

APPENDIX I

EVALUATION OF PAINTS AND OTHER COATING MATERIALS

I. TESTS FOR MAJOR INTEREST TO CONSUMER

1. Hiding Power	75.00
2. Brushing Properties, including recoatability, lapping, etc. (without gloss readings)	125.00 + cost of material on which coating is applied
(with gloss readings)	150.00
3. Gloss on prepared panel including panel preparation	25.00 50.00
4. Clean-up of brush and dry spatters	87.50
5. Washability (gloss readings \$25.00 extra)	250.00 and up
6. Scrubability (gloss readings \$25.00 extra)	250.00 and up
7. Abrasion Resistance (gloss readings \$25.00 extra)	250.00 and up
8. Yellowing	225.00
9. Exterior Weathering by Weatherometer Exposure of Prepared Panels:	
First Specimen, per hour	7.00
Additional Specimens, per hour	0.50
	+ cost of electrodes
Minimum exposure charge	85.00
Panel Preparation, each	30.00
	and up
Color Change	225.00
	extra per panel
Gloss Change	50.00
	extra per panel

10.	Salt Spray Exposure for Exterior Metal Paints:	
	Exposure per panel-hour	0.20
	Minimum exposure charge	75.00
	Panel Preparation, each	30.00
	Set-up Charge (one time per series)	75.00
	Gloss Change	50.00
		extra per panel
11.	Drying Time	85.00
12.	Hardness (scratch test)	85.00
13.	Impact Resistance	195.00
14.	Adhesion	85.00
15.	Flexibility	85.00
16.	Fineness of Grind	75.00
17.	Condition in Container, as received	35.00

II. TESTS OF MAJOR INTEREST TO DISTRIBUTOR AND MANUFACTURER

1.	Storage Stability, condition in container after storage (not including storage)	35.00
2.	Freeze - Thaw Resistance	275.00
3.	Coarse Particles and Skins	85.00
4.	Chemical Analysis:	
	Spectrographic Analysis of Pigment, qualitative	45.00
	% Pigment, Volatile vehicle and non-volatile vehicle	125.00
	Pigment Analysis, quantitative	Quotation on request
	Infrared Analysis of Resin or Solvent Systems	175.00 and up
	Infrared Analysis of Pigment, qualitative	175.00 and up
	Solids, % volume	150.00

Solids, % weight	30.00
Gas Chromatographic Analysis of Solvent	375.00 and up
Separation of Solvent by Vacuum Distillation	275.00
Volatile Organic Compounds, EPA-24	250.00
- With Water by GC, additional	125.00
III. QUALITY CONTROL TESTS	
1. Hiding Power	85.00
2. Brushing Properties - Plus cost of material	125.00
3. Gloss (plus panel preparation)	25.00
4. Chemical Analysis:	
Spectrographic Analysis of Pigment	45.00
% Pigment, Volatile vehicle and non-volatile vehicle	175.00
Pigment Analysis, quantitative	Quotation on request
Infrared Analysis of Resin or Solvent Systems	175.00 and up
Infrared Analysis of Pigment, qualitative	175.00 and up

APPENDIX II

SELECTED WATER AND EFFLUENT ANALYSES METHODS IN
 ACCORDANCE WITH "STANDARD METHODS FOR EXAMINATION
 OF WATER AND WASTE-WATER"

Analysis	Method	Cost
Acidity	201	25.00
Alkalinity	201	25.00
Aluminum	ICP	27.50
Arsenic	ICP	145.00
Bicarbonate	102	35.00 + alkalinity
Boron	ICP	50.00
Bromides	108	95.00
Cadmium	ICP	27.50
Calcium	ICP	27.50
Carbonate	102	35.00 + alkalinity
Chloride	112A	35.00
	ASTM D512B	35.00
	ASTM D512C	85.00
Chromium:		
Total	ICP	27.50
Hexavalent	117A	125.00
Hexavalent	ICP	85.00
COD	220	125.00
Copper	ICP	27.50
Cyanide	207A, 207B with distillation	250.00
	207B without distillation	85.00

Analysis	Method	Cost
Fluoride		
- 121A Titrimetric Method		125.00
- Thorium Nitrate Method		85.00
Hardness (calcium and magnesium)	ICP	60.00
Hexane Solubles	137	50.00
Freon Solubles	137	n/a
Iron	ICP	27.50
Lead	ICP	27.50
Magnesium	ICP	27.50
Manganese	ICP	27.50
Mercury	Flameless Atomic Absorption	225.00
Nickel	ICP	27.50
Nitrate	133A	85.00
Oil and Grease	137	50.00
pH	144	20.00
Phenol	222B, 222C	125.00
	222b, 222D	125.00
Phosphate	223D	85.00
Potassium	Atomic Absorption	27.50
Sodium	Atomic Absorption	27.50
Sulfate	156C	85.00
Sulfide	427C	85.00
Total Solids	224A	40.00
Total Dissolved Solids	225E	30.00
Total Suspended Solids	224C	65.00
Zinc	ICP	27.50

APPENDIX III

SELECTED TESTS CONDUCTED ON PERMANENT TYPE ANTI-FREEZE

Ash	25.00
Boiling Point	50.00
Freezing Point	65.00
pH	20.00
Reserve Alkalinity	60.00
Borax (From Determination of Boron)	50.00
Water	30.00
Alkaline Earths, qualitative	17.50
Sulfates and Carbonates, qualitative	17.50
Chlorides, qualitative	17.50
Adjacent Glycols	65.00
Flash Point (Cleveland Open Cup)	35.00
Specific Gravity	25.00
Foaming Tendency	135.00
Corrosion Test, per run	225.00

APPENDIX IV

GREASE TESTS

Bomb Copper Corrosion (any other common metal may also be used with no change in price), 100 hrs.	75.00
Consistency of Grease (Penetration)	
Unworked	30.00
Worked 60 strokes	35.00
Worked 10,000 strokes	75.00
Worked 100,000 strokes	125.00
1/4 scale, unworked	35.00
1/4 scale, worked 60 strokes	45.00
Consistency of Grease (Roll Stability)	
2 hrs. at ambient temperature	85.00
100 hrs. at 150 F.	225.00
Deleterious Particles	35.00
Dirt Count	60.00
Dropping Point	32.50
Evaporation	
22 hrs. at 210 F.	65.00
6 1/2 hrs. at 400 F.	65.00
Free Acidity	25.00
Free Alkali	25.00
Infrared Analysis of fractions, each	175.00 and up
Load Carrying Capacity and Wear Tests	
Timken Load Carrying Capacity	140.00 + parts
Timken Abrasion	550.00
Load Wear Index	140.00 + parts
Mean Hertz Load	325.00 + parts
Falex E.P.	77.50 + parts
Falex Wear	77.50 + parts and up

GREASE TESTS CONTINUED:

4-Ball Wear Test	
1 Kg., 167 F., 1200 RPM, 1 hr.	50.00
10 Kg., 167 F., 1200 RPM, 1 hr.	50.00
40 Kg., 167 F., 1200 RPM, 1 hr.	50.00
Same at 300 F. and above	75.00
2 hour test	30.00 Addt'l
Fretting Wear Test, plus parts	150.00
Mobility @ 0 F., (U.S. Steel Method)	225.00
Navy Gear Test, per load (two usually required)	250.00
	+ parts
Leakage Tendency from wheel bearings	
- ASTM D1263	175.00
- ASTM D4290, plus parts	175.00
Life Performance, plus parts	
- 40 Hours	375.00
- 80 Hours	375.00
Low Temperature Torque, ASTM D1478	
+60 F. and above	125.00
+60 F. to -30 F.	150.00
Below -30 F.	175.00
Low Temperature Torque, ASTM D4693	295.00
Oil Content (including separation for characterization of oil)	75.00 and up
Oil Separation at ambient temperature (Pressure Method)	47.50
Oil Separation at elevated temperature (Cone Method)	37.50
Oxidation Stability	
100 hours	70.00
400 hours	175.00
100 hours with metal catalyst	77.50
Pour Point of Oil (not including separation of oil)	
Above 30 F.	25.00
From 30 F. to -20 F.	27.50
From -20 F. to -50 F.	35.00
Below -50 F.	50.00

GREASE TESTS CONTINUED:

Protection Tests	
Rust Protection (Bearing)	195.00 + parts
Alternate Method (Appendix X.2)	225.00 + parts
Salt Spray Exposure	
Panel Preparation, each	30.00
Exposure, per specimen/hour	0.20
Minimum Exposure Charge, per sample	75.00
Set-up charge	75.00
Humidity Exposure	
Panel Preparation, each	30.00
Exposure, per specimen/hour	0.20
Minimum Exposure Charge, per sample	75.00
Galvanic Corrosion, humidity	75.00
Galvanic Corrosion, salt spray	175.00
Soap Content	87.50
Spectrographic Analysis of Ash	45.00
Static Heat Test	195.00
Water Emulsion Tolerance	85.00
Viscosity, Apparent	
75 F. to 115 F.	150.00
-20 F. to 75 F.	175.00
-21 F. to -100 F.	225.00
Viscosity of Oil (not including separation)	
@ 40 C.	25.00
@ 100 C.	25.00
Viscosity Index of Oil	n/c
Water Content (Karl Fischer)	30.00
Water Resistance	
@ 100 F.	70.00
@ 175 F.	80.00
Water Spray Resistance	92.50

APPENDIX V

KEROSENE, (ASTM D3699, Type 1-K and 2-K)

Appearance	
Color, Saybolt, ASTM D156	22.50
Composition	
Mercaptan Sulfur, D3227	175.00
Doctor Test, ASTM D4952	20.00
Total Sulfur, ASTM D1266	85.00
Volatility	
Distillation, ASTM D86	30.00
Flash Point, ASTM D56	25.00
Fluidity	
Freezing Point, ASTM D2386	65.00
Viscosity @ 40 C., ASTM D445	25.00
Combustion	
Burning Quality, ASTM D187	95.00
Corrosion	
Copper Corrosion, 3 hrs. @ 100 C., ASTM D130	25.00
TOTAL INCLUDING MERCAPTAN SULFUR	567.50
TOTAL WITH DOCTOR TEST BUT WITHOUT MERCAPTAN SULFUR	392.50

APPENDIX VI

FUEL OIL (BURNING OIL) TESTS

No. 1 and No. 2 Fuel Oil

Pensky-Martens Closed Cup Flash Point	27.50
Pour Point (average cost)	35.00
Water & Sediment	20.00
Ramsbottom Carbon Residue on 10% Residuum	55.00
Distillation	30.00
Viscosity @ 40 C.	25.00
Specific Gravity (convert from API)	15.00
Copper Corrosion	25.00
Sulfur, x-ray/Fluorescence	30.00/85.00
TOTAL	262.50/317.50

No. 4, 4 Light, 5 Light, and 5 Heavy Fuel Oil

Pensky-Martens Closed Cup Flash Point	27.50
Pour Point (Required for 4 and 4 Light), average	35.00
Water by Distillation	20.00
Sediment by extraction	25.00
Ash	25.00
Viscosity @ 40 C. or 100 C. Reverse Flow	
@ 40 C. or 100 C., each	40.00
Viscosity @ 40 C. (required for 4 Light)	40.00
Sulfur, ASTM D129, optional	35.00
Density (From API Gravity, Required for 4 Light)	25.00

Total for No. 4 Light 232.50

Total for No. 4 232.50

Total for No. 5 Light 172.50

Total for No. 5 Heavy 172.50

Optimum Preheating Temperature - No Charge Provided
Viscosities Are Determined
At Two Temperatures

Optional - Trace Sulfur by UV Fluorescence 85.00

FUEL OIL (BURNING OIL) TESTS CONTINUED:

No. 6 Fuel Oil

Pensky-Martens Closed Cup Flash Point	27.50
Water by Distillation	20.00
Sediment by Extraction	25.00
Viscosity @ 100 C.	
Reverse Flow	40.00
Sulfur, ASTM D129 (Optional)	35.00
Pour Point (Optional), average cost	35.00

Total For No. 6	182.50
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APPENDIX VII

DIESEL FUEL

No. 1 and No. 2 Diesel Fuel

Pensky-Martens Closed Cup Flash Point	27.50
Cloud Point (average cost)	35.00
Water & Sediment, Trace	20.00
Ramsbottom Carbon Residue on 10% Residuum	55.00
Ash	25.00
Distillation	30.00
Viscosity @ 40 C.	25.00
Sulfur, D4294/D5453	30.00/85.00
Corrosion	25.00
Cetane	85.00
TOTAL	402.50

No. 1 and No. 2 Low-Sulfur Diesel Fuel

All The Requirements of No. 1 and No. 2 Diesel Fuel Plus:	
API Gravity (Required For Cetane Index)	15.00
Cetane Index or	No Charge
Aromaticity	70.00
TOTAL with Cetane Index	417.50
TOTAL with Aromaticity	472.50

No. 4 Diesel Fuel

Pensky-Martens Closed Cup Flash Point	27.50
Cloud Point (average cost)	35.00
Water & Sediment	20.00
Ash	25.00
Viscosity @ 40 C.	25.00
Sulfur (ASTM D129/D4294)	35.00
Cetane	85.00
TOTAL	252.50

Optional Tests For All Grades

Filtration Cleanliness	65.00
Oxidation Stability (Accelerated Method)	100.00
Steam Jet Existent Gum	45.00
Trace Sulfur by UV Fluorescence (required by EPA regulation after 2006)	85.00
Biodiesel Content	90.00

APPENDIX VIII

COMPREHENSIVE GASOLINE ANALYSIS

Doctor Test	20.00	
Distillation	30.00	
Reid Vapor Pressure	25.00	
Lead	75.00	
Copper Corrosion	25.00	
Existent Gum	30.00	
Potential Gum, 240 min.	50.00	
Induction Period, 240 min.	35.00	
Sulfur	85.00	
Phosphorus	65.00	
Research Octane	85.00	
Motor Octane	85.00	
V/L Ratio (calculated)	25.00	
Water Tolerance	50.00	
	TOTAL	685.00
Optional Tests		
Alcohols by Gas Chromatography		275.00
Ethers by Gas Chromatography		275.00

APPENDIX IX

SELECTED ANALYSES FOR LPG

Reid Vapor Pressure	75.00
Temperature at 95% Evaporated	75.00
Composition by Gas Chromatography	275.00
R No.	75.00
O No.	75.00
Specific Gravity	75.00
Copper Corrosion	75.00
Sulfur	125.00
Hydrogen Sulfide	60.00
Moisture, Valve Freeze	95.00
Free Water	n/c with specific gravity
Mercaptans by Gas Chromatography, per analyte	750.00
Disulfides by Gas Chromatography, per analyte	750.00

APPENDIX X

JET TURBINE FUEL ANALYSIS

Acidity	25.00
Aromatics (FIA)	70.00
Sulfur, Mercaptan	175.00
Sulfur, Total(x-ray)	30.00
Doctor Test	20.00
Distillation	30.00
Flash Point	27.50
API Gravity	15.00
Reid Vapor Pressure	25.00
Freezing Point	65.00
Viscosity @ -4 F.	50.00
Net Heat of Combustion, ASTM D1405	n/c
Aniline Point	35.00
Sulfur (x-ray)	30.00
Sulfur (bomb method)	35.00
Net Heat of Combustion, Measured, ASTM D240	
Jet A, plus sulfur	95.00
JP-4, plus sulfur	95.00
Smoke Point	42.50
Naphthalenes	125.00
Copper Corrosion	25.00
Thermal Stability, plus parts	295.00
Existent Gum	50.00
Water Reaction	27.50
Electrical Conductivity	42.50
Water Separometer Index, Modified (WSIM)	150.00

APPENDIX X (CONTINUED)

MIL-T-5624L, Am. 2, Turbine Fuel, Aviation,
 Grades JP-4 and JP-5

Saybolt Color (ASTM D156)	22.50
Total Acid No. (ASTM D3242)	35.00
Aromatics and Olefins (ASTM D1319)	
JP-4	70.00
JP-5	70.00
Mercaptan Sulfur (ASTM D3227)	175.00
Doctor Test (optional)	20.00
Total Sulfur (ASTM D4294)	30.00
Distillation (ASTM D86)	35.00
Explosiveness (FTMS 791b, 1151.1, Note 2)	85.00
Flash Point, PMCC, (ASTM D93, Note 2)	27.50
API Gravity and Density @ 60 F. (ASTM D1298, Note 3)	15.00
Density @ 15 C., by pycnometer (Optional)	27.50
Reid Vapor Pressure (ASTM D323, Note 1)	25.00
Freezing Point (ASTM D2386)	65.00
Viscosity @ -20 C. (ASTM D445, Note 2)	42.50
Heating Value	
Aniline-Gravity Product and/or Calculated Net Heat of Combustion (ASTM D1405)	40.00
Measured Net Heat of Combustion (ASTM D240)	50.00
	plus cost of sulfur and hydrogen determinations

Note 1: Required for JP-4 only.

Note 2: Required for JP-5 only.

Note 3: API Gravity is defined at 60 F. which is not equal
 to 15 C.

APPENDIX X (CONTINUED)

Hydrogen Content (ASTM E191)	45.00
Smoke Point (ASTM D1322)	42.50
Naphthalenes, optional (ASTM D1840)	125.00
Copper Corrosion, 2 hrs. @ 100 C. (ASTM D130)	25.00
Thermal Stability (ASTM D3241), plus parts	295.00
Existent Gum, Steam Jet (ASTM D381)	45.00
Particulate Matter and Filtration Time, Filtration of one gallon (ASTM D2276)	65.00
Water Reaction (ASTM D1094)	27.50
WSIM (ASTM D2550)	150.00
FSII (FTMS 791b, 5327.3)	35.00
Fuel Electrical Conductivity (ASTM D2624, Note 1)	42.50
Peroxide Number (ASTM D3703, Note 2)	35.00

Note 1: Required for JP-4 only.

Note 2: Required for JP-5 only.

APPENDIX XI

SELECTED TESTS FOR AUTOMATIC TRANSMISSION FLUID

Coefficient of Expansion @ 60 F.	60.00
Compatibility	100.00 per set of blends
Copper Corrosion, 3 hrs. @ 300 F.	75.00
Corrosion and Oxidation Test (with sludge)	165.00
Flash Point and Fire Point (average cost)	42.50
Foaming Characteristics	60.00
Galvanic Corrosion	75.00
Rubber Swell, Elongation, Hardness	225.00 + cost of rubber parts if o-rings or seals are used
Rust Protection, Humidity Cabinet, 100 hrs., 3 panels	240.00
Rust Test with distilled water	65.00
Specific Gravity	
@ 60 F. (from API Gravity)	15.00
@ 210 F.	35.00
@ 300 F.	75.00
Specific Heat, 60 F. to 300 F.,	1500.00
Timken Abrasion, 6 hour	550.00 + parts
Viscosity @ 100 F.	25.00
Viscosity @ 210 F.	25.00
Viscosity @ 0 F. (extrapolated)	n/c
Viscosity @ 0 F. (Brookfield)	100.00
Viscosity @ -10 F. (Brookfield)	100.00
Viscosity @ -20 F. (Brookfield)	225.00
Viscosity @ -30 F. (Brookfield)	225.00
Viscosity @ -40 F. (Brookfield)	225.00

APPENDIX XII

BRAKE FLUID MOTOR VEHICLE SAFETY STANDARD NO. 116

S 5.1.1	Equilibrium Reflux Boiling Point (Duplicate Determination)	100.00
S 5.1.2	Wet Equilibrium Reflux Boiling Point (Duplicate Determination)	550.00 + cost of SAE RM-1 compatibility fluid
S 5.1.3	Kinematic Viscosity	
	@ 100 C.	25.00
	@ -40 C.	42.50
S 5.1.4	pH Value	75.00
S 5.1.5	Brake Fluid Stability	
	S 5.1.5.1 High Temperature Stability (Duplicate Determination)	250.00
	S 5.1.5.2 Chemical Stability	150.00
		+ cost of SAE RM-1 compatibility fluid
S 5.1.6	Corrosion (Duplicate Determination)	
	DOT 3 or 4	575.00 + parts
	DOT 5	800.00 + parts
S 5.1.7	Fluidity and Appearance at Low Temperature	225.00
S 5.1.8	Evaporation (Quadruplicate Determination)	350.00
S 5.1.9	Water Tolerance	
	DOT 3 or 4	250.00
	DOT 5	600.00
S 5.1.10	Compatibility	275.00 + cost of SAE RM-1 compatibility fluid
S 5.1.11	Resistance to Oxidation (Duplicate Determination)	
	DOT 3 or 4	375.00
	DOT 5	725.00
S 5.1.12	Effects on SBR Cups, plus cost of SBR cups	
	70 hrs. @ 70 C.	150.00
	70 hrs. @ 120 C.	150.00
S 5.1.13	Stroking Properties	Not available
S 5.1.14	Fluid Color (Visual)	n/c