivity and low power factor to limit power losses to the minimum.

Typical Inspections		
Characteristics	Test Methods	Results
Kinematic Viscosity at 50° C	D-445	500 - 600
Acidity mg/KOH/gm.	D-664	0 - 7
Flash Point °C COC	D-92	More than 260
Pour Point°C	D-97	0
Dielectric Strength - Break down Voltage in KV	IS-6792	More than 60
Resistivity at 50° C in ohms/cm.	D-1169	1 to 10 x 1018

INDUSTRIAL SPECIALITY OILS



CABLE COMPOUND

IPOL CABLE OIL R

IPOL Cable Oil R is a jointing compound manufactured from highly refined ingredients under dust free conditions. The product formulation ensures resistance to gas evolution by balancing the saturates and unsaturates, at the same time making the lubricant with improved thermal stability characteristics.

Typical Inspections		
Characteristics	Test Methods	Results
Flash Point °C COC	D-92	200
Viscosity at 100° C cSt	D-445	62
Acidity mg/KOH/gm.	D-664	50
Dielectric Strength KV Min.	IS-6792	45
Volume Resistivity at 20° C ohms/cm.	D-1169	23.3x10 ¹²
Power Factor at 20° C & 50 Hz	D-924	0.005

INK OILS

IPOL INK OILS

Inks are basically a blend of pigments, carriers, driers and dispersents. Lubricating oils are generally used as carriers in these formulations. IPOL has a wide range of ink oils which satisfy variety of requirements of the ink manufacturers.

Typical Inspections						
Characteristics	Test Methods	40	55	56	57	22
Flash Point PMCC °C	D-93	100	105	110	105	180
Viscosity at 40° C cSt	D-445	3.3	3.5	3.7	3.6	2.0
Aniline Point °C	D-661	70	75	80	78	—
IBP / FBP °C	D-86	212/255	240/282	265/320	226/360	—

CLEANING AGENT

IPOL CLEANSER S 10

IPOL Cleaner S 10 is an aliphatic type of hydrocarbon base fluid with sufficiently low surface tension to facilitate effective cleaning of difficult-to-clean intricate machined parts. While it is covered under 'Non-dangerous' petroleum products category, the product needs to be used with sufficient ventilation and care should be taken to avoid any open sparks in the area of use.

Typical Inspections		
Characteristics	Test Methods	Results
Appearance	Visual	Bright & Clear
Colour	ASTM D-1500	0.5 Max
Specific Gravity at 30° C	IS-1448 : P-16	Typical 0.839
Aniline Point	IS-1448 : P-3	25°C Max



GLASS MOULD OILS

IPOL GLASS MOULD OIL

IPOL GMC 50 is manufactured from highly refined lubricating oil base stocks. These base stocks have been specially selected for their ability to provide adequate cushioning between the mould and the finished articles. This product is generally recommended at locations where the emulsifiable glass mould oils do not offer satisfactory performances.

Typical Inspections		
Characteristics	Test Methods	Results
Flash Point °C COC	D-92	142
Fire Point °C	D-92	152
Viscosity at 40° C cSt	D-445	12.8

IPOL GM 400

Moulds used for manufacturing quality glassware need a suitable lubricant as a mould releasing agent. The use of a proper mould lubricant also helps improve the surface finish and appearance of the moulded articles.

Typical Inspections		
Characteristics	Test Methods	Results
Flash Point °C COC	D-92	150
Viscosity at 40° C cSt	D-445	14
Ash % wt.	D-482	0.26
pH	D-664	7.3
Emulsion Stability 20% at 24 hrs.	D-1479	Passes

CEMENT MOULD OILS

IPOL CM 300

IPOL CM 300 is manufactured from highly refined mineral oil base stocks. This has been blended with a special additive to give it a body so that the product offers improved surface finish to the moulded articles.

Typical Inspections		
Characteristics	Test Methods	Results
Viscosity at 40° C cSt	D-445	18/22
Flash Point °C	D-92	165°C
Evaporation at 50° C for 24 hrs	Std. Test	0.1%
Pour Point °C Max.	D-97	+ 9

IPOL CM 3000

IPOL CM 3000 is an emulsifiable oil-based product, which can be used both in the neat state as well as after dilution with water. It can be applied by a brush, swab or sprayed on to the moulds before charging them with cement/concrete mixture.

Typical Inspections		
Characteristics	Test Methods	Results
Flash Point °C COC	D 92	75
Viscosity at 40° C cSt	D 445	4
Emulsion Stability 20% at 24 hrs.	—	Passes
Rust Test	D 665	Passes



ANTISTATIC OILS

IPOL ANTISTATIC OILS

IPOL Antistatic Oils are manufactured from highly refined light coloured high VI base oils, which have excellent flow-ability over a wide range from low ambients to high operating temperatures. Their wettability helps their ultimate removal during subsequent washing.

IPOL Antistatic Oils are available in the below mentioned grades: -

IPOL Polycon LP is used where excellent colour hold and least pick up of oil is needed.

IPOL Polycon MP has a medium pick-up of 5-7%.

IPOL Polycon HP is recommended where highest pick-up of oil is desired and the speed of the pick-up roll is low.

Typical Inspections					
Characteristics	Test Methods	Polycon LP	Polycon MP	Polycon HP	Polycon WW
Appearance	Visual	Bright & Clear			
ASTM Color	D	1.0	1.0	1.0	0.5
Specific Gravity at 15° C	D 1298	0.858	0.864	0.868	0.831
Pour Point °C	D 97	-9	-9	-9	-9
Viscosity at 40° C cSt	D 445	14-16	22-26	30-35	18-22
PH of 5% Emulsion	D 664	6.8	6.8	6.8	6.8
Emulsion Stability 10% at 24 hrs	D 1479	Passes	Passes	Passes	Passes