Steel Shield Technologies

Serving the industry since 1985

Commitment to Excellence

Our customers are meant to come for a reason.

We're here to Change the World

Energy & Lubricants

ENERGY

Steel Shield Technologies

was appointed in 2013 by Steel Shield Technologies, Inc.,
a company found by the Fennell family in 1985 in Pennsylvania USA
as the official representative for the Asia-Pacific rim.

Steel Shield Technologies (Asia Pacific) Ltd , a company registered in Hong Kong, has been in the Energy and Lubricants business since 1996.

- Steel Shield Technologies is one of the leading suppliers that specializes in Fuel Oils and Specialty Lubricants. For security purposes and to better serves his customers the Company has designated the role of logistics and finance to two of his associate companies namely GFI (Global Fortune Int'l Ltd) and SEL (Sinocham Enterprises HK Ltd).
- GFI is a company registered in BVI and HK, closely connected with major oil refineries in the Middle East including Iraq, UAE, as well as Nigeria, Venezuela and Russia, and is responsible for logistics and channeling of fuel oils to the customer.
- SEL was founded in 1997 and is the trading arm of the Win Win Group, a conglomerate which was established more than 30 years ago in Hong Kong major in machinery distribution, property and hotel investment. SEL has very strong connection with major international banks and financial institutes, and is responsible for receiving LC from customers whilst issuing or transferring LC to the Refineries in Middle East & Russia.

ENERGY

STEEL SHIELD TECHNOLOGIES, INC.

3351 INDUSTRIAL BLVD.
BETHEL PARK, PENNSYLVANIA 15102-2543

Steel Shield Technologies

Workshop 9, 8th/Floor, Goodview Industrial Building, No.11 Kin Fat Street, Tuen Mun, HK

Lubricants

ABF Technology
Ionic Levitation
Motor Oils
Industrial Oils
Marine Oils
Asia-Pacific Rim

Fuel Oil & Gas

Buyer

GFI Logistics

supply

LC

SEL Finance

Russia
M100 10585-75
LPG

SOMO
Light Crude Oil
Basra

UAE
ILCO
SRGO
LPG

NNPC/PPMC
LPFO HPFO E10
BLCO LPG





UAE SOMO SPEC

STRAIGHT RUN 280 CST FUEL OIL

TABLE 1: GENERAL DATA

SPECIFICATION		RESULT	TEST METHOD
SPECIFIC GRAVITY @ 15.56 /15.56 °C		0.9764	ASTM D 4052
API		13.42	ASTM D 1298
SULPHUR CONTENT (Total)	Wt.%	3.19	ASTM D 4294
BASE SEDIMENT & WATER	Vol.%	0.05	ASTM D 1796
WATER CONTENT	Vol.%	<0.05	ASTM D 4006
SALT CONTENT	P.T.B	5	ASTM D 3230
FLASH POINT	° C	83	ASTM D 93
KINEMATIC VISCOSITY @ 40 ° C	mm^2 /Sec	628.3	ASTM D 445
" " @ 50 ° C	mm^2 /Sec	273.8	ASTM D 445
POUR POINT	° C	6	ASTM D 5853
ASH CONTENT	Wt.%	<0.2	ASTM D 482
ASPHALTENES	Wt.%	3.5	IP 143
WAX CONTENT	Wt.%	8.6	BP 237
DROP MELTING POINT OF WAX	° C	70	IP 133
CARBON RESIDUE CONRADSON	Wt.%	9.6	ASTM D 189
ACIDITY , TOTAL	mgKOH/gr	0.22	UOP 565
CALORIFIC VALUE	Kcal/Kg	10258	ASTM D 240
NICKEL CONTENT	PPm	23	ASTM D 5863
VANADIUM CONTENT	PPm	112	ASTM D 5863
IRON CONTENT	PPm	<1	ASTM D 5863
LEAD CONTENT	PPm	<1	ASTM D 5863
SODIUM CONTENT	PPm	12.0	ASTM D 5863

Sampling date: 17 Tir 1393 (8 July 2014)
Report date: 5 Mordad 1393 (27 July 2014)

T B P DISTILLATION ANALYSIS (ASTM D- 2892 &D- 5236)

STRAIGHT RUN 280 CST FUEL OIL

TABLE: 2 SP. GR @15.56/15.56 °C: 0.9764

FRAC. NO	BOILING RANGE OF FRAC.@ 760 mmHg DEG. C	WEIGHT PERCENT	CUTTING RANGE WT%	SP.Gr. @15.56/ 15.56 °C	VOLUME PERCENT	CUTTING RANGE VOL %
1	IBP-250	3.44	3.44	0.7985	4.21	4.21
2	250-275	1.34	4.78	0.8263	1.58	5.79
3	275-300	1.67	6.45	0.8445	1.93	7.72
4	300-325	2.31	8.76	0.8533	2.64	10.36
5	325-350	2.90	11.66	0.8725	3.25	13.61
6	350-385	5.64	17.30	0.8924	6.17	19.78
7	385-425	7.85	25.15	0.9220	8.31	28.09
8	425-450	6.05	31.20	0.9334	6.33	34.42
9	450-475	5.90	37.10	0.9465	6.09	40.51
10	475-500	5.82	42.92	0.9578	5.93	46.44
11	500-530	7.93	50.85	0.9675	8.00	54.44
12	530-565	8.89	59.74	0.9789	8.87	63.31
13	565+	40.26	100.00	1.0715	36.69	100.00

UAE SOMO SPEC

ABBAS 380 CST FUEL OIL

TABLE 1: GENERAL DATA

SPECIFICATION			RESULT	TEST METHOD
SPECIFIC GRAVITY @ 15.56 /15.56 °C			0.9785	ASTM D 4052
API			13.11	ASTM D 1298
SULPHUR CONTENT (Total)		Wt.%	3.45	ASTM D 4294
BASE SEDIMENT & WATER		Vol.%	0.1	ASTM D 1796
WATER CONTENT		Vol.%	<0.05	ASTM D 4006
SALT CONTENT		P.T.B	11	ASTM D 3230
FLASH POINT		° C	66	ASTM D 93
KINEMATIC VISCOSITY	@ 40 ° C	mm^2 /Sec	899.2	ASTM D 445
" "	@ 50 ° C	mm^2 /Sec	377.8	ASTM D 445
POUR POINT		° C	0	ASTM D 5853
ASH CONTENT		Wt.%	0.04	ASTM D 482
ASPHALTENES		Wt.%	5.4	IP 143
WAX CONTENT		Wt.%	3.3	BP 237
DROP MELTING POINT OF WAX		° C	64	IP 133
CARBON RESIDUE CONRADSON		Wt.%	13.5	ASTM D 189
ACIDITY , TOTAL		mgKOH/gr	0.11	UOP 565
CALORIFIC VALUE		Kcal/Kg	10149	CALCULATED
NICKEL CONTENT		PPm	68	ASTM D 5863
VANADIUM CONTENT		PPm	202	ASTM D 5863
IRON CONTENT		PPm	7.5	ASTM D 5863
LEAD CONTENT		PPm	<1	ASTM D 5863
SODIUM CONTENT		PPm	25	ASTM D 5863

Sampling date: 30 Shahrivar 1393 (Sep. 21, 2014)
Report date: 15 Mehr 1393 (7 Oct. 2014)

T B P DISTILLATION ANALYSIS (ASTM D- 2892 &D- 5236)

ABBAS 380 CST FUEL OIL

TABLE: 2 SP. GR @15.56/15.56 °C: 0.9785

FRAC. NO	BOILING RANGE OF FRAC.@ 760 mmHg DEG. C	WEIGHT PERCENT	CUTTING RANGE WT%	SP.Gr. @15.56/ 15.56 °C	VOLUME PERCENT	CUTTING RANGE VOL %
1	IBP-225	4.72	4.72	0.7967	5.80	5.80
2	225-250	7.90	12.62	0.8106	9.54	15.34
3	250-275	3.53	16.15	0.8318	4.15	19.49
4	275-300	1.14	17.29	0.8508	1.31	20.80
5	300-325	0.72	18.01	0.8708	0.81	21.61
6	325-350	0.74	18.75	0.8951	0.81	22.42
7	350-385	0.91	19.66	0.9055	0.98	23.40
8	385-425	1.55	21.21	0.9173	1.65	25.05
9	425-450	1.51	22.72	0.9293	1.59	26.64
10	450-475	3.05	25.77	0.9402	3.17	29.81
11	475-500	5.54	31.31	0.9513	5.70	35.51
12	500-530	6.60	37.91	0.9598	6.73	42.24
13	530-565	9.17	47.08	0.9718	9.23	51.47
14	565+	52.92	100.00	1.0670	48.53	100.00

UAE SOMO SPEC

LIGHT EXPORT CRUDE OIL

TABLE 1: GENERAL DATA

SPECIFICATION		RESULT	TEST METHOD
SPECIFIC GRAVITY @ 15.56 /15.56 °C		0.8597	ASTM D 4052
API		33.09	ASTM D 1298
SULPHUR CONTENT (Total)	Wt.%	1.33	ASTM D 4294
MERCAPTAN CONTENT	ppm	67	UOP 163
*H2S CONTENT	ppm	24	
NITROGEN CONTENT (Total)	Wt.%	0.12	ASTM D5762
BASE SEDIMENT & WATER	Vol.%	<0.05	ASTM D 1796
WATER CONTENT	Vol.%	<0.05	ASTM D 4006
SALT CONTENT	P.T.B	5.0	ASTM D 3230
KINEMATIC VISCOSITY @10 °C	mm²/Sec	16.66	ASTM D 445
" " @ 20 °C	mm²/Sec	11.22	ASTM D 445
" " @ 40 °C	mm²/Sec	6.046	ASTM D 445
POUR POINT	°C	-18	ASTM D 5853
*R.V.P.	PSI	6.90	ASTM D 323
ASPHALTENES	Wt.%	1.0	IP 143
WAX CONTENT	Wt.%	5.1	BP 237
DROP MELTING POINT OF WAX	°C	56	IP 133
CARBON RESIDUE CONRADSON	Wt.%	4.00	ASTM D 189
ACIDITY , TOTAL	mgKOH/gr	0.09	UOP 565
NICKEL CONTENT	PPm	14	ASTM D 5863
VANADIUM CONTENT	PPm	69	ASTM D 5863
IRON CONTENT	PPm	<1	ASTM D 5863
LEAD CONTENT	PPm	<1	ASTM D 5863
SODIUM CONTENT	PPm	9	ASTM D 5863
ZINC CONTENT	PPm	<1	ASTM D 5863
COPPER CONTENT	PPm	<1	ASTM D 5863

* Tested on site

Sampling date: Mordad 1392 (16 Aug. 2013)
Report Date:Shahrivar 1392 (Sep. 2013)

LIGHT EXPORT CRUDE OIL (Winter Case)

TABLE 1: GENERAL DATA

SPECIFICATION		RESULT	TEST METHOD
SPECIFIC GRAVITY @ 15.56 /15.56 °C		0.8545	ASTM D 4052
API		34.1	ASTM D 1298
API (DEBUTANIZED)		33.4	ASTM D 1298
SULPHUR CONTENT (Total)	Wt.%	1.53	ASTM D 4294
*H2S CONTENT	ppm	42	-----
MERCAPTAN CONTENT	ppm	85	UOP 163
NITROGEN CONTENT (Total)	Wt.%	0.13	ASTM D5762
BASE SEDIMENT & WATER	Vol.%	<0.05	ASTM D 1796
WATER CONTENT	Vol.%	<0.05	ASTM D 4006
SALT CONTENT	P.T.B	4.0	ASTM D 3230
KINEMATIC VISCOSITY @10 °C	mm²/Sec	17.02	ASTM D 445
" " @ 20 °C	mm²/Sec	12.10	ASTM D 445
" " @ 40 °C	mm²/Sec	5.703	ASTM D 445
POUR POINT	°C	-12	ASTM D 5853
*R.V.P.	PSI	9.85	ASTM D 323
ASPHALTENES	Wt.%	1.17	IP 143
WAX CONTENT	Wt.%	6.2	BP 237
DROP MELTING POINT OF WAX	°C	58	IP 133
CARBON RESIDUE CONRADSON	Wt.%	4.10	ASTM D 189
ACIDITY , TOTAL	mgKOH/gr	0.08	UOP 565
NICKEL CONTENT	PPm	18	ASTM D 5863
VANADIUM CONTENT	PPm	61	ASTM D 5863
IRON CONTENT	PPm	<1	ASTM D 5863
LEAD CONTENT	PPm	<1	ASTM D 5863
SODIUM CONTENT	PPm	<1	ASTM D 5863
ZINC CONTENT	PPm	<1	ASTM D 5863
COPPER CONTENT	PPm	<1	ASTM D 5863

*Tested on site

Sampling date: 13 Day 1392 (January 3, 2014)
Report Date: 27 Bahman 1392 (February 16, 2014)

UAE SOMO SPEC

TECHNICAL SPECIFICATIONS

FUEL OIL 180 cSt- CATALYTIC CRACKED

Property	Units	ISO Method	Min	Max
Density @ 15°C	Kg/1	ISO 3675		0.991
Kinematic Viscosity @ 100°C	mm2/s	ISO 3104		25.00
Sulphur Content	%(m/m)	ISO 8754		3.500
Pour Point	°C	ISO 3016		15.00
Flash Point	°C	ISO 2719	60	
Water	%(v/v)	ISO 3733		0.500
Carbon Residue	%(m/m)	ISO 10370		18.00
Ash	%(m/m)	ISO 6245		0.100
Vanadium	Mg/kg	ISO 14597		400
Aluminium plus Silicon	Mg/kg	ISO 10478		80.00
Total sediment, potential	%(m/m)	ISO 1030-2		0.100
Total Sediment, existent	%(m/m)	ISO 10307-2		0.100
Total Sediment, Differential	%(m/m)			0.050
Strong Acid Number	Mg/KOH/g	ISO 6618		NIL
Total Acid number	Mg/KOH/g	ISO 6619		3.00

T B P DISTILLATION ANALYSIS (ASTM D- 2892 &D- 5236)

LIGHT EXPORT CRUDE OIL

TABLE: 2 SP. GR @15.56/15.56 °C: 0.8597

FRAC. NO	BOILING RANGE OF FRAC.@ 760 mmHg DEG. C	WEIGHT PERCENT	CUTTING RANGE WT%	SP.Gr. @15.56/ 15.56 °C	VOLUME PERCENT	CUTTING RANGE VOL %
1	IBP-15	1.25	1.25	0.5558	1.93	1.93
2	15-65	3.43	4.68	0.6419	4.59	6.52
3	65-100	5.14	9.82	0.7114	6.21	12.73
4	100-125	4.10	13.92	0.7419	4.75	17.48
5	125-150	4.04	17.96	0.7652	4.54	22.02
6	150-175	4.25	22.21	0.7795	4.69	26.71
7	175-200	4.00	26.21	0.7888	4.36	31.07
8	200-225	3.70	29.91	0.8095	3.93	35.00
9	225-250	3.92	33.83	0.8211	4.10	39.10
10	250-275	4.08	37.91	0.8314	4.22	43.32
11	275-300	4.19	42.10	0.8427	4.27	47.59
12	300-325	4.26	46.36	0.8525	4.30	51.89
13	325-350	4.10	50.46	0.8666	4.07	55.96
14	350-385	5.57	56.03	0.8835	5.42	61.38
15	385-425	7.08	63.11	0.9108	6.68	68.06
16	425-450	4.66	67.77	0.9195	4.36	72.42
17	450-475	4.08	71.85	0.9371	3.74	76.16
18	475-500	3.75	75.60	0.9481	3.40	79.56
19	500-530	3.46	79.06	0.9608	3.10	82.66
20	530-565	3.86	82.92	0.9705	3.42	86.08
21	565+	17.08	100.00	1.0549	13.92	100.00

UAE SOMO SPEC

LPG GUARANTEED SPECIFICATION

PROPANE

Test Item	Test Method	Specification
Sp. Gr. 15.6/15.6 Deg.C	ASTM D 2598	To be reported
Vapor pressure (psig at 100 Deg.F)	ASTM D 1267 or D 2598	Max 200
Propane content (vol %)	ASTM D 2163	Min 96.0
Ethane content (vol %)	ASTM D 2163	Max 2.0
Volatile residue (Butane+)(Vol %)	ASTM D 2163	Max 2.5
Residue on evaporation of 100ml	ASTM D 2158	Max 0.05
Oil stain observation	ASTM D 2158	Pass
Copper corrosion	ASTM D 1838	No. 1 strip
Sulfur content (ppm)	ASTM D 1266 or D 5453	Max 40
H2S	ASTM D 2420 or IP103	Negative
Moisture	ASTM D 2713 or D 1744	Pass

BUTANE

Test Item	Test Method	Specification
Sp. Gr,15.6/15.6 Deg.C.	ASTM D 2598	To be reported
Vapor Pressure(psig at 100 deg.F)	ASTM D 1267 or D 2598	Max 70
Butane content (vol%)	ASTM D 2163	Min 95.0
Volatile residue (Pentanc +)(vol%)	ASTM D 2163	Max 2.0
Copper corrosion	ASTM D 1838	No. 1 strip
Sulfur content(ppm)	ASTM D 1266 or D 5453	Max 80
H2S	ASTM D 2420	Negative
Free water	Visual	None

SOMO

STATE OIL MARKETING ORGANIZATION (SOMO)

TERM AND CONDITION:

1. COMODITY: IRAQI BASRA LIGHT CRUDE OIL
2. ORIGIN: IRAQ.
3. SPECIFICATIONS: (SEE BELOW)

TO BE ADVISED IN FULL, STANDARD EXPORT QUALITY AS AVAILABLE AT THE LOADING TERMINAL AT THE TIME OF LOADING SEE THE FOLLOWING:

Specific Gravity @ 15.60 c	0.859
API	33.45 MAX
Water and sediment content	0.2% Max
Pour point	.35
Reid vapor pressure	nil
Sulphur content wt%	1.2,1.5
Salt ib 100.00 Brt	8 Max
Carbon residue wt%	nil
Water vol	0.1% vol.
Ash content Wt %	Nil
Asphalt content Wt %	Max 1
ASTM distillation I.B.P C	3.7 deg
Recovery at 50 deg Vm % min	0.8
100 deg	0.8
200 c deg	.37
250 C deg	.37
300 deg	.45

4. INSPECTION: BAY SABOLTS OR SGS QUALITY AND CUANTITY LOADED IN BUYERS TANKERS.
5. DELIVERY TERMS AND LOADING PORT: F. O. B. IRAQ.
6. CONTRACT DURATION: 12 TO 60 MONTHS WITH POSSIBLE EXTENTIONS.
7. PAYMENT: BY AN IRREVOCABLE, REVOLVING, CONFIRM DL/C ISSUE BY PRIME WORLD BANK.

-BANK OPENED TO HE SELLER BANK IN FORMAT ACCEPTABLE TO THE SELLER PAYABLE.
- PER EACH LIFTED CARGO 100% AT SIGHT AFTER EACH LOADING OF THE BUYERS TANKERS LOADED, AGAINST PRESENTATION OF THE REQUIRED SHIPPING DOCUMENTS.
-INCLUDING THE SUPERINTENDING CERTIFICATES

NNPC/PPMC BLCO SCHEME

ONE OF THE CURRENT FOCUS OF STEEL SHIELD IS TO WORK ON LIGHT CRUDE OIL FROM NIGERIA "BLCO" WHEREBY OUR NIGERIAN ASSOCIATES WOULD SUPPLY "FREE OF CHARGE" UP TO 2 MILLION BARRELS OF BLCO ON MONTHLY BASIS FOR 12 MONTHS CONTRACT WITH ROLLOVER TO ANY PROCESSING REFINERIES INTRODUCED BY GFI. AN INTRODUCTION TO THIS VERY PROFITABLE SCHEME WILL BE DISCLOSED UPON REQUEST.

SPECIFICATIONS

API	33.35 Min
Specific gravity:	0.8522.
Water and sediment (% max):	0.2% Vol. Max
BSW:	0.6% Vol, max,
Density at 20 c degrees co-cm max.	0.45
Density at 15 c degrees co-cm max.	0.8522
Sulphur content wt.pct mas;	0.14
Colour:	DARK BROWN.
Salinity ptb at;	0.10% MAX.
Acid number;	0.339
Reid vapour psig;	6.52 MAX.
PCT MAX;	1.00
Vanadium wr. PPM	1.00
Nikel wt. PPW	2.00

LUBRICANTS Customers are meant to come for a reason

"It is our conviction that total satisfaction is not sufficient, we are here to help customers to achieve the highest return on investment."

Company Vision & Commitment

- Steel Shield Technologies Inc. (USA) sole purpose is to manufacture premier quality metal treatments, additives, greases and lubricant oils that have been tested to exceed the normal parameters of extreme pressure and anti-wear products in the aftermarket, hereby offering matchless performance and unsurpassed protection against wear while saving maintenance costs, downtime, energy and improving overall functionality of your machineries.
- Steel Shield "Not Just Oil, It's Technology" which makes a difference to the World of Lubrication.
- Steel Shield aims at helping customers to achieve the highest return on investment (ROI). Steel Shield is committed to strengthening business and global commerce through manufacturing and distributing, World-wide, the full line of ABF Technology products made in the USA, Singapore and Hong Kong.

CHIEF EXECUTIVES

STEEL SHIELD TECHNOLOGIES (ASIA PACIFIC) LTD

MR. LIU KA-LIM, LOUIS HAS BEEN AN EXECUTIVE DIRECTOR OF UNITED SIMSEN SECURITIES LTD., A SECURITIES FIRM LISTED IN HONG KONG, SINCE MAY 2010.
MR. LIU, A FORMER BANKER, HAS OVER 30 YEARS OF PROFESSIONAL EXPERIENCE IN THE FIELDS OF FINANCE AND MERGER & ACQUISITION.
HE HAS BEEN THE CHAIRMAN OF THE BOARD OF LP LAMMAS INTERNATIONAL LTD. SINCE JANUARY 2004.
HE SERVED AS CHAIRMAN AND DIRECTOR OF GOOD FELLOW RESOURCES HOLDINGS LIMITED (FORMERLY WONDERFUL WORLD HOLDINGS LIMITED) FROM OCTOBER 2003 TO MARCH 2006.
HE SERVED AS THE CHAIRMAN OF GALILEO CAPITAL GROUP LIMITED, A COMPANY LISTED IN HONG KONG FROM MARCH 2004 TO AUGUST 2006, .
HE SERVED AS EXECUTIVE CHAIRMAN OF SUN INTERNATIONAL GROUP LIMITED FROM JANUARY 2004 TO AUGUST 14, 2006.
HE SERVED AS DIRECTOR OF UNITED PACIFIC INDUSTRIES LTD. SINCE JANUARY 2011 UNTIL JUNE 2013.
HE SERVED AS AN INDEPENDENT NON-EXECUTIVE DIRECTOR OF CHINA TIMBER RESOURCES GROUP LIMITED (FORMERLY SEAPOWER RESOURCES INTERNATIONAL LTD.) FROM SEPTEMBER 2004 TO FEBRUARY 2007.

MR. LIU IS A FELLOW MEMBER OF ACCA/FCCA (THE ASSOCIATION OF CHARTERED CERTIFIED ACCOUNTANTS)
MR. LIU IS AN ASSOCIATE MEMBER OF HKICPA (THE HONG KONG INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS).
MR. LIU IS AN ASSOCIATE MEMBER OF THE HONG KONG SOCIETY OF ACCOUNTANTS.
MR. LIU IS A MEMBER OF HKSI (THE HONG KONG SECURITIES & INVESTMENT INSTITUTE)

MISS LAM SO YING, EVA HAS BEEN A DIRECTOR & RESPONSIBLE OFFICER OF BRIDGE PARTNERS CAPITAL LIMITED SPECIALIZED IN MERGER & ACQUISITION OF LISTED COMPANIES.
MISS LAM HAS OVER 18 YEARS OF PROFESSIONAL EXPERIENCE IN THE FIELDS OF CHINA TRADE AND LOGISTIC OPERATION.
SHE SERVED AS DIRECTOR OF TWO TRADE & FINANCE COMPANIES LISTED ON HKEX-GEM (HK EXCHANGE GROWTH ENTERPRISE MARKET) FROM 2002 TO 2010.

MISS LAM IS A MEMBER OF ABE UK (ASSOCIATION OF BUSINESS EXECUTIVES).
MISS LAM IS A MEMBER OF HKSI (THE HONG KONG SECURITIES & INVESTMENT INSTITUTE).

MR. WAN POK-CHAU, ANDIES HAS BEEN THE DIRECTOR OF STEEL SHIELD TECHNOLOGIES (ASIA PACIFIC) LTD SINCE 2012.
MR. WAN HAS BEEN MANAGING DIRECTOR OF BISON ENTERPRISES LTD SINCE 1978.
HE SERVED AS DIRECTOR OF SOLID GAIN INTL LTD FROM 2006 TO 2012.
HE SERVED AS DIRECTOR OF HARVEST (HK) LTD FROM 2003 TO 2006.
HE SERVED AS DIRECTOR & GENERAL MANAGER OF MEGA-X RESOURCES LTD FROM 1997 TO 2003.
HE SERVED AS DIRECTOR OF FOUR SEASONS TOURS (AUSTRALIA) FROM 1970 TO 1978.
HE HAS BEEN A DIRECTOR OF LITECRETE INDUSTRIES LIMITED (AUSTRALIA) SINCE 2006.

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logy in the World

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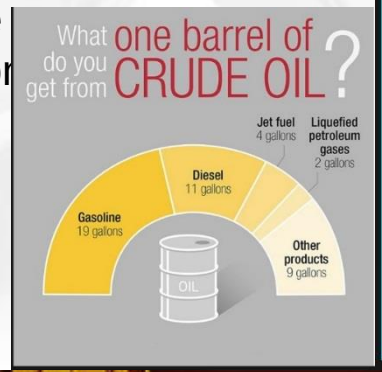
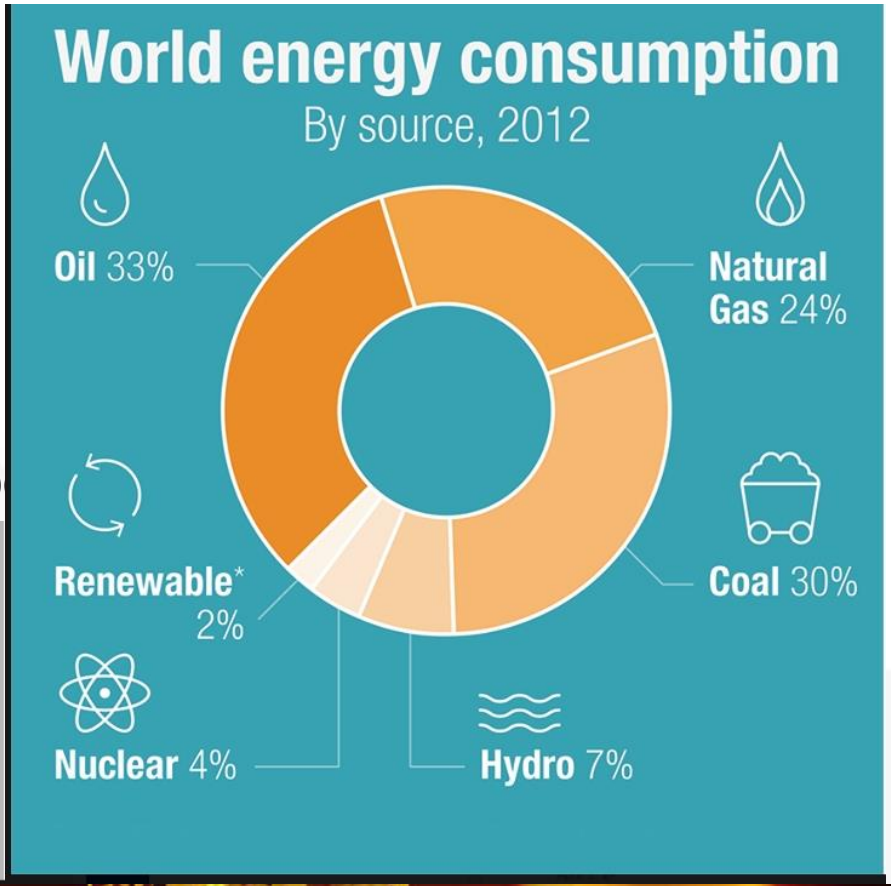




1. THE CORPORATION HISTORY & FACILITIES

Steel Shield Technologies Inc. (USA) with it's history traced back to 1985 when in USA, Pennsylvania the scientist Dr. George C Fennell in the research and development of high-end specialty lubricants invented the unique ABF Formula – Ionic Levitation. In the same year Muscle Product Corporation trading as MPC was found by George Fennell, brother Jay Fennell and father Richard Fennell and the purpose was to market his invention MT-10. Since then and till to date George's product has become a must for the combat units of the US Armed Forces.


Richard Fennell


Jay Fennell


George Fennell


Carol Fennell


Business Meeting - 1986

In 1997 the father retired and gifted all shares to his two sons. In 1998 for private reasons the two brothers entrusted Sharon Murphy-Dittrich with the shares of MPC, at the time she was a staff. During 1998~2004 the company's money was emptied by Sharon Murphy in properties investment and paying off her debts which were without the consent from George and Jay. When such was found George had brought the case to court but considering it would put MPC into deficit and cause an adverse effect to the name of the family George had to settle the case outside court. In 2006 at a board meeting held on 22nd May George resigned all his duty from MPC. In the same year George found STEEL SHIELD TECHNOLOGIES INC and renamed his invention MT-10 as Steel Shield. As of then George stopped supporting MPC and would not endorse any of its products for quality and performance.

Original Head Quarter at Fennell Drive, Butler, Pennsylvania, USA.

Steel Shield's blending and manufacturing capabilities are state of the art and the ability to produce limitless volume of product is unsurpassed as well as the product quality. The equipment is all stainless steel including the flow lines, pipes and couplers. All pumps and gauges are digitally interpreted and of the highest quality and accuracy to ensure production of the most superior quality lubricants.

Steel Shield Technologies was incorporated in 2012 in Hong Kong and is the official representative of Steel Shield Technologies (USA) to provide distribution and technical support for the entire Asia-Pacific Rim.

2. INVENTOR SCIENTIST – Dr. George C Fennell

Father of ABF Technology

Doctor of Astronomy and Astrophysics

Accreditation:

SAE (Society of Automotive and Aerospace Engineers)

ASNE (American Society of Naval Engineers) Membe

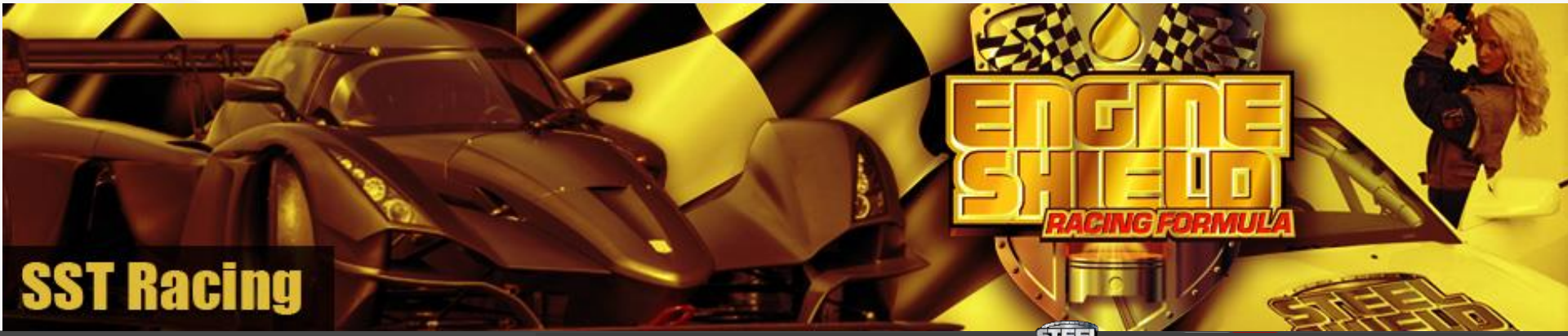
NCMA (National Contract Management Association) M

STLE (Society of Tribologists and Lubricant Engineers) Member

In 1985, Dr. George C Fennell, a former scientist in Astronomy and Astrophysics doing consulting and contract work in advanced lubrication and surface Tribology, formulated a revolutionary metal treatment oil additive which can activate “ABF” (Advanced Boundary Film) through a proprietary and unique “electro-chemical ionization” (ECI) process. He has been known in the industry as the “Father of ABF Lubrication”.

On the basis of ABF technology, a series of specialty lubricants have been developed to meet the stringent requirements of various purposes and working conditions, as to date is still the most advanced formula in lubrication.

Over the years, there have been countless people trying to resemble Dr. Fennell’s unique formula and advanced chemistries, none was found even remotely close. To this date, Dr. Fennell is still the leader in tribology and lubrication.



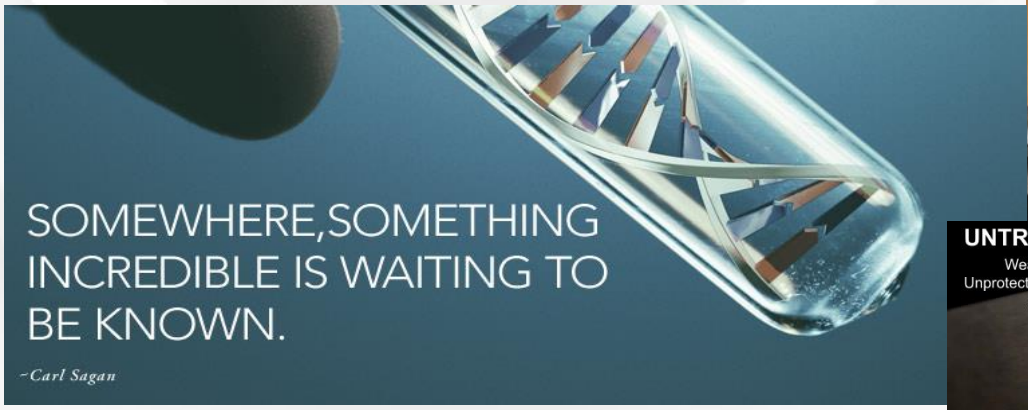
3. THE BIRTH OF ABF TECHNOLOGY

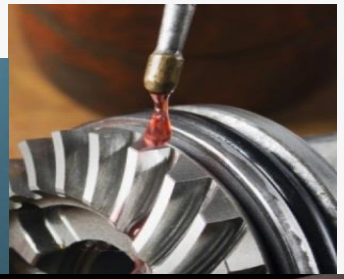
- During World War II, the German Science and Technology Research Institute was commissioned to develop a new lubricant technology in meeting the stringent demand for heavy duty military application such as artillery, armored vehicles, tanks, battleships and fighter-aircrafts to avail them in performing their maximum fighting capacity with minimal maintenance.

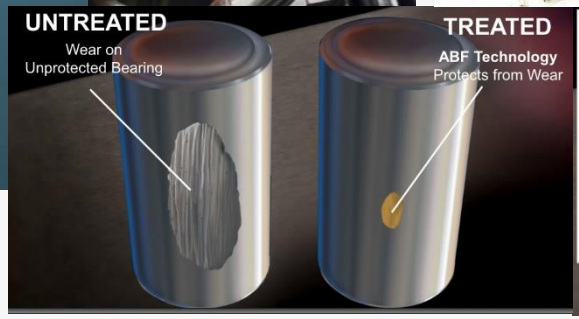
- The scientists proposed the concept of Zero friction, i.e. Faraday's Law Like-Charge-Repel.

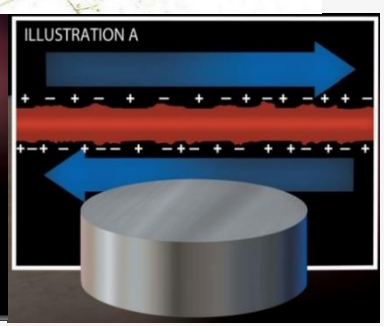
- Shortly after WW II, a great number of intelligent scientists migrated to the United States from Europe. One of them was the grandfather of Dr. George Fennell, who came to USA along with him a large volume of research data and material about Zero friction. The old scientist continued to pursue his scientific research and eventually in 1986 his grandson Dr. George Fennell came with a breakthrough in the technology. Through Electro Chemical Ionization (also known as Reactive Chemical Bonding) Dr. Fennell was able to realize Maglev between two metallic surfaces and to achieve a close to Zero Friction Coefficients.

- The great accomplishment was the result of relentless efforts of 3 generations scientists over half a century. In recognition of the excellent contribution of Fennell's family to the country, the US Government has named the street outside their old factory Fennell Avenue as a compliment.









Steel Shield –
Bio-Organo Lubrication Technology

4. ABOUT ABF TECHNOLOGY

Steel Shield Technologies' mechanism of operation is based upon Tribology methods that improve lubricity and load carrying capacity by improving surface characteristics and creating a stable chemical, corrosion controlled halide-based boundary film. Steel Shield's active components react with each other and the contacting asperities of the metallic surfaces to provide five mechanisms of improvement.

1. Advanced chemical boundary film formation through reactive chemical bonding.
2. Ring opening, oxirane acid scavenging and advanced corrosion inhibition.
3. Organo-metallic substitution of surface metal and free radical reactionaries.
4. Improved surface smoothness and rolling out of irregular contacting asperities.
5. Re-conditioning and molecular reconstruction of the original contacting metal surfaces.

The process of advanced boundary film formation is accomplished with an advanced combination of halogens that are controlled and rendered non-corrosive to the base metals of the system and pose no threat to the ozone layer or waste oil recovery systems due to their origins and long chain molecular lengths. These halogens initially react under thermal conditions with the organo-metallic reagents to form surface attaching compounds, thereby limiting and controlling the formation of halides from the base metals themselves. These surface attaching reagents or "electro-negative compounds" seek out and affix themselves to the lower surface areas referred to as micro-pores and fissures, as all metals are crystalline in structure and exhibit a lattice type matrix. This complex process also incorporates Van der Waal forces and dipole-dipole surface reactions. During this process, surface lapping and asperity (irregular microscopic contacting and opposing surfaces) roll-out is also achieved, yielding improved spread characteristics of the surfaces themselves. Due to the increase of film strength by the filling of the micro-pores and fissures, along with thermal modification of the asperities, the resulting effect is a gradual rolling out or flattening of the metal asperities rather than a breaking off or chip-away process, which would create metallic debris in the lubricant leading to abrasive wear from wear metal particles. The resulting improvement in the opposing metal surfaces further increases the fluid film strength, which is dependent on the degree of surface roughness and viscosity.

Viscosity, however, is a lesser consideration when incorporating boundary additives or halogenation techniques.

In general, boundary friction and wear consists of two components, a shear or adhesion component and a plowing or deformation component. Considering the following equation:

$$Fs = SAr$$

Where Fs is the shear component, which predominates except when asperities sink too deeply into a boundary lubricant film or a soft opposing surface. When movement or sliding occurs, the shear friction force depends on the shear resistance per unit area, S, of any "boundary film" in the real load-supporting area between asperities. Dividing by the load, W gives the shear contribution to the friction coefficient, becoming independent of total load and apparent area of contact:

$$fs = S * Ar / W = S / Pp \text{ or } S / Pe$$

The boundary film shear resistance, S, is assumed equal to the plastic flow shear stress, Tp, of an ideal elastic, plastic solid. Such a solid gives shear stress independent of strain and strain rate at strains sufficiently large enough to cause plastic flow. The conditions that produce the "glass transition" from liquid to plastic-like behavior are dependent on the viscosity of the material at normal temperatures and pressures and the variation of viscosity with temperature and pressure. In other words, glass transition depends strongly on chemical composition.

These results show that liquid lubricants act like plastic solids in the films between asperities. Therefore, S=Tp in the previous equation and the friction coefficient is Tp/Pp or Tp/Pe. Since Tp is a weak function of temperature and pressure, and Pp or Pe are independent of apparent contact load, the frictional coefficient for a given combination of lubricant and sliding surfaces tends to be independent of operating conditions.

Elasto-hydrodynamic lubrication (ELH) on an asperity scale deposits film material between sliding surfaces in "micro-rheodynamic" (micro-RHD) lubrication. As one surface slides, each asperity carries with it an aggregation of SST additive. Sufficient pressure and temperature is developed within the film to elastically deform the asperity and to force the extreme pressure reagent between the surfaces or into the micro-pores and fissures. During this time, high thermal conditions involving pressure and asperity contacts initiate a re-conditioning of the surfaces utilizing the existing oil to quench and cool the surfaces in the same process. A thermal restructuring of these asperity contact areas creates a deviation from the normal crystalline structure of the metal, expanding it into an austenitic crystalline pattern, which is more evenly structured and allows the SST additive to bond to the actual lattice of the metal, endowing it with new and unique properties upon cooling.

Organo-metallic substitution is a technique developed and designed to inhibit the process of halide formation from the base metals of the system under reaction. For example, instead of the halogen reacting with the iron in the system to form iron halides, a boundary surface salt, it reacts with a reagent having very similar properties to the iron atom itself, thereby forming a organo-metallic complex without scavenging the target metal surface itself, and depleting the metal in a chemically corrosive wear syndrome.

The process is very similar or analogous to the saponification of organo-metallic compounds in the manufacturing of greases. During this reaction or saponification, compounds react at a certain catalytic temperature and exchange characteristic components to form new compounds. These new chemical compounds are then used to aid in a boundary regime by providing an added protection to the actual surfaces being lubricated. Ring opening oxirane acid scavenging and corrosion inhibition is another chemical technique used to neutralize acids and inhibit oxidation and corrosion. This technique involves the use of specifically engineered complex ethylene oxide; oxirane rings, that possess reactive reagents which will cause a cleavage of the ring when encountering acids or strong alkaline. These reactions occur in the presence of both anionic- and cationic-type catalysts. Anionic catalysts can include alkoxide ions, hydroxides, metal oxides, and some organo-metallic derivatives while Lewis acids and protonic reagents initiate cationic reactions.

O
/ \
n H2C - CH2 n

The lubricity, load carrying capacity, surface improvement, and wear reduction are greatly improved while corrosive aspects of halogenation are virtually eliminated.

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2. "Organic Chemistry" 4th Edition, by Robert Morrison, Ph.D. and Robert Boyd, Ph.D., copyright 1983 by Allen & Bacon.
3. "Lubrication - A Tribology Handbook", edited by M.J. Neale OBE, BSc(Eng), published by Society of Automotive Engineers (SAE), copyright 1993, Butterworth-Heinemann, Ltd.
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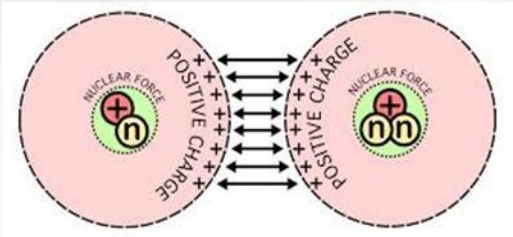
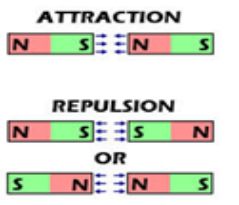
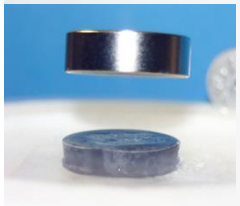
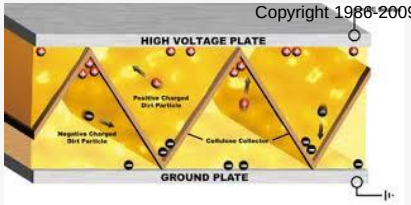
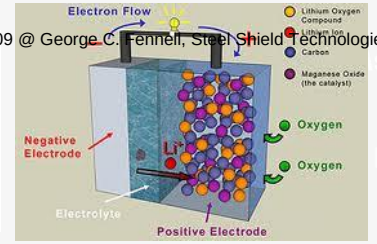










5. HOW ABF WORKS

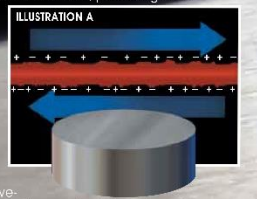
Steel Shield Technologies Has Redefined Lubrication.

Webster's Dictionary defines lubricants as substances capable of reducing friction, heat and wear when introduced between two solid surfaces. From the initial development and use of lubricants, chemical technology has constantly advanced to make them more effective. From changes in refinement processes to the development of additives, the concentration has always been to increase the ability of the lubricant to reduce the friction, heat and wear. **Steel Shield Technologies** has changed the approach to lubrication and, in essence, given new definition to the term. First, there are a few points to consider.

Metal Against Metal

The structure of all metals creates a surface characterized by a series of sharp peaks and valleys, some microscopic and some larger. As two metal surfaces contact each other and move in opposite directions, friction is caused, producing heat and metal deterioration. This friction-causing physical dynamic is heightened by the electromagnetic field created on the surfaces of each metal. The sharp peaks, known as asperities, and valleys, referred to as micro-pores and fissures, have opposite electro-magnetic charges. **Illustration A** shows a new metal with positive-charged asperities and negative-charged micro-pores and fissures. The constant interaction of these opposite-charged features works to weaken the structure of the metal, causing eventual deterioration of the surface of the part.

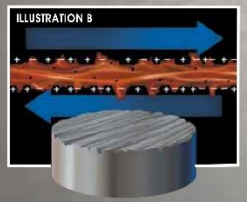
ILLUSTRATION A



Normal Lubricants Help

All lubricants help to slow this process to different degrees. **Illustration B** shows the results after a period of time of use of a typical oil lubricant. The constant friction and electro-magnetic interaction has caused the weakened metal to break off or chip away creating metallic debris in the lubricant leading to abrasive wear from wear metal particles. This fact is evidenced in the need to change the engine oil of automobiles frequently as the lubricant 'breaks down' due to the heat and metallic debris.

ILLUSTRATION B



ABF TECHNOLOGY™

Advanced Boundary Film Technology- There Is No Better Protection Against Wear.

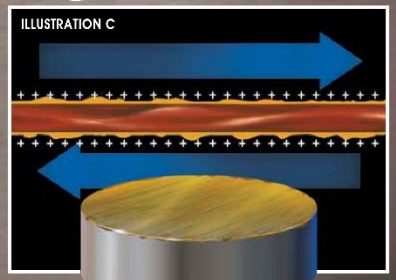
See Extreme Condition Lubrication Test At www.steelshieldtech.com

Steel Shield Technologies has redefined lubrication by breaking away from the standard approach to making the lubricant more effective through adjusting the refinement process or through the use of additives. Instead, **Steel Shield Technologies** approaches lubrication by improving the surface characteristics of the metal through the process of **Advanced Boundary Film** formation. This technological breakthrough is accomplished by addressing the naturally formed asperities, micro-pores and fissures and the electro-magnetic charges they create.

Steel Shield products consist of an advanced combination of halogens which react under thermal (heated) conditions to form electro-negative surface attaching compounds. They seek out and affix themselves to the lower surface areas, filling the micro-pores and fissures. As this process is working, the thermal conditions are effecting the asperities. Instead of breaking off because of a weakened metal state, the asperities gradually roll out or flatten. So while the micro-pores and fissures are filling up, the asperities are flattening for an end result of a metal surface that is greatly improved. Created in this process is a total positive state of polarity. When the metal surface polarity becomes uniform in charge, there is a reduction in friction due to the Faraday reaction of like-charges. This electrochemical process continues at the molecular level to form an **Advanced Boundary Film** on the surface of the metal. **Illustration C** shows the end result of the production of the **Advanced Boundary Film** and the resulting uniform positive polarity.

Another aspect of this advanced technology is the organo-metallic substitution which is the chemical process designed to inhibit halide formation. Here, the halogens used to form the surface attaching compounds react with reagents having similar properties to the iron atom. The halogens, therefore, do not scavenge the target metal surface to find iron with which to react, forming halides and creating a chemically corrosive wear syndrome. Instead, an organo-metallic complex is formed as the basis of the **Advanced Boundary Film.**

ILLUSTRATION C



Industrial Success Comes To The Consumer

Steel Shield Technologies is now bringing this breakthrough technology to the consumer after great success on the industrial level. The level of commitment to the Steel Shield product in the railroad industry is an indication of its performance in the most extreme conditions imaginable. This same technology is now available to you.

As has been explained, the **Advanced Boundary Film Technology** is a redefining approach to lubrication which provides outstanding benefits to the user.

Practical Elimination Of Metal-To-Metal Wear

Steel Shield Technologies addresses the three areas that cause the weakening and deterioration of the metal surfaces:

- The physical friction of rough surfaces
- The opposite electro-magnetic charges that exist on the metal surface
- The chemical reactions that produce corrosive agents.

Advanced Boundary Film Technology instead strengthens the metal and practically puts an end to metallic debris in the lubricant.

Reduced Operating Temperatures

Friction is reduced so significantly that the operating temperature in treated mechanisms is notably reduced. The end result is a stronger metal that maintains its original specifications and performance level. An example of the reduction of operating temperatures is found in the independent tests that show a drop of an average of 30 Fahrenheit degrees in treated automobile engines.

Increased Effectiveness Of The Lubricant

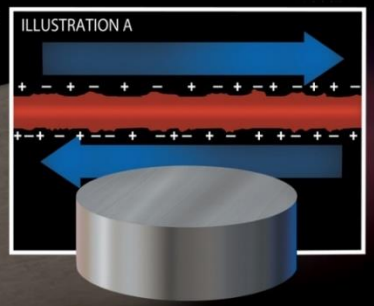
Whatever lubricant is used as the carrier of the **Steel Shield Technologies** additive, that lubricant is allowed to perform at its maximum efficiency. Lubricant flow will be enhanced with the elimination of rough metal surfaces; the reduction of heat and elimination of metal debris will protect the lubricant from "break down."

STEEL SHIELD™ TECHNOLOGIES

6. ABF TREATS THE METAL NOT THE OIL

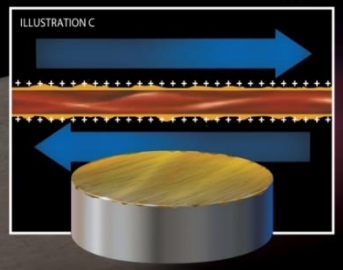
Metal Surfaces

- Surfaces characterized by series of peaks and valleys
- Peaks (known as “asperities”) are positive charged
- Valleys (referred to as “micro-pores” and “fissures”) are negative charged



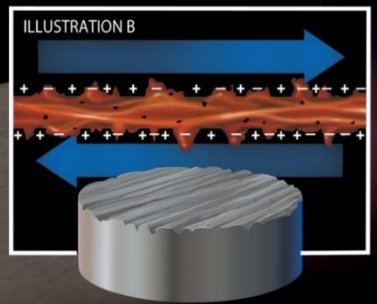
Surfaces Treated With… Advanced Boundary Film

- Forms electro-negative surface attaching compounds to seek out & affix themselves to lower surface areas filling the micro-pores & fissures
- Asperities roll out or flatten creating greatly improved metal surfaces
- Created in this process is a total positive state of polarity
- When metal surfaces become uniform in charge, there is a reduction in friction due to Faraday reaction of like-charges



Metal Surfaces & Lubricants

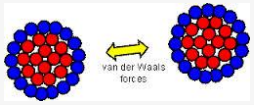
- Most lubricants help slow the process of heat & friction to some degree
- When two metal surfaces contact each other & move in opposite directions, friction is caused, producing heat & metal deterioration
- Constant friction & electro-magnetic interaction causes the weakened metal to break off creating metallic debris & particles in the lubricant

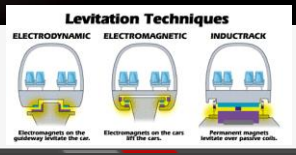


Advanced Boundary Film

NOT JUST OIL… IT’S TECHNOLOGY

- Advanced methods of tribology that improve lubricity and load carrying capacity
- Reacts chemically under thermal conditions with the contacting metal surfaces to form a complex surface-attaching film of protection
- Surface smoothing is accomplished resulting in improved spread characteristics of the surfaces themselves
- Increases fluid film strength resulting in greatly reduced wear while imparting extreme pressure properties (EP)





7. ADVANTAGES & TARGETED INDUSTRIES

CONCEPT

- Van der Waals Forces
- Dipole-Dipole Surface Reactions

ADVANTAGES

- Reduces Friction and Wear
- Provides Smoother Operation
- Improves Lubrication
- Non-Toxic and Helps Build Green Environment
- Improves Machinery Functionality
- Improves Fuel Economy
- Reduces Operating Temperatures
- Protects Moving Metal Parts
- Eliminates Cold Start Problems
- Reduces Maintenance & Downtime
- Extends Component Reliability & Parts Life

TARGETED INDUSTRIES

- Automotive & Racing, Airlines & Ground Equipment, Light & Heavy Rail, Shipping
- Gas, Oil & Energy Plants, Mining & Drilling
- Lifts, Air Conditioning & Cold Storage Systems
- Industrial, Agriculture & Construction equipment
- Militaries

8. 5 MAJOR BREAKTHROUGHS IN LUBRICATION TECHNOLOGY

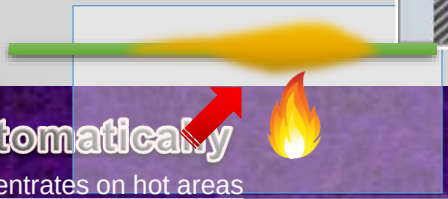
1.) Virtual Zero Friction - RCB Ionic levit

Faraday's Law like-charges Repel & Dipole-Dipole Reaction

2.) Dynamic Heat Transfer

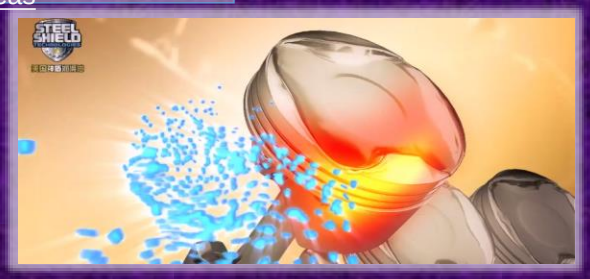
Lubricant accumulates at the hot spot automatically

Concentrates on hot areas



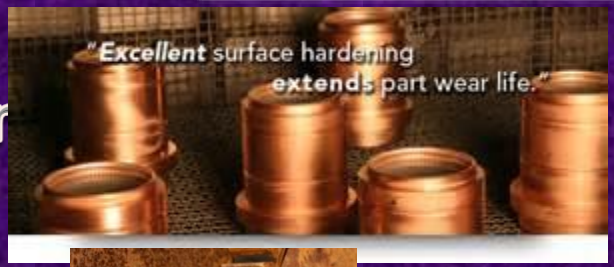
3.) Non Corrosive Cleansing

Metal sludge repelled via induction and removed



4.) Metal Surface Re-hardenir

From Shear Friction to Surface Lapping



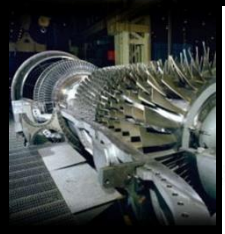
5.) Eliminate System Dysfunctio

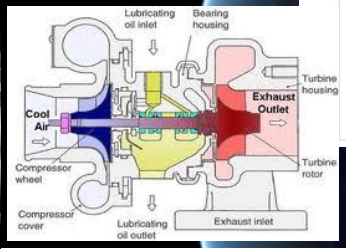
Not Just Oil, It's Technology

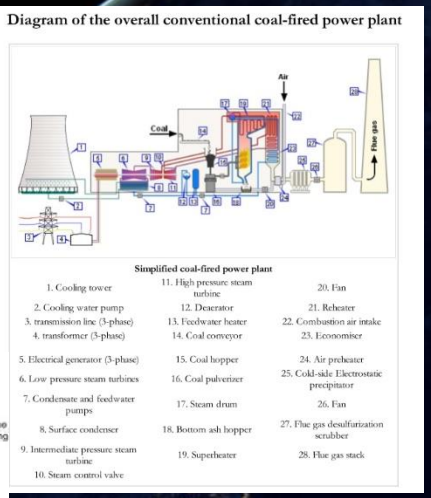
9. SPECIALTY PRODUCT LINES

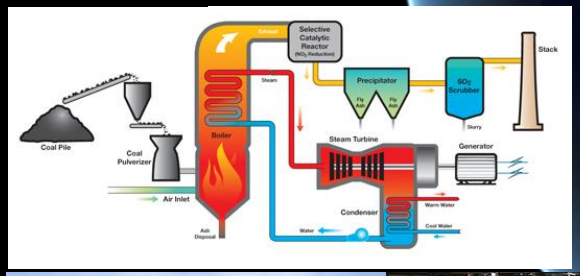
www.steelshieldtech.com.hk

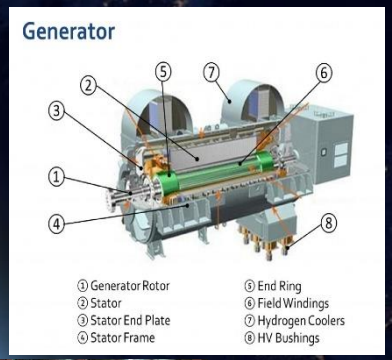
10. COAL-FIRED POWER PLANTS

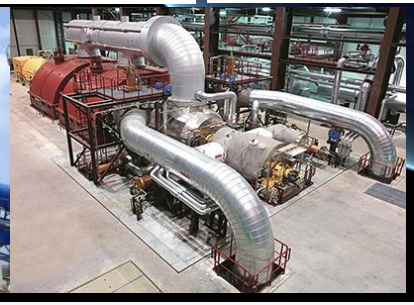












1) Air-Compressor Oil
2) Back-Up Generator Oil
3) Boiler Gear Oil
4) Coal Conveyors Oil
5) Coal Pulverizers Oil
6) Coal Yard Vehicle Oil
7) Cooling Tower Oil
8) Preheater Oil
9) Soot Blower Oil
10) Steam Loop-Feed Water Pumps Oil
11) Turbine Oil

Steel Shield Products Recommendation:

1.) SST-ECI CAT GC gas compressor oil

2.) SST Air Compressor oil

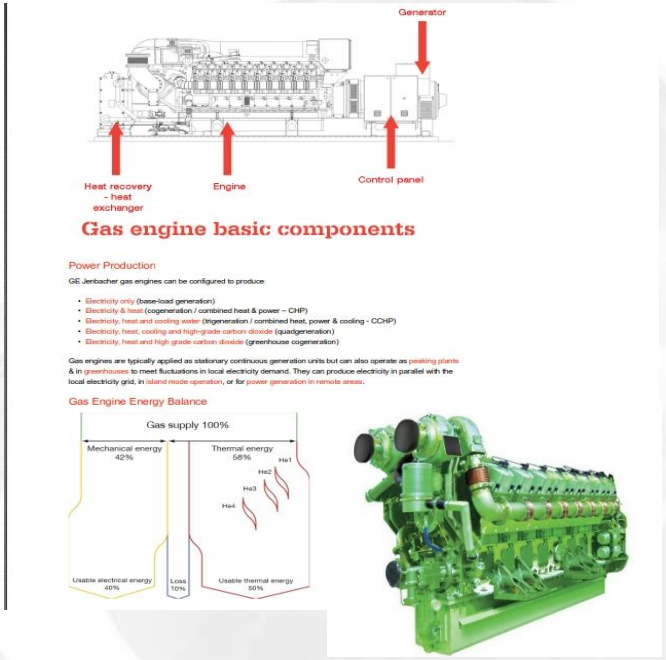
3.) SST Motor oil

4.) SST Hydraulic oil

5.) SST Chain Oil

6.) SST Specialty Line Lubricants & Grease.

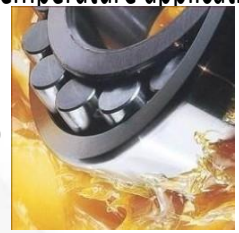
11. GAS-FIRED POWER PLANTS



- Greases for demanding applications

- Grease for extreme-temperature applications

- Gear and bearing oils



- Oils for booster pumps and air compressors

- Hydraulic fluids

- Oils for gas turbines

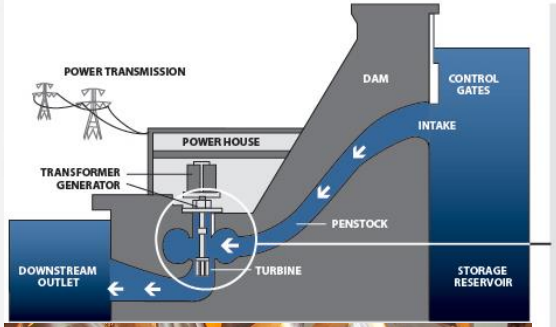
- Oils for landfill & biogas gas engines

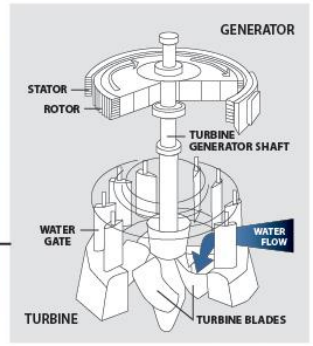
- Diesel engine oil for severe applications

Steel Shield Products Recommendation

1.) SST ECI GECAT Gas Engine Oil
2.) SST Hydraulic Oil
3.) SST Air Compressor Oil
4.) SST Motor Oil
5.) Steel Shield EPA
6.) Steel Shield Grease
7.) Steel Shield Spray Shield
8.) Steel Shield Strike Shield
9.) Steel Shield Transmission Shield

12. HYDRO-POWER PLANTS





Steel Shield Technologies having been serving the industry for 28 years we care for green planet and believe good environmental lubricant should not have to compromise equipment reliability or functionality. We supply environmental friendly and biodegradable lubricants not only powerful but non-toxic. With ABF technology we help saving for our customers substantial maintenance costs whilst improving equipment productivity.

Steel Shield Products & Application

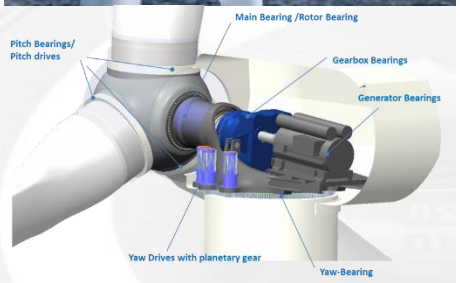
- Lithi-Grease for Archimedes Screw Bearing
- Transmission Shield for loaded toothed cylindrical, helical and hypoid, wheel and worm gears
- Steel Shield EPA for Anti-wear and anti-rust gear
- Steel Shield EPA for Turbine & Generator Bearings
- Steel Shield Hydraulic oils
- Steel Shield Turbine Oil (make to order)

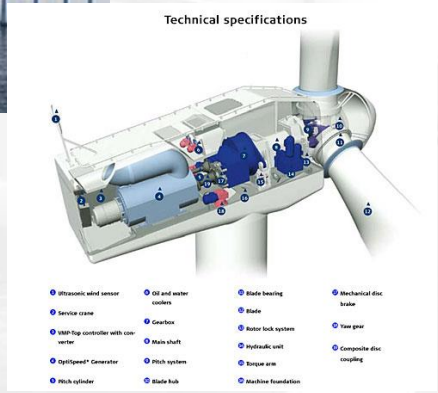
Wet environment applications including cooling towers, steam, hot and chilled water, effluent, chlorinated water and sludge.

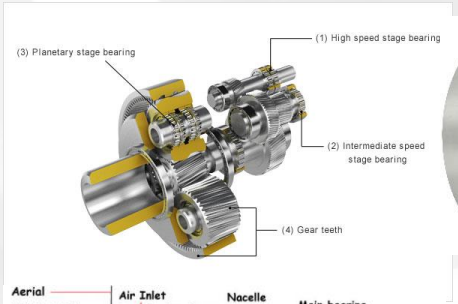
BENEFITS

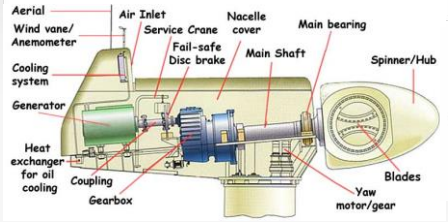
- Extended oil life and drain intervals
- Reduces oil consumption and labor costs
- Outstanding resistant to aging and oxidation
- Leaves no deposit in the hydraulic system
- Excellent air & water isolation capability
- Improves equipment functionality & reliability
- Reduces downtime and saves maintenance costs as much as 50% and more.

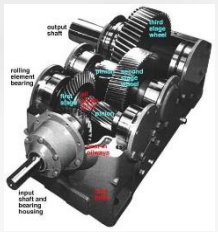
13. WIND-POWER PLANTS











"Pay me NOW or Surely Pay me MORE Later" is certainly true when it comes to Wind Turbine Maintenance.
Wind turbines are generally located in remote areas where the weather condition is harsh and highly variable. As a result, there is high mechanical stress on wind turbines unmatched in any other form of power generation.

The "fix it when it breaks" emergency maintenance is the least efficient and most costly. The reactive approach to catastrophic failure of a gearbox, generator or bearing for a single wind turbine can result in very expensive removal and replacement. Failure of a gearbox can cause damage to other components as well.

In 2010 in Germany a study funded by the government with data collected from 1,500 wind turbines indicated the following results;

Component breakdown	Days out per failure
Hydraulics	1.3 days
Yaw System	2.5 days
Brakes	3 days
Gearbox	6.3 days
Generator	5.8 days
Drive System	6 days

Comparative Maintenance Costs (US$/HP/Year)
Reactive:$ 17.00
Preventive: $ 13.00 (= 24 % reduction from Reactive Maintenance)
Predictive: $ 9.00 (= 47 % reduction from Reactive Maintenance)

We at Steel Shield can save for you the 47% generally obtained by using predictive maintenance with ABF Technology.

APPLICATIONS

- Blade Bearing
- Yaw Gear & Bearing
- Gearbox
- All Bearings

Steel Shield Recommendation

1.) Lithi-Grease, EPA for bearings
2.) Transmission Shield for gears
3.) Strike Shield, Spray Shield for routine maintenance

14. STEEL SHIELD ECI GECAT GAS ENGINE OIL

ABF, it resembles the effect of magnetic levitation, is the only technology that can achieve friction free working environment for any mechanical interaction in a machinery. It gives the gas engine 100% protection against piston scuffing, scoring and ring & liner wear.

Steel Shield ECI GECAT is a state-of-the-Art gas engine oil engineered to outperform any of the aftermarket oils and to meet the rigorous demands of high output four-cycle engines operating under high load and high temperature conditions.

ECI GECAT is made from the highest quality base stocks with ABF technology that provides Not Only exceptional oxidation stability, nitration resistance and thermal stability but minimizing and eliminating the formation of carbon deposits, lacquer and sludge resulting in cleaner engines, longer oil life and reduced maintenance costs. It exhibits excellent resistance to foaming, good demulsibility and protection against corrosion. Formulated with very low levels of zinc and phosphorus allowing GECAT to work seamlessly with engines equipped with catalytic converters. It meets a wide range of OEM requirements making it an excellent choice where high-speed four-cycle engines from various OEMs are used.

Recommended for :

- GE-Jenbacher, Caterpillar, Superior, Waukesha, Mitsubishi and other turbocharged, naturally aspirated, medium to high speed four-cycle engines requiring a low and/or mid ash oil
- Engines experiencing valve face and seat wear
- Lean-burn and stoichiometric four-cycle engines
- Engines equipped with catalytic converters
- Applications using alternate fuels containing low levels of sulfur or chlorine
- In field gathering operations where sour gas (low levels of H2S) is used as fuel

Features and Benefits :

- Excellent Oxidation and Nitration Resistance
- Cleaner engines
- Improves oil drain interval and filter life
- Improves engine efficiency and productivity
- Super Anti-wear and Anti-scuff protection
- Minimizes scoring, scuffing and wear of pistons and liners
- Utmost protection in fully loaded engines
- 50% and more maintenance & labor costs reduction
- Superior protection of valve train components
- Low levels of combustion chamber ash
- Prolongs spark plug life
- Highly Effective Corrosion Protection
- Protects internal engine components from water, coolant and acidic materials
- Neutralizes acids formed from combustion or oil degradation
- Excellent Detergent / Dispersancy Performance
- Reduces engine operation noise level up to maximum 9 dB

15. ECI HD HYDRAULIC OIL

Steel Shield Technologies (Asia Pacific) Limited
美國鐵子能源有限公司

SST-ECI HD Hydraulic Oil No.32/46/68/100/150

DESCRIPTION

ECI HD Hydraulic Oil is a Heavy Duty general purpose anti-wear hydraulic oils formulated with enhanced ABF technology. The oils possess good anti-wear, anti-corrosion and anti-oxidation properties and meet Park Denison HF-0, HF-2 and DIN 51524 Part I, II specifications.

BENEFITS

- General purpose economy oils
- Excellent protection against wear, rust and corrosion
- Good oxidation stability
- Good filterability
- Reduce downtime 300% and more
- Extends the life of hydraulic components upto 400% (conditional to the physical status)
- Improves efficiency in terms of smoothness

APPLICATION

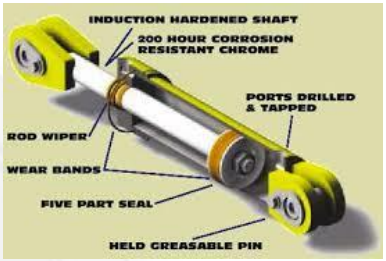
ECI HD Hydraulic Oil is recommended for use in most of the hydraulic systems, particularly for older machines that oil change is more often. They are not suitable for use in systems with silver plated components.

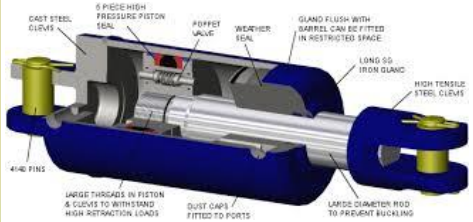
TYPICAL SPECIFICATION

ISO Grade		32	46	68	100	150
Kinematic Viscosity,						
@ 40°C, cSt	ASTM D445	30	45	67	98	145
@ 100°C, cSt	ASTM D445	5.3	6.7	8.6	10.9	14.5
Viscosity Index	ASTM D2270	99	99	98	97	96
Flash Point (COC), °C	ASTM D92	212	220	228	245	250
Pour Point, °C	ASTM D97	-12	-12	-10	-10	-10

Whilst these characteristics are typical at current production, it may vary in the future subject to Steel Shield's final production specification.

Unit K 11/Fl., Leader Industrial Centre, Phase II, 188-202 Texaco Road, Tsuen Wan,New Territories, Hong Kong
香港新界荃灣德士古道 188-202 號立泰工業中心二期 11 樓 K 室 Tel（電話）: 2545 8029 Fax（傳真）: 2545 8030





16. ECI CAT GC COMPRESSOR OIL

Steel Shield Technologies (Asia Pacific) Limited
美國雷子能源有限公司

SST-ECI CAT GC SAE-40 LOW-ASH GAS COMPRESSOR OILS

DESCRIPTION

CAT GC SAE-40 is a low-ash gas compressor oil where engine and compressor have a common lubrication system. It's formulated with highly refined mineral oils and additives to control wear, oxidation, nitration and bearing corrosion. The oil is enhanced with Steel Shield ABF technology for excellent performance.

The oil demonstrates excellent performance in 4-strokes gas engines operating compressors on gas collection and transmission networks such as Caterpillar etc. The oil meets the requirement of API CF/SF.

BENEFITS

- Ultimate performance against oxidation and nitration
- Good protection against corrosion and wear
- Reduce deposit and maintain compressor cleanliness
- Extended oil drain interval
- Reduce downtime 200+%
- Extends the life of engine parts upto 400% (conditional to the physical status)
- Reduce noise 3db~9db (conditional to compressor condition)
- Improves efficiency

APPLICATION

CAT GC SAE-40 is recommended for use in new generation gas compressors requiring low-ash contents.

TYPICAL SPECIFICATION

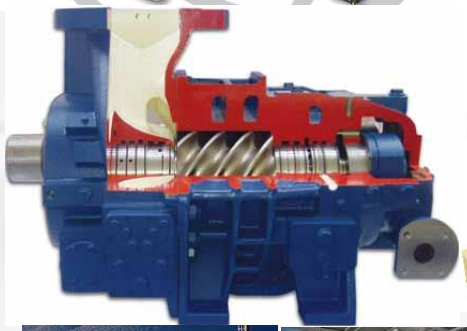
SAE Grade		40
Density @ 30 °C Kg/l	ASTM D1298	0.886
Kinematic Viscosity,		
@ 40°C, cSt	ASTM D445	125
@ 100°C, cSt	ASTM D445	13.28
Viscosity Index	ASTM D2270	97
Flash Point (COC), °C	ASTM D92	> 218
Pour Point, °C	ASTM D97	≤ -15
Sulphated Ash, % (m)	ASTM D874	0.40
Boiling Point, °C		228

Whilst these characteristics are typical at current production, it may vary in the future subject to Steel Shield's final production specification.

Unit K 11/Fl., Leader Industrial Centre, Phase II, 188-202 Texaco Road, Tsuen Wan,New Territories, Hong Kong
香港新界荃灣德士古道 188-202 號立泰工業中心二期 11 樓 K 室 Tel（電話）: 2545 8029 Fax（傳真）: 2545 8030









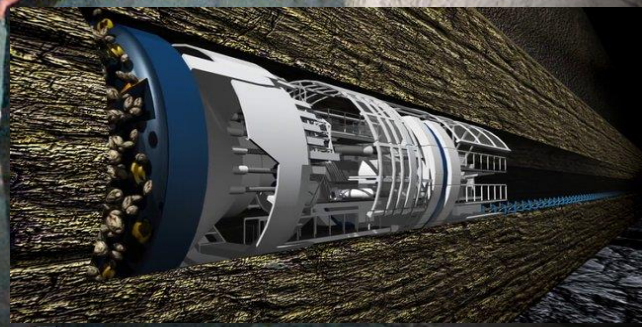

17. TUNNEL BORE ENGINEERING

Tunnel Boring Machine (TBM) is used to excavate tunnels with a circular cross section through a variety of soil and rock strata. It can finish the entire boring of tunnel 5 times faster than traditional methods. But, TBMs may cost billions to construct, and can be difficult to transport.

Steel Shield applies to all tunnel bore engineering

STEEL SHIELD applies to all tunnel bore engineering machines to ensure less downtime :

- Engines, power systems
- Hydraulic, pneumatic systems
- All types of gear systems
- All railways, transportation systems



18. MARINE ENGINEERING

MARINE SHIELD is the ultimate protection for the moving metal parts in your naval engine and transmission. It cleans, penetrates to the internal moving parts and shields against corrosion in extreme saltwater environments better than any other product to date. Marine Shield has been tested in harsh saltwater conditions and proven to be superior in its performance.

STEEL SHIELD applies to all naval engines to improve fuel mileage, increase horsepower and reduce maintenance and downtime. Compatible to all types of gasoline & diese engines.

19. Railroad & Mass Transit System

Joe Hendricks
6455 East Commerce
Kansas City, MO 64120
MMEO Central Region

10/01/2003

Marla Carrow
6455 East Commerce
Kansas City, MO 64120

RE: MT-10

Marla:

I want to update you on our progress with the MT-10 product. Sense my last report I have applied MT10 to all of my service units. We use the product in our engines, transmissions, gearboxes and hydraulic tanks thus protesting the entire systems. The product performed as expected. Our failures with these components have decreased even more. Now we are able to work on equipment from the preventative maintenance side instead of a breakdown mode.

We have had cases that I can attribute directly to MT10 and were able to save the company thousands of dollars on the spot. This product proves itself worthy over and over and should be used by all departments to get the maximum savings for the Union Pacific.

Sincerely

Joe Hendricks
Manager M/W Equipment Operations CR
816-245-2733

The letter states that the Union Pacific Railroad uses Steel Shield product extensively. Steel Shield has been proved to be functional and cost-

PORT AUTHORITY

August 14, 2002

Mark Pushnick
President
Mark Pushnick Enterprises
3351 Industrial Blvd.
Bethel Park, PA 15102-2543

Re: Return on Investment of MT-10 Metal Treatment

Dear Mr. Pushnick:

As you are probably aware, Port Authority of Allegheny County's experiences with MT-10, has been very good. We have been using this product in the gearboxes of our light rail vehicles for approximately 8 of the last 9 years now. One year we discontinued the use of MT-10 and experienced a sharp decline in gearbox reliability and since have resumed the use of its application.

We regularly have oil analysis performed, by an independent testing laboratory and the results of the analysis have indicated that the use of MT-10 has significantly lowered the wear metals that we previously experienced prior to its use. The MT-10 has appreciably extended the service life of our existing gearboxes.

Based on the costs we were incurring prior to the use of the MT-10 product verse the costs we are currently incurring, we have realized a Return On Investment (ROI) of approximately $45 saved for every $1 expensed or 45:1 ratio. The most significant factor was the increase in reliability as well as availability. The vehicles were able to perform when needed and the missed trips were lowered to approximately 10% of past history.

As you are also aware, we continue to use the Power Cut (PC-10) and Power Lift (PL-10) grease with similar experiences.

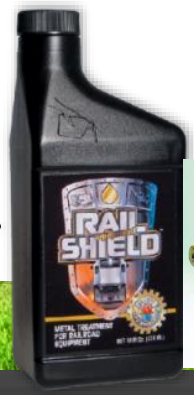
If you have any questions or I can be of any further assistance, feel free to contact me at (412) 566-5149.

Sincerely,

Mark P. Ferrari, C.P.M., A.P.P.
Manager of Contract Administration
Bus & Rail

This letter states that they save around USD 45 in maintenance cost for every USD 1 investment in Steel Shield products. Also, the vehicles malfunctions drop

are highly



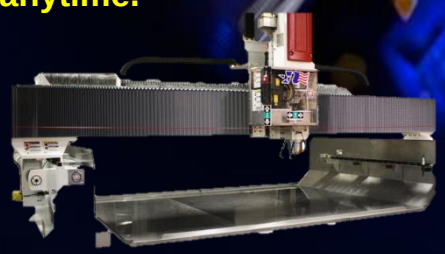
Joe F. Hendricks
Mgr. M/W Equipment Operations
Central Region
UNION PACIFIC RAILROAD
6455 E. Commerce Ave., Kansas City, MO 64120
ph. (816) 245-2733 c. (816) 804-6880
pgr. ~~1-(800) 442-7243 pin 888985~~
jfhendri@up.com

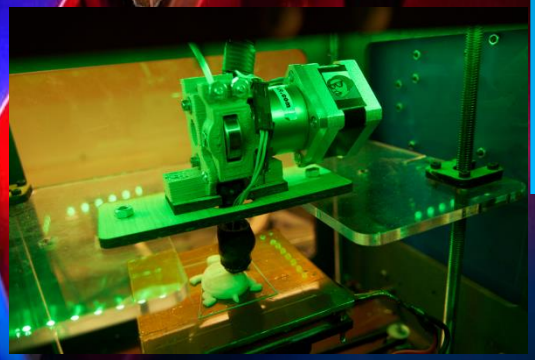
20. Manufacturing

Steel Shield **Strike, an All-In-One long lasting** lubricants penetrate rapidly and pierce rusted and corroded metal surfaces to break lose frozen mechanism while at the same time prevent rust & corrosion along with driving out and dispersing moisture on ignition wires, electrical contacts, circuit boards & other electrical connections.

Steel Shield **Drill & Tap** lubricants utilize the most advanced ABF Technology to protect cutting tools from heat, friction and wear.

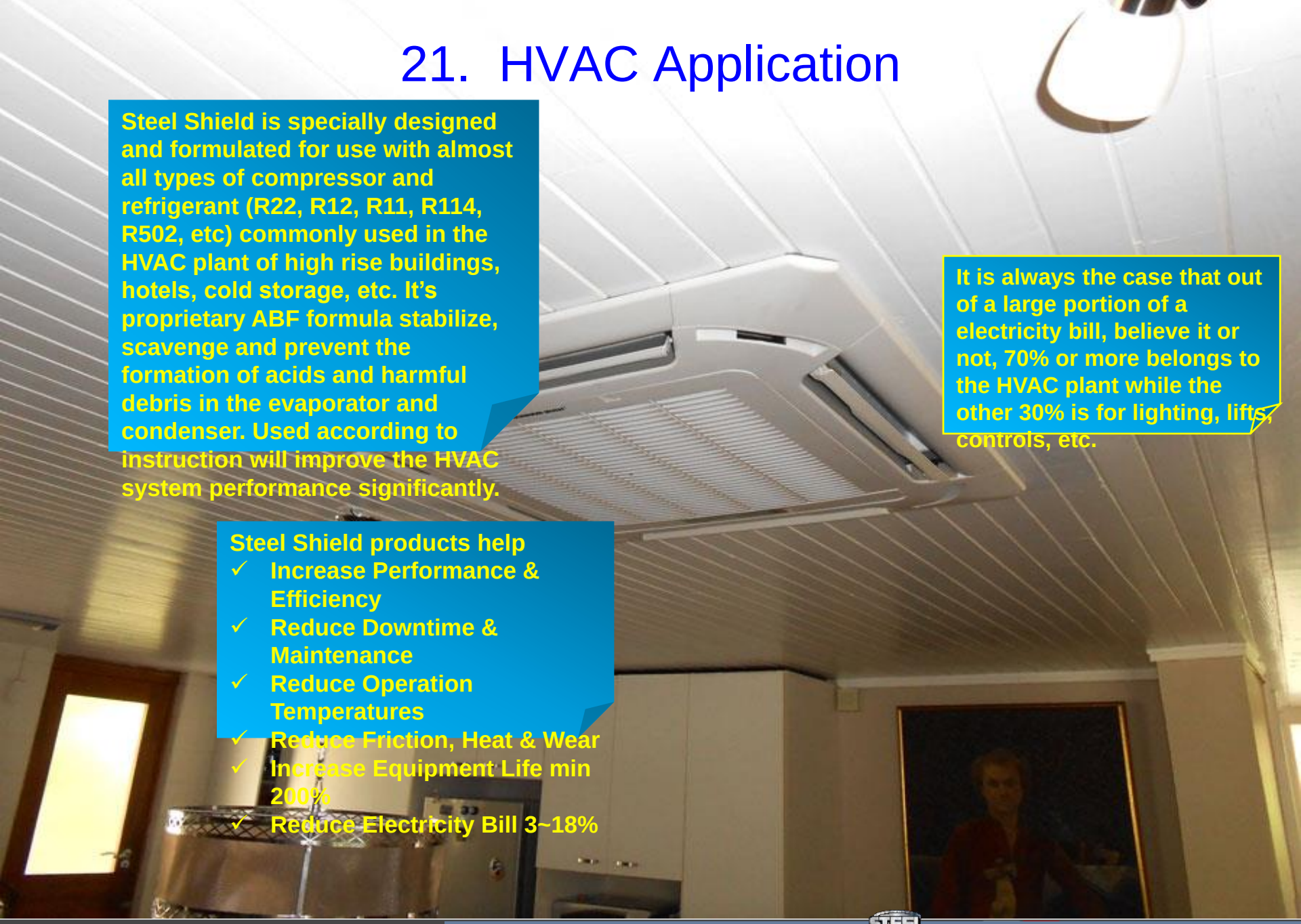
Steel Shield **Spray** lubricants is a multi-purpose product that penetrates into remote areas and deliver long-lasting lubrication in many different applications even in highly corrosive & extreme humidity environments**. It outperforms WD40 in all kind of applications anywhere & anytime.**





Steel Shield **Tool** lubricants protect air-tools from frictional abrasion, extreme pressure torque, air line moisture and internal dirt..

21. HVAC Application



Steel Shield is specially designed and formulated for use with almost all types of compressor and refrigerant (R22, R12, R11, R114, R502, etc) commonly used in the HVAC plant of high rise buildings, hotels, cold storage, etc. It's proprietary ABF formula stabilize, scavenge and prevent the formation of acids and harmful debris in the evaporator and condenser. Used according to instruction will improve the HVAC system performance significantly.

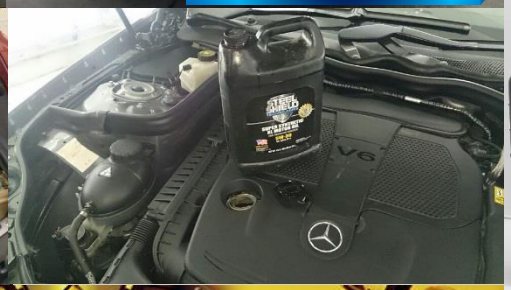
It is always the case that out of a large portion of a electricity bill, believe it or not, 70% or more belongs to the HVAC plant while the other 30% is for lighting, lifts, controls, etc.

Steel Shield products help

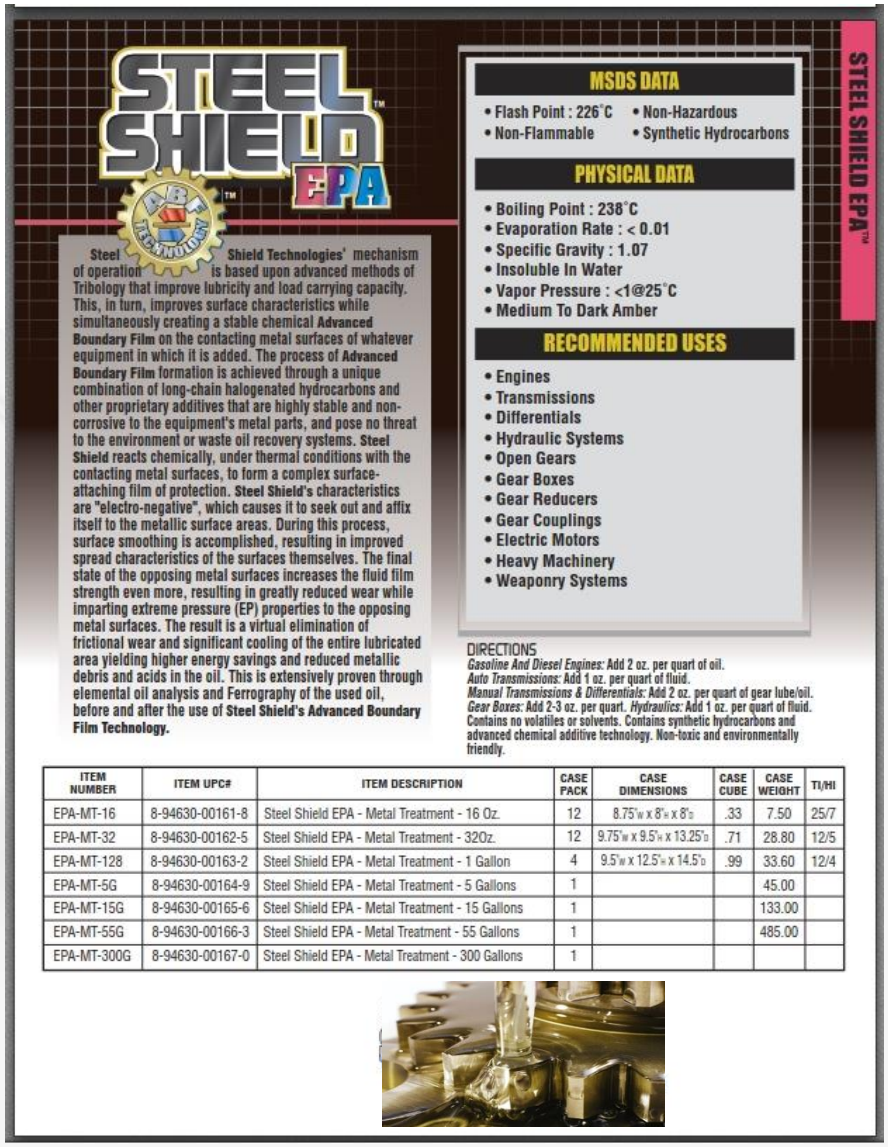
- ✓ **Increase Performance & Efficiency**
- ✓ **Reduce Downtime & Maintenance**
- ✓ **Reduce Operation Temperatures**
- ✓ **Reduce Friction, Heat & Wear**
- ✓ **Increase Equipment Life min 200%**
- ✓ **Reduce Electricity Bill 3~18%**

21. MOTOR CARS

Super performance cars using Steel Shield help reducing engine noise, more power at the wheels, swift response, extends battery life and cleaner engine. These car owners were surprised to see the cars behaved just like NEW ! Cruising on the highways it saves about 8~15% gasoline or 4~7% diesel.

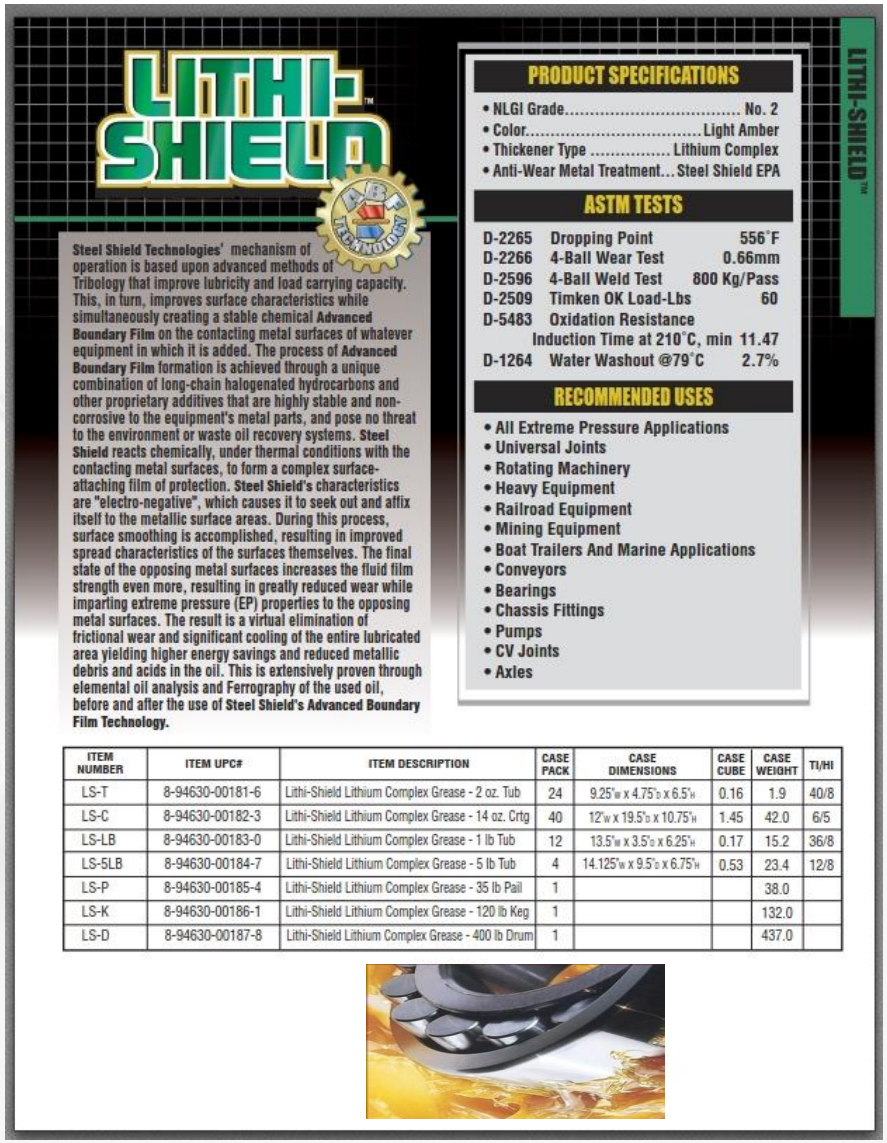


22. STEEL SHIELD EPA



ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
EPA-MT-16	8-94630-00161-8	Steel Shield EPA - Metal Treatment - 16 Oz.	12	8.75"w x 8"w x 8"h	.33	7.50	25/7
EPA-MT-32	8-94630-00162-5	Steel Shield EPA - Metal Treatment - 32Oz.	12	9.75"w x 9.5"w x 13.25"h	.71	28.80	12/5
EPA-MT-128	8-94630-00163-2	Steel Shield EPA - Metal Treatment - 1 Gallon	4	9.5"w x 12.5"w x 14.5"h	.99	33.60	12/4
EPA-MT-5G	8-94630-00164-9	Steel Shield EPA - Metal Treatment - 5 Gallons	1			45.00	
EPA-MT-15G	8-94630-00165-6	Steel Shield EPA - Metal Treatment - 15 Gallons	1			133.00	
EPA-MT-55G	8-94630-00166-3	Steel Shield EPA - Metal Treatment - 55 Gallons	1			485.00	
EPA-MT-300G	8-94630-00167-0	Steel Shield EPA - Metal Treatment - 300 Gallons	1				

23. LITHI-SHIELD



ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
LS-T	8-94630-00181-6	Lithi-Shield Lithium Complex Grease - 2 oz. Tub	24	9.25"w x 4.75"d x 6.5"h	0.16	1.9	40/8
LS-C	8-94630-00182-3	Lithi-Shield Lithium Complex Grease - 14 oz. Crtg	40	12"w x 19.5"d x 10.75"h	1.45	42.0	6/5
LS-LB	8-94630-00183-0	Lithi-Shield Lithium Complex Grease - 1 lb Tub	12	13.5"w x 3.5"d x 6.25"h	0.17	15.2	36/8
LS-5LB	8-94630-00184-7	Lithi-Shield Lithium Complex Grease - 5 lb Tub	4	14.125"w x 9.5"d x 6.75"h	0.53	23.4	12/8
LS-P	8-94630-00185-4	Lithi-Shield Lithium Complex Grease - 35 lb Pail	1			38.0	
LS-K	8-94630-00186-1	Lithi-Shield Lithium Complex Grease - 120 lb Keg	1			132.0	
LS-D	8-94630-00187-8	Lithi-Shield Lithium Complex Grease - 400 lb Drum	1			437.0	

24. TRANSMISSION-SHIELD

The Ultimate Protection Against Metal-To-Metal Wear

STEEL SHIELD™ TECHNOLOGIES

TRANSMISSION SHIELD™

TRANSMISSION SHIELD™

Setting The Standards In Anti-Wear & Extreme Pressure Through ABF Technology

TRANSMISSION SHIELD™ is the ultimate protection for the moving metal parts in your automatic and manual transmission. Utilizing the most Advanced Boundary Film (ABF) Technology, it protects moving metal parts from wear and damage due to boundary conditions of frictional abrasion, extreme pressure torque, dry startup and abrasive shutdown. Other benefits include smoother shifting, reduced friction and increased oil flow, reduced maintenance and downtime, extended transmission parts longevity and reduced operating temperatures an average of 30 to 50 Fahrenheit degrees.

ABF TECHNOLOGY™

ATTRIBUTES

- Protects Moving Metal Parts
- Extends Parts Life
- Dramatically Reduces Wear
- Smoother Shifting
- Reduces Temperatures An Average Of 30 Fahrenheit Degrees
- Improves Lubrication
- Reduces Maintenance
- Reduces Friction
- Improves Oil Flow
- For Automatic And Manual Transmissions

TRANSMISSION SHIELD™

ABF TECHNOLOGY™

Steel Shield Technologies' mechanism of operation is based upon advanced methods of Tribology that improve lubricity and load carrying capacity. This, in turn, improves surface characteristics while simultaneously creating a stable chemical **Advanced Boundary Film** on the contacting metal surfaces of whatever equipment in which it is added. The process of **Advanced Boundary Film** formation is achieved through a unique combination of long-chain halogenated hydrocarbons and other proprietary additives that are highly stable and non-corrosive to the equipment's metal parts, and pose no threat to the environment or waste oil recovery systems. **Steel Shield** reacts chemically, under thermal conditions with the contacting metal surfaces, to form a complex surface-attaching film of protection. **Steel Shield's** characteristics are "electro-negative", which causes it to seek out and affix itself to the metallic surface areas. During this process, surface smoothing is accomplished, resulting in improved spread characteristics of the surfaces themselves. The final state of the opposing metal surfaces increases the fluid film strength even more, resulting in greatly reduced wear while imparting extreme pressure (EP) properties to the opposing metal surfaces. The result is a virtual elimination of frictional wear and significant cooling of the entire lubricated area yielding higher energy savings and reduced metallic debris and acids in the oil. This is extensively proven through elemental oil analysis and Ferrography of the used oil, before and after the use of **Steel Shield's Advanced Boundary Film Technology.**

MSDS DATA

- Flash Point : 226˚C
- Non-Hazardous
- Non-Flammable
- Synthetic Hydrocarbons

PHYSICAL DATA

- Boiling Point : 238˚C
- Evaporation Rate : < 0.01
- Specific Gravity : 1.07
- Insoluble In Water
- Vapor Pressure : <1@25˚C
- Medium To Dark Amber

PERFORMANCE

- Reduces Wear
- Increases Horsepower
- Reduces Costly Repairs
- Smoother Shifting
- Reduces Operating Temperatures
- Increases Fuel Savings
- Reduces Friction
- Improves Oil Flow
- Reduces Maintenance
- Increases Transmission Life
- Reduces Metal Debris In Oil
- Reduces Chain Stretching

TRANSMISSION SHIELD™

DIRECTIONS

Remove the dip stick and add one 8 ounce bottle of Transmission Shield™ through the fill tube. For larger transmissions, add 1 ounce per quart. For manual transmissions and differentials, add 2 ounces per quart for gear lube / oil. Use at every oil change for maximum performance. Contains no volatiles or solvents. Contains synthetic hydrocarbons and advanced chemical additive technology. Non-toxic and environmentally friendly.

ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
TMS-MT-8	8-94630-00106-9	Transmission Shield Metal Treatment - 8 oz.	12	8.75"w x 8"l x 8"h	.33	7.50	25/7

25. TRUCK-SHIELD

ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
TRK-MT-32	8-94630-00168-7	Truck Shield Metal Treatment - 32 oz.	12	9.75"w x 9.5"w x 13.25"h	.71	28.80	12/5
TRK-MT-128	8-94630-00169-4	Truck Shield Metal Treatment - 1 Gallon	4	9.5"w x 12.5"w x 14.5"h	.99	33.60	12/4
TRK-MT-5G	8-94630-00170-0	Truck Shield Metal Treatment - 5 Gallon	1			45.00	
TRK-MT-15G	8-94630-00119-9	Truck Shield Metal Treatment - 15 Gallon	1			133.00	
TRK-MT-55G	8-94630-00158-8	Truck Shield Metal Treatment - 55 Gallon	1			485.00	

26. SPRAY-SHIELD

The Ultimate Protection Against Metal-To-Metal Wear

STEEL SHIELD™ TECHNOLOGIES

SPRAY SHIELD™

Setting The Standards In Anti-Wear & Extreme Pressure Through ABF Technology

SPRAY SHIELD™ is the ultimate multi-purpose lubricant that also penetrates metal surfaces while maintaining highest qualities in corrosive and extreme humidity environments. **SPRAY SHIELD™** penetrates into remote areas and delivers long-lasting lubrication in many different applications. **SPRAY SHIELD™** works quickly to provide excellent protection and long-lasting lubrication.

ABF TECHNOLOGY™

ATTRIBUTES

- Offers Quick, Long-Lasting Lubrication
- Provides Protection Against Rust & Corrosion
- Creeps Into Remote, Inaccessible Areas
- Provides Free-Flowing Protection
- Penetrates To Loosen Seized & Corroded Metal Mechanisms

SPRAY SHIELD™

SPRAY SHIELD™

ABF TECHNOLOGY™

Steel Shield Technologies' mechanism of operation is based upon advanced methods of Tribology that improve lubricity and load carrying capacity. This, in turn, improves surface characteristics while simultaneously creating a stable chemical **Advanced Boundary Film** on the contacting metal surfaces of whatever equipment in which it is added. The process of **Advanced Boundary Film** formation is achieved through a unique combination of long-chain halogenated hydrocarbons and other proprietary additives that are highly stable and non-corrosive to the equipment's metal parts, and pose no threat to the environment or waste oil recovery systems. **Steel Shield** reacts chemically, under thermal conditions with the contacting metal surfaces, to form a complex surface-attaching film of protection. **Steel Shield's** characteristics are "electro-negative", which causes it to seek out and affix itself to the metallic surface areas. During this process, surface smoothing is accomplished, resulting in improved spread characteristics of the surfaces themselves. The final state of the opposing metal surfaces increases the fluid film strength even more, resulting in greatly reduced wear while imparting extreme pressure (EP) properties to the opposing metal surfaces. The result is a virtual elimination of frictional wear and significant cooling of the entire lubricated area yielding higher energy savings and reduced metallic debris and acids in the oil. This is extensively proven through elemental oil analysis and Ferrography of the used oil, before and after the use of **Steel Shield's Advanced Boundary Film Technology.**

MSDS DATA

- Flash Point : 226°C
- Non-Hazardous
- Non-Flammable
- Synthetic Hydrocarbons

PHYSICAL DATA

- Boiling Point : 238°C
- Evaporation Rate : < 0.01
- Specific Gravity : 1.07
- Insoluble In Water
- Vapor Pressure : <1@25°C
- Medium To Dark Amber

RECOMMENDED USES

- Metal Mechanisms
- Metal-To-Metal Surfaces
- Chain Drives
- Drag Lines
- Bushings
- Pulleys
- Hinges
- Tools
- Sleeve Bearings
- Open Gears
- Steel Cables
- Couplings
- Linkages
- Wheels
- Augers
- Rusty Nuts & Bolts
- Any Automotive, Industrial or Commercial Areas Of Lubrication That Require An External Heavy-Duty Spray Lubricant For Accessible And Hard-To-Reach Areas.

DIRECTIONS

Apply **Spray Shield™** to surfaces requiring lubrication. Reapplication may be necessary for extremely rusted or corroded situations. Contains no volatiles or solvents. Contains synthetic hydrocarbons and advanced chemical additive technology. Non-toxic and environmentally friendly.

ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
SS-1	8-94630-00146-5	Spray Shield Metal Treatment - 1 oz.	24	6.875"w x 4.625"d x 3.875"h	.07	2.5	48/12
SS-4	8-94630-00148-9	Spray Shield Metal Treatment - 4 oz.	12	5.5"w x 7.125"d x 7.0"h	.16	3.8	40/8
SS-16	8-94630-00149-6	Spray Shield Metal Treatment - 16 oz.	12	10.75"w x 8.0"d x 10.75"h	.54	15.0	20/5
SS-128	8-94630-00150-2	Spray Shield Metal Treatment - 1 Gallon	4	9.25"w x 14.5"d x 12.5"h	.97	34.0	12/4
SS-5G	8-94630-00129-8	Spray Shield Metal Treatment - 5 Gallon	1			42	
SS-15G	8-94630-00130-4	Spray Shield Metal Treatment - 15 Gallon	1			125	
SS-55G	8-94630-00150-2	Spray Shield Metal Treatment - 55 Gallon	1			455	

27. TOOL-SHIELD

The Ultimate Protection Against Metal-To-Metal Wear

STEEL SHIELD TECHNOLOGIES

TOOL SHIELD™

Setting The Standards In Anti-Wear & Extreme Pressure Through ABF Technology

TOOL SHIELD™ is the ultimate protection for the moving metal parts for automotive and industrial tools. Utilizing the most Advanced Boundary Film (ABF) Technology, it protects moving metal parts from heat, friction and wear due to boundary conditions of frictional abrasion, extreme pressure torque, air line moisture and internal dirt. It works in all piston and rotary-type air tools, stationary and hand-held power tools and many hand tools. Increased power and performance and greatly reduced wear while removing dirt from tool are the results. **TOOL SHIELD™** contains ABF (Advanced Boundary Film) for increased lubricity and boundary film lubrication.

ATTRIBUTES

- Improves Tool Power & Performance
- Protects Moving Metal Parts
- Repels Air Line Moisture
- Dramatically Reduces Metal-To-Metal Wear
- Stops & Inhibits Rust
- Cleans & Removes Internal Dirt
- Extends Tool Life
- Smooths Tool Operation
- Lubricates, Cleans & Protects

TOOL SHIELD™

TOOL SHIELD™

Steel Shield Technologies' mechanism of operation is based upon advanced methods of Tribology that improve lubricity and load carrying capacity. This, in turn, improves surface characteristics while simultaneously creating a stable chemical **Advanced Boundary Film** on the contacting metal surfaces of whatever equipment in which it is added. The process of **Advanced Boundary Film** formation is achieved through a unique combination of long-chain halogenated hydrocarbons and other proprietary additives that are highly stable and non-corrosive to the equipment's metal parts, and pose no threat to the environment or waste oil recovery systems. **Steel Shield** reacts chemically, under thermal conditions with the contacting metal surfaces, to form a complex surface-attaching film of protection. **Steel Shield's** characteristics are "electro-negative", which causes it to seek out and affix itself to the metallic surface areas. During this process, surface smoothing is accomplished, resulting in improved spread characteristics of the surfaces themselves. The final state of the opposing metal surfaces increases the fluid film strength even more, resulting in greatly reduced wear while imparting extreme pressure (EP) properties to the opposing metal surfaces. The result is a virtual elimination of frictional wear and significant cooling of the entire lubricated area yielding higher energy savings and reduced metallic debris and acids in the oil. This is extensively proven through elemental oil analysis and Ferrography of the used oil, before and after the use of **Steel Shield's Advanced Boundary Film Technology.**

MSDS DATA

- Flash Point : 226˚C
- Non-Hazardous
- Non-Flammable
- Synthetic Hydrocarbons

PHYSICAL DATA

- Boiling Point : 238˚C
- Evaporation Rate : < 0.01
- Specific Gravity : 1.07
- Insoluble In Water
- Vapor Pressure : <1@25˚C
- Medium To Dark Amber

RECOMMENDED USES

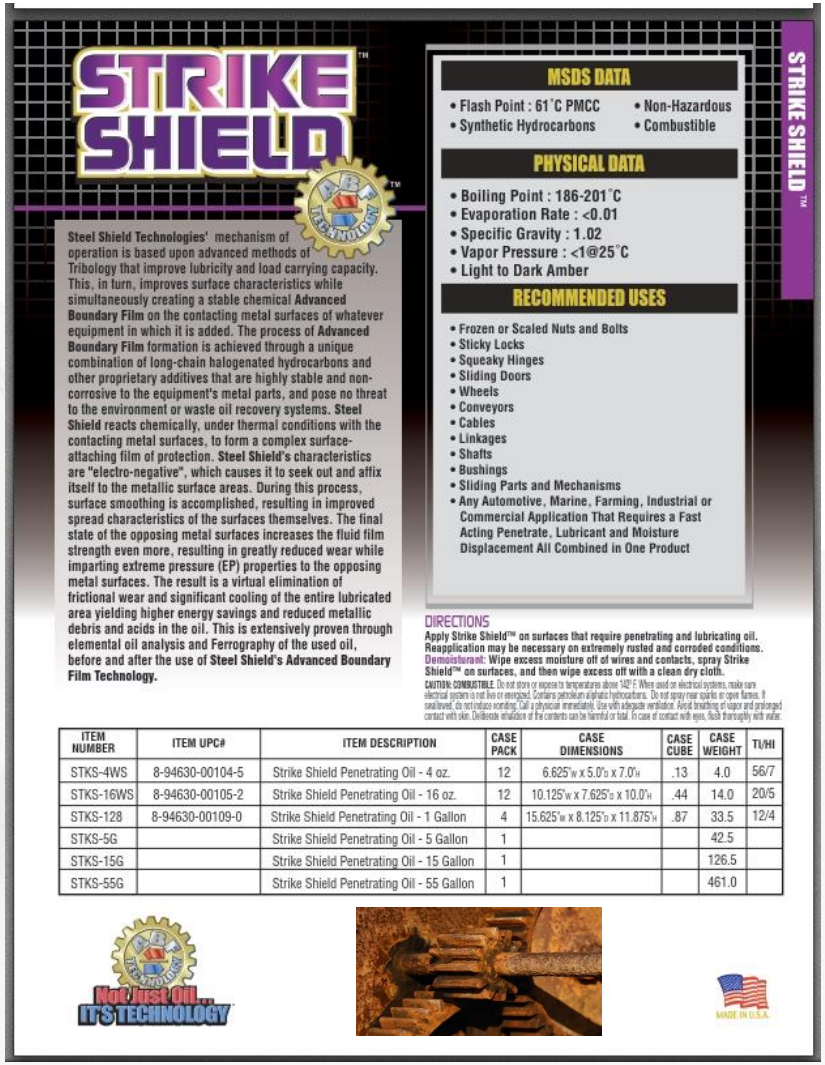
- Rotary-Type Air Tools
- Piston-Type Air Tools
- Impact Wrenches
- Air Ratchets
- Air Sanders
- Air Drills
- Air Cutting Tools
- Air Grinders
- Air Nailers
- Air Staplers
- Automatic Oilers
- Hand Tools

DIRECTIONS

Use in accordance with tool manufacturer's instructions. Tools may need to be lubricated daily, or several times a day, depending on the frequency and prolonged use of the tool. Contains no volatiles or solvents. Contains synthetic hydrocarbons and advanced chemical additive technology. Non-toxic and environmentally friendly.

ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
TS-1	8-94630-00141-0	Tool Shield Metal Treatment - 1 oz.	24	6.875"w x 4.625"d x 3.875"h	.07	2.5	48/12
TS-4	8-94630-00143-4	Tool Shield Metal Treatment - 4 oz.	12	5.5"w x 7.125"d x 6.5"h	.16	3.8	40/8
TS-16	8-94630-00144-1	Tool Shield Metal Treatment - 16 oz.	12	10.75"w x 8.0"d x 10.75"h	.54	15.0	20/5
TS-128	8-94630-00145-8	Tool Shield Metal Treatment - 1 Gallon	4	9.25"w x 14.5"d x 12.5"h	.97	34.0	12/4
TS-5G	8-94630-00126-7	Tool Shield Metal Treatment - 5 Gallon	1			42	
TS-15G	8-94630-00127-4	Tool Shield Metal Treatment - 15 Gallon	1			125	
TS-55G	8-94630-00128-1	Tool Shield Metal Treatment - 55 Gallon	1			455	

28. STRIKE-SHIELD



ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
STKS-4WS	8-94630-00104-5	Strike Shield Penetrating Oil - 4 oz.	12	6.625"W x 5.0"D x 7.0"H	.13	4.0	56/7
STKS-16WS	8-94630-00105-2	Strike Shield Penetrating Oil - 16 oz.	12	10.125"W x 7.625"D x 10.0"H	.44	14.0	20/5
STKS-128	8-94630-00109-0	Strike Shield Penetrating Oil - 1 Gallon	4	15.625"W x 8.125"D x 11.875"H	.87	33.5	12/4
STKS-5G		Strike Shield Penetrating Oil - 5 Gallon	1			42.5	
STKS-15G		Strike Shield Penetrating Oil - 15 Gallon	1			126.5	
STKS-55G		Strike Shield Penetrating Oil - 55 Gallon	1			461.0	

29. DRILL & TAP

The Ultimate Protection Against Metal-To-Metal Wear

STEEL SHIELD™ TECHNOLOGIES

DRILL & TAP SHIELD™

DRILL &TAP SHIELD™

Setting The Standards In Anti-Wear & Extreme Pressure Through ABF Technology

DRILL & TAP SHIELD™ is the ultimate protection for metal working tools. Utilizing the most Advanced Boundary Film (ABF) Technology, it protects cutting tools from heat, friction and wear. It works by the application of multiple metal working technologies that include ionic bonding agents, metal film strength reducers and lubricity enhancement agents. This, along with unique extreme-pressure additives and the addition of ABF (Advanced Boundary Film) Technology, produces proven results that surpass all other products in the marketplace.

ABF TECHNOLOGY™

ATTRIBUTES

- Extends Cutting, Drilling, Tapping & Machine Tool Life
- Reduces Tool Head & Metal Surface Temperatures
- Increases Cutting Speeds
- Increases Cutting Feed Rates
- Increases Production Rates
- Produces Smoother & Finer Metal Surfaces
- Provides More Metal Extraction Per Cut

DRILL & TAP SHIELD™

DRILL &TAP SHIELD™

ABF TECHNOLOGY™

Steel Shield Technologies' mechanism of operation is based upon advanced methods of Tribology that improve lubricity and load carrying capacity. This, in turn, improves surface characteristics while simultaneously creating a stable chemical **Advanced Boundary Film** on the contacting metal surfaces of whatever equipment in which it is added. The process of **Advanced Boundary Film** formation is achieved through a unique combination of long-chain halogenated hydrocarbons and other proprietary additives that are highly stable and non-corrosive to the equipment's metal parts, and pose no threat to the environment or waste oil recovery systems. **Steel Shield** reacts chemically, under thermal conditions with the contacting metal surfaces, to form a complex surface-attaching film of protection. **Steel Shield's** characteristics are "electro-negative", which causes it to seek out and affix itself to the metallic surface areas. During this process, surface smoothing is accomplished, resulting in improved spread characteristics of the surfaces themselves. The final state of the opposing metal surfaces increases the fluid film strength even more, resulting in greatly reduced wear while imparting extreme pressure (EP) properties to the opposing metal surfaces. The result is a virtual elimination of frictional wear and significant cooling of the entire lubricated area yielding higher energy savings and reduced metallic debris and acids in the oil. This is extensively proven through elemental oil analysis and Ferrography of the used oil, before and after the use of **Steel Shield's Advanced Boundary Film Technology.**

MSDS DATA

- Flash Point : 226˚C
- Non-Hazardous
- Non-Flammable
- Synthetic Hydrocarbons

PHYSICAL DATA

- Boiling Point : 238˚C
- Evaporation Rate : < 0.01
- Specific Gravity : 1.07
- Insoluble In Water
- Vapor Pressure : <1@25˚C
- Medium To Dark Amber

RECOMMENDED USES

- Direct Cutting Lube/Coolant
- Additive To Improve Performance Of Insoluble Oils
- Drilling
- Tapping
- Machining
- Cutting
- Milling
- CNC
- Broaching
- Sharpening
- Wet Grinding

DIRECTIONS

Drill & Tap Shield™ can be used as a direct replacement for currently used cutting fluids and lubrication/coolants in a 100% undiluted application. **NOTE: Drill & Tap Shield™** is not compatible with water glycol compounds or triphenol butylated phosphate oils. Contains no volatiles or solvents. Contains synthetic hydrocarbons and advanced chemical additive technology. Non-toxic and environmentally friendly.

ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
DTS-1	8-94630-00171-7	Drill & Tap Shield Metal Treatment - 1 oz.	24	6.875'w x 4.625'd x 3.875'h	.07	2.5	48/12
DTS-4	8-94630-00172-4	Drill & Tap ShieldMetal Treatment - 4 oz.	12	5.5'w x 7.125'd x 7.0'h	.16	3.8	40/8
DTS-16	8-94630-00173-1	Drill & Tap Shield Metal Treatment - 16 oz.	12	10.75'w x 8.0'd x 10.75'w	.54	15.0	20/5
DTS-128	8-94630-00174-8	Drill & Tap Shield Metal Treatment - 1 Gallon	4	9.25'w x 14.5'd x 12.5'w	.97	34.0	12/4
DTS-5G	8-94630-00175-5	Drill & Tap Shield Metal Treatment - 5 Gallon	1			42	
DTS-15G	8-94630-00176-2	Drill & Tap Shield Metal Treatment - 15 Gallon	1			125	
DTS-55G	8-94630-00177-9	Drill & Tap Shield Metal Treatment - 55 Gallon	1			455	

30. SwRI Grease TEST REPORTS

STEEL SHIELD LARGELY OUTPERFORMS REPUTED GREASES MADE BY YAMAMOTO AND ATLAS

Petroleum Products Research Department
Test Summary Report
Steel Shield Technologies
Purchase Order # 114
October 25, 2013

STEEL SHIELD LITHI SHIELD

SwRI Code:	Sample Identification:		20003 Litho Shield	20004 Yamamoto EP grease
D1264	Water Washout of Grease			
	Avg. Grease Washed Out	Wt %	1.32	0.66
	Test Temp.	°C	79	79
	Dry Temp.	°C	77	77
D1742	Oil Separation from Lubricating Grease	mass %	2.04	* Note
D2265	Dropping Point	°C	258	307
	Oven Temp.	°C	288	316
D2266	Wear Characteristics (Four-Ball Method)			
	Scar Diameter	kgf	0.75	0.47
D2596	Four-Ball Extreme Pressure Properties			
	Corrected Load	kgf	851.1	501.68
	Load-Wear Index	kgf	92.27	66.73
	Weld Point	kgf	800	315
	LNSL	kgf	80	63

* No oil separation occurred for grea… …tomo EP grease" …herefore, sample is co…dered "outside the scope of the method".

WIN

Petroleum Products Research Department
Test Summary Report
Steel Shield Technologies
Purchase Order # 114
October 25, 2013

SwRI Code:	Sample Identification:		20005 Atlas Chisel lube
D1264	Water Washout of Grease		
	Avg. Grease Washed Out	Wt %	1.11
	Test Temp.	°C	79
	Dry Temp.	°C	77
D1742	Oil Separation from Lubricating Grease	mass %	** Note
D2265	Dropping Point	°C	302
	Oven Temp.	°C	316
D2266	Wear Characteristics (Four-Ball Method)		
	Scar Diameter	kgf	0.71
D2596	Four-Ball Extreme Pressure Properties		
	Corrected Load	kgf	302.79
	Load-Wear Index	kgf	41.23
	Weld Point	kgf	315
			50

** No oil separation occurred for grease sample "Atlas Chisel Lube", therefore, sample is co… scope of the method".

TEST ITEMS	Four-Ball Extreme Pressure Properties	Steel Shield Lithi Shield	Yamamoto EP Grease	Atlas Chisel Lube
Loading Ability	Corrected Load	851.1	501.68	302.79
Anti-Wear Ability	Load Wear Index	92.27	66.73	41.23
High Temperature Loading	Weld Point	800	315	315
High Pressure Loading	LNSL	80	63	50

31. SwRI Motor Oils TEST REPORTS

ASTM D2783 FOUR-BALL METHOD TEST REPORTS - ORIGINAL DOCUMENTS

SOUTHWEST RESEARCH INSTITUTE®

6220 CULEBRA ROAD 78238-5166 • P.O. DRAWER 28510 78228-0510 • SAN ANTONIO, TEXAS, USA • (210) 684-5111 • WWW.SWRI.ORG

July 1, 2013

George Fennell
Steel Shield Technologies
3351 Industrial Blvd
Bethel Park, PA 15102-2543
Phone: 1-800-390-1535
Email: gcfennell@steelshieldtech.com

Re: Fuel Analysis Results
Purchase Order# 103
SwRI WO# 68584

Dear Mr. Fennell:

Analyses have been completed on your samples in accordance with the tests requested. Four samples were received in good condition on June 17, 2013 in good condition. The samples were received in one gallon plastic containers.. Testing took place by June 29, 2013. Test results and sample identifications are shown in the table attached.

Analyses were performed according to the listed ASTM test procedures with no modifications or deviations. Precision should be consistent with those stated in the ASTM test procedures. Sample aliquots were taken in accordance with the various ASTM test procedures. The analyses above pertain only to the sample received by Southwest Research Institute and represent only that sampling lot. This report shall not be reproduced except in full without the express written permission of Southwest Research Institute.

If there are any questions concerning these analyses, or if you need any additional testing on the samples, please contact me at (210) 522-2071. We appreciate the opportunity to be of service to your firm.

Sincerely,

Robert R. Legg
Fuels Laboratory Manager
Fuels & Lubricants Research Department
Office of Automotive Engineering

OMRRAGA13 68584
Page 2 of 2

Benefiting government, industry and the public through innovative science and technology

Test Summary Report
Steel Shield Technologies
Purchase Order # 103
July 1, 2013

	LabNum		18049	18050	18051	18052
	Sample Code		Mobil 1	Shell Rotella	Steel Shield	Steel Shield
					5W30 gasoline	15W-40 diesel
	LabNum		18049	18050	18051	18052
D2783	CorrLoad	Kgf	53	55	228	139
	WearIndx	Kgf	42	42	47	40
	WeldPt	kg	200	200	315	250
	LNSL	kg	100	100	80	80

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OMRRAGA13 68584
Page 2 of 2

32. SwRI Gas Engine & Compressor Oils TEST REPORTS

STEEL SHIELD GAS ENGINE OILS AND COMPRESSOR OILS ASTM D2782 TIMKEN TESTS

THE TEST REPORT FROM SOUTHWEST RESEARCH INSTITUTE – Timken ASTM D2782

Report 2

Test Report
2014 / 11 / 20
Steel Shield Technologies

SwRI Lab No.	24564	23728	25252	23727	25250	25251
ASTM D2782 Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)	SST Gas Engine Oil SAE 40 Ashless Without EPA	Steel Shield Gas Engine Oil GECAT SAE40 Low Ash With EPA	Steel Shield EPA	Steel Shield Compressor Oil ISO #100 / 150	Mobil Pegasus 805 SAE 40 Gas Engine Oil	Mobil Pegasus 801 SAE 40 Gas Engine Oil
Volume (Gallon)	1	1	1	1	1	1
OK Load (lbs)	40	40	75	55	9	9
Score Load (lbs)	45	45	80	60	12	12
Temperature (℃)	38	38	38	38	38	38

Products of the same class

SOUTHWEST RESEA
INSTITUTE website:
www.swri.org

Results

Steel Shield Wins：
Steel Shield outperforms Mobil in OK LOAD parameter by 444 % and in SCORE LOAD by 375 %.

The SwRI Timken Test report clearly testified Steel Shield products are FAR Superior than Mobil products of the same classes

32. SwRI Gas Engine & Compressor Oils TEST REPORTS

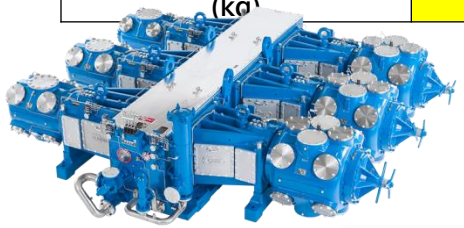
STEEL SHIELD GAS ENGINE OILS AND COMPRESSOR OILS ASTM D2783 FOUR BALLS TESTS

THE TEST REPORT FROM SOUTHWEST RESEARCH INSTITUTE – 4-Ball ASTM D2783

Report 2

Test Report
2014 / 11 / 20
Steel Shield Technologies

SwRI Lab No.	24564	23728	25252	23727	25250	25251
ASTM D2783 Measurement of Extreme-Pressure Properties of Lubricating Fluids (4-Ball Method)	SST Gas Engine Oil SAE 40 Ashless Without EPA	Steel Shield Gas Engine Oil GECAT SAE 40 Low Ash With EPA	Steel Shield EPA	Steel Shield Compressor Oil ISO #100 / 150	Mobil Pegasus 805 SAE 40 Gas Engine Oil	Mobil Pegasus 801 SAE 40 Gas Engine Oil
Volume (Gallon)	1	1	1	1	1	1
Corrected Load (kgf)	70	109	NA	1	136	74
Load Wear Index (kgf)	35	46	NA	48	34	35
Weld Point (kg)	200	250	>800	250	200	200
Last Non Seizure Load (kg)	80	100	80	100	63	80



Products of the same class

Results

Steel Shield Wins :
Steel Shield outperforms Mobil in the Weld Point (oil strength in resistant to EP) parameter by 129 % and in the Last Non Seizure Load (wear performance in respect to load) by 159 %.
***Remarks: 4-ball test is normally for heavy weight oil and grease.

The SwRI 4-Balls Test testified Steel Shield products are superior than Mobil products of the same classes

SOUTHWEST RESEA
INSTITUTE website:
www.swri.org

32. SwRI Gas Engine & Compressor Oils TEST REPORTS

STEEL SHIELD GAS ENGINE OILS AND COMPRESSOR OILS ASTM D2782 Timken, D2783 4-Ball & D6352 GC – Original Documents

Report 2

SOUTHWEST RESEARCH INSTITUTE®

6220 CULEBRA ROAD 78238-5166 • P.O. DRAWER 28510 78228-0510 • SAN ANTONIO, TEXAS, USA • (210) 684-5111 • WWW.SWRI.ORG

November 20th, 2014

George Fennell
Steel Shield Technologies
3351 Industrial Blvd
Bethel Park, PA 15102-2543
Phone: 1-800-390-1535
Email:

Re: Fuel Analysis Results
SwRI WO# 71111
PO# 120

Dear Mr. Fennell:

Analyses have been completed on your samples in accordance with the tests requested. Twelve samples were received in good condition between July 21st, 2014 and October 7th 2014 in good condition. Eleven samples were received in one gallon plastic containers and one sample was received in a one quart plastic bottle. Sample Identification and testing requesting is shown in the table on the following page. Testing took place between October 13th and November 11th 2014. Test results and sample identifications are shown in the table attached.

Analyses were performed according to the listed ASTM test procedures with no modifications or deviations. Precision should be consistent with those stated in the ASTM test procedures. Sample aliquots were taken in accordance with the various ASTM test procedures. The analyses above pertain only to the sample received by Southwest Research Institute and represent only that sampling lot. This report shall not be reproduced except in full without the express written permission of Southwest Research Institute.

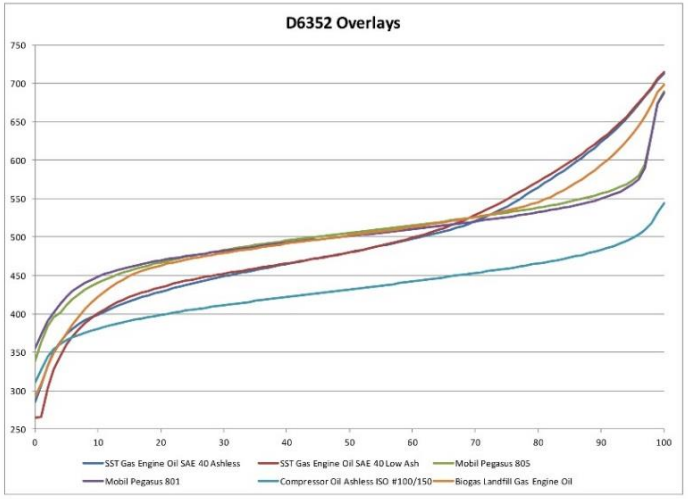
If there are any questions concerning these analyses, or if you need any additional testing on the samples, please contact me at (210) 522-2071. We appreciate the opportunity to be of service to your firm.

Sincerely,

Robert R. Legg
Fuels Laboratory Manager
Fuels & Lubricants Research Department
Office of Automotive Engineering

Benefiting government, industry and the public through innovative science and technology

Test Summary Report
November 20th, 2014
Steel Shield Technologies



In comparing the curves and D6352 chromatography, it is observed that samples SST Gas Engine oil SAE 40 Ashless and SST Gas Engine Oil SAE 40 Low Ash ar very similar with the exception that the Low Ash oil appears to have an added component that is somewhat lighter than the rest of the oil. The bulk of this oil is lighter than the others; however it does have a larger proportion of heavier compounds. In general it has broader array of hydrocarbons than the other oils. The Mobil Pegasus 801 and Mobil Pegasus 805 are essentially the same oil with the same boiling distribution. They both are a narrower cut reducing the amount of lighter and heavier hydrocarbon species. The Biogas Landfill Gas Engine Oil has a distribution in between the SST Gas Engine Oils and the Mobil Pegasus Oils. The Ashless Compressor oil is a significantly lighter oil than the rest of the samples.

ORRLAKE4 Steel Shield (a).docx
Page 16 of 16

32. SwRI Gas Engine & Compressor Oils TEST REPORTS

STEEL SHIELD GAS ENGINE OILS AND COMPRESSOR OILS ASTM D2782 Timken, D2783 4-Ball & D6352 GC – Original Documents

Report 2

Test Summary Report
November 20th, 2014
Steel Shield Technologies

SwRI Lab# 24564

SST Gas Engine Oil
5AE 40 Ashless
1 Gallon Plastic Jug

ASTM D2782 Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)

Okay Load, lbs	40
Score Load, lbs	45
Temperature, °C	38

ASTM D2783 Measurement of Extreme-Pressure Properties of Lubricating Fluids (4-Ball Method)

Corrected Load, kgf	70
Load Wear Index, kgf	35
Weld Point, kg	200
Last Non Seizure Load, kg	80

ASTM D6352 Boiling Range Distribution of Petroleum Distillates from 174 to 700 °C by GC

IBP	285.3	20%	428.8	40%	464.8	60%	497.5	80%	564.9
1%	306.2	21%	431.1	41%	466.4	61%	499.2	81%	570.0
2%	333.2	22%	433.3	42%	467.9	62%	501.1	82%	575.1
3%	351.6	23%	435.4	43%	469.4	63%	503.0	83%	580.6
4%	364.1	24%	437.2	44%	470.9	64%	505.0	84%	586.2
5%	373.5	25%	439.2	45%	472.4	65%	507.1	85%	591.8
6%	380.5	26%	441.2	46%	474.0	66%	509.3	86%	597.5
7%	386.7	27%	443.1	47%	475.6	67%	511.8	87%	603.5
8%	391.9	28%	444.9	48%	477.1	68%	514.5	88%	609.8
9%	396.0	29%	446.7	49%	478.6	69%	517.3	89%	616.3
10%	399.1	30%	448.6	50%	480.2	70%	520.4	90%	623.3
11%	403.0	31%	450.5	51%	481.8	71%	523.7	91%	630.3
12%	406.6	32%	452.1	52%	483.4	72%	527.3	92%	637.6
13%	410.2	33%	453.7	53%	485.1	73%	531.2	93%	645.6
14%	413.5	34%	455.2	54%	486.8	74%	535.3	94%	653.8
15%	416.5	35%	456.9	55%	488.5	75%	539.6	95%	662.7
16%	419.1	36%	458.5	56%	490.2	76%	544.2	96%	672.9
17%	421.8	37%	460.1	57%	492.0	77%	549.2	97%	682.4
18%	424.3	38%	461.7	58%	493.8	78%	554.5	98%	692.4
19%	426.5	39%	463.2	59%	495.7	79%	559.7	99%	704.3
								FBP	713.1

Test Summary Report
November 20th, 2014
Steel Shield Technologies

SwRI Lab# 23728

Biogas Landfill Gas Engine Oil
SAE 40 (Gecat SAE 40 Low Ash)
1 Gallon Plastic Jug

ASTM D2782 Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)

Okay Load, lbs	40
Score Load, lbs	45
Temperature, °C	38

ASTM D2783 Measurement of Extreme-Pressure Properties of Lubricating Fluids (4-Ball Method)

Corrected Load, kgf	109
Load Wear Index, kgf	46
Weld Point, kg	250
Last Non Seizure Load, kg	100

ASTM D6352 Boiling Range Distribution of Petroleum Distillates from 174 to 700 °C by GC

IBP	291.8	20%	462.9	40%	491.3	60%	512.8	80%	545.5
1%	308.9	21%	465.1	41%	492.4	61%	514.0	81%	548.7
2%	331.8	22%	467.0	42%	493.5	62%	515.2	82%	552.3
3%	349.1	23%	468.8	43%	494.7	63%	516.5	83%	556.3
4%	362.7	24%	470.4	44%	495.8	64%	517.8	84%	560.5
5%	374.7	25%	472.0	45%	496.9	65%	519.1	85%	565.1
6%	385.9	26%	473.6	46%	497.9	66%	520.4	86%	569.9
7%	396.5	27%	475.1	47%	498.9	67%	521.8	87%	575.0
8%	406.2	28%	476.5	48%	499.9	68%	523.1	88%	580.8
9%	415.0	29%	477.8	49%	500.9	69%	524.5	89%	586.8
10%	422.4	30%	479.1	50%	502.0	70%	526.0	90%	593.2
11%	429.0	31%	480.4	51%	503.0	71%	527.5	91%	599.9
12%	434.9	32%	481.6	52%	504.0	72%	529.0	92%	607.5
13%	440.2	33%	482.9	53%	505.1	73%	530.7	93%	615.4
14%	444.7	34%	484.2	54%	506.1	74%	532.4	94%	624.3
15%	449.2	35%	485.4	55%	507.2	75%	534.2	95%	633.7
16%	452.5	36%	486.6	56%	508.2	76%	536.1	96%	644.5
17%	455.4	37%	487.8	57%	509.3	77%	538.1	97%	656.4
18%	458.3	38%	489.0	58%	510.5	78%	540.4	98%	671.9
19%	460.7	39%	490.1	59%	511.7	79%	542.8	99%	688.2
								FBP	697.9

32. SwRI Gas Engine & Compressor Oils TEST REPORTS

STEEL SHIELD GAS ENGINE OILS AND COMPRESSOR OILS ASTM D2782 Timken, D2783 4-Ball & D6352 GC – Original Documents

Report 2

Test Summary Report
November 20th, 2014
Steel Shield Technologies

SwRI Lab# 25252

SST-EPA

1 Gallon Plastic Jug

ASTM D2782 Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)

Okay Load, lbs	75
Score Load, lbs	80
Temperature, °C	38

ASTM D2783 Measurement of Extreme-Pressure Properties of Lubricating Fluids (4-Ball Method)

Corrected Load, kgf	
Load Wear Index, kgf	
Weld Point, kg	>800
Last Non Seizure Load, kg	80

Test Summary Report
November 20th, 2014
Steel Shield Technologies

SwRI Lab# 23727

Compressor Oil Ashless
ISO #100/150
1 Gallon Plastic Jug

ASTM D2782 Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)

Okay Load, lbs	55
Score Load, lbs	60
Temperature, °C	38

ASTM D2783 Measurement of Extreme-Pressure Properties of Lubricating Fluids (4-Ball Method)

Corrected Load, kgf	133
Load Wear Index, kgf	48
Weld Point, kg	250
Last Non Seizure Load, kg	100

ASTM D6352 Boiling Range Distribution of Petroleum Distillates from 174 to 700 °C by GC

IBP	310.0	20%	398.6	40%	421.7	60%	442.0	80%	465.5
1%	326.9	21%	400.0	41%	422.7	61%	443.1	81%	466.9
2%	344.5	22%	401.4	42%	423.6	62%	444.1	82%	468.4
3%	354.0	23%	402.7	43%	424.6	63%	445.3	83%	469.9
4%	360.6	24%	404.0	44%	425.6	64%	446.4	84%	471.5
5%	365.4	25%	405.2	45%	426.6	65%	447.5	85%	473.2
6%	369.2	26%	406.4	46%	427.6	66%	448.7	86%	474.9
7%	372.5	27%	407.7	47%	428.6	67%	449.8	87%	476.7
8%	375.5	28%	408.9	48%	429.6	68%	450.9	88%	478.7
9%	378.2	29%	410.1	49%	430.6	69%	452.0	89%	480.7
10%	380.6	30%	411.2	50%	431.6	70%	453.1	90%	483.0
11%	382.8	31%	412.4	51%	432.6	71%	454.2	91%	485.6
12%	384.9	32%	413.4	52%	433.6	72%	455.4	92%	488.3
13%	386.9	33%	414.5	53%	434.6	73%	456.6	93%	491.4
14%	388.9	34%	415.5	54%	435.7	74%	457.8	94%	494.9
15%	390.7	35%	416.6	55%	436.7	75%	459.0	95%	498.8
16%	392.4	36%	417.7	56%	437.7	76%	460.2	96%	503.3
17%	394.0	37%	418.7	57%	438.8	77%	461.5	97%	509.1
18%	395.6	38%	419.7	58%	439.9	78%	462.8	98%	517.6
19%	397.1	39%	420.7	59%	440.9	79%	464.1	99%	531.3
								FBP	544.3

32. SwRI Gas Engine & Compressor Oils TEST REPORTS

STEEL SHIELD GAS ENGINE OILS AND COMPRESSOR OILS ASTM D2782 Timken, D2783 4-Ball & D6352 GC – Original Documents

Report 2

Test Summary Report
November 20th, 2014
Steel Shield Technologies

SwRI Lab# 25250

Mobil Pegasus
805
1 Gallon Plastic Jug

ASTM D2782 Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)

Okay Load, lbs	9
Score Load, lbs	12
Temperature, °C	38

ASTM D2783 Measurement of Extreme-Pressure Properties of Lubricating Fluids (4-Ball Method)

Corrected Load, kgf	136
Load Wear Index, kgf	34
Weld Point, kg	200
Last Non Seizure Load, kg	63

ASTM D6352 Boiling Range Distribution of Petroleum Distillates from 174 to 700 °C by GC

IBP	338.1	20%	467.0	40%	495.3	60%	515.0	80%	538.2
1%	363.1	21%	468.9	41%	496.4	61%	516.1	81%	539.6
2%	384.2	22%	470.6	42%	497.4	62%	517.1	82%	541.0
3%	396.2	23%	472.3	43%	498.3	63%	518.1	83%	542.6
4%	401.9	24%	474.0	44%	499.3	64%	519.2	84%	544.2
5%	410.8	25%	475.6	45%	500.3	65%	520.3	85%	545.9
6%	419.2	26%	477.1	46%	501.3	66%	521.4	86%	547.7
7%	426.0	27%	478.6	47%	502.2	67%	522.5	87%	549.7
8%	431.6	28%	480.0	48%	503.2	68%	523.6	88%	551.8
9%	436.1	29%	481.5	49%	504.1	69%	524.7	89%	554.1
10%	440.5	30%	482.9	50%	505.1	70%	525.8	90%	556.5
11%	444.1	31%	484.2	51%	506.0	71%	526.9	91%	558.9
12%	447.6	32%	485.6	52%	506.9	72%	528.1	92%	561.8
13%	450.8	33%	486.9	53%	507.9	73%	529.3	93%	565.0
14%	453.5	34%	488.2	54%	508.9	74%	530.5	94%	568.7
15%	456.1	35%	489.4	55%	509.9	75%	531.7	95%	573.2
16%	458.5	36%	490.6	56%	510.9	76%	533.0	96%	580.2
17%	460.8	37%	491.8	57%	511.9	77%	534.2	97%	594.4
18%	463.0	38%	493.0	58%	512.9	78%	535.5	98%	634.2
19%	465.1	39%	494.1	59%	514.0	79%	536.8	99%	674.3
								FBP	689.6

Test Summary Report
November 20th, 2014
Steel Shield Technologies

SwRI Lab# 25251

Mobil Pegasus
801
1 Gallon Plastic Jug

ASTM D2782 Measurement of Extreme-Pressure Properties of Lubricating Fluids (Timken Method)

Okay Load, lbs	9
Score Load, lbs	12
Temperature, °C	38

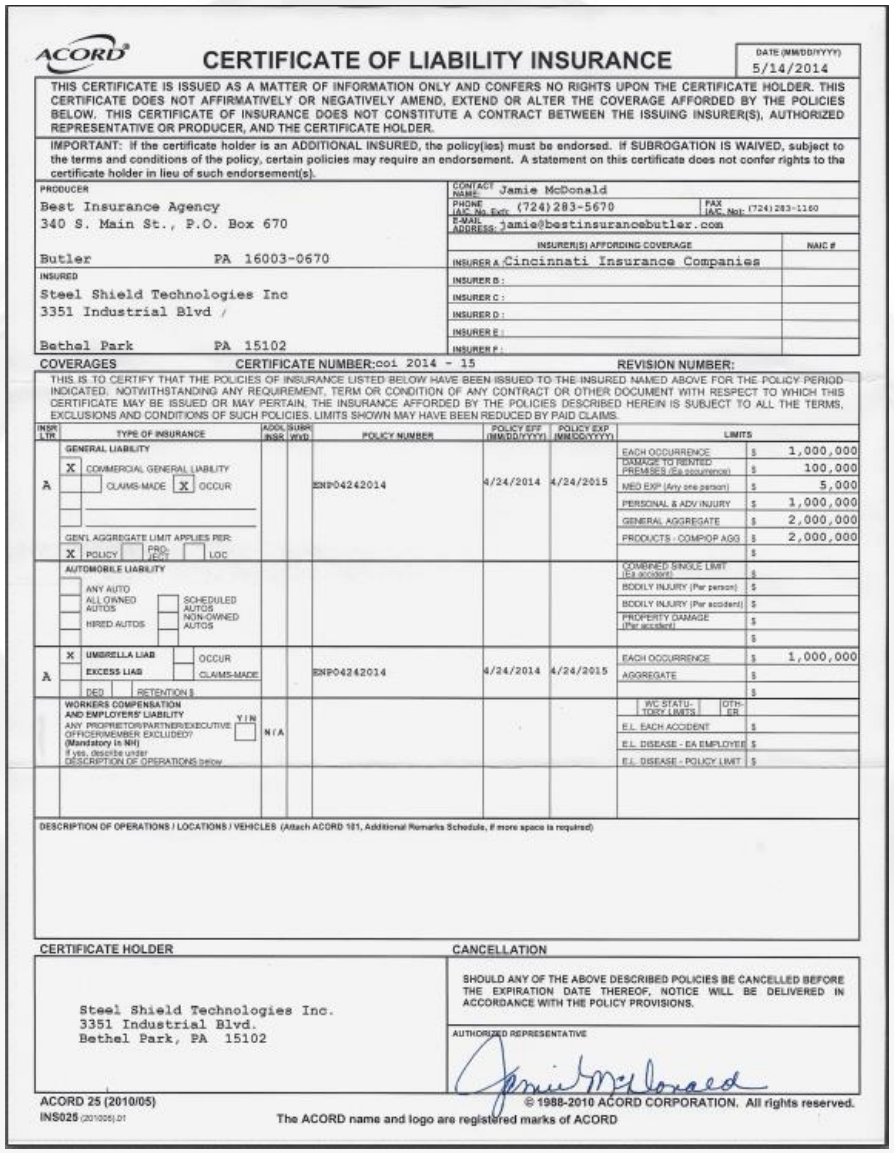
ASTM D2783 Measurement of Extreme-Pressure Properties of Lubricating Fluids (4-Ball Method)

Corrected Load, kgf	74
Load Wear Index, kgf	35
Weld Point, kg	200
Last Non Seizure Load, kg	80

ASTM D6352 Boiling Range Distribution of Petroleum Distillates from 174 to 700 °C by GC

IBP	355.5	20%	469.5	40%	492.3	60%	510.0	80%	532.2
1%	372.7	21%	470.9	41%	493.3	61%	511.0	81%	533.6
2%	391.1	22%	472.3	42%	494.3	62%	511.9	82%	535.1
3%	401.9	23%	473.7	43%	495.2	63%	512.9	83%	536.5
4%	413.3	24%	475.0	44%	496.2	64%	513.9	84%	538.1
5%	422.1	25%	476.2	45%	497.0	65%	514.9	85%	539.7
6%	429.3	26%	477.4	46%	497.8	66%	516.0	86%	541.4
7%	435.4	27%	478.5	47%	498.7	67%	517.0	87%	543.2
8%	440.6	28%	479.7	48%	499.5	68%	518.0	88%	545.2
9%	444.6	29%	480.8	49%	500.4	69%	519.1	89%	547.4
10%	448.3	30%	481.9	50%	501.2	70%	520.2	90%	549.9
11%	451.6	31%	483.1	51%	502.1	71%	521.3	91%	552.7
12%	454.2	32%	484.2	52%	503.0	72%	522.4	92%	555.8
13%	456.7	33%	485.2	53%	503.8	73%	523.5	93%	559.1
14%	459.0	34%	486.3	54%	504.7	74%	524.7	94%	563.1
15%	461.0	35%	487.3	55%	505.5	75%	525.9	95%	568.2
16%	462.9	36%	488.4	56%	506.4	76%	527.1	96%	575.2
17%	464.7	37%	489.4	57%	507.2	77%	528.3	97%	590.1
18%	466.5	38%	490.3	58%	508.1	78%	529.6	98%	633.5
		39%	491.3	59%	509.0	79%	530.9	99%	673.0
								FBP	687.9

33. World Wide Product Liability Insurance and Confirmation of NO CLAIM



ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 5/14/2014

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Best Insurance Agency
340 S. Main St., P.O. Box 670
Butler PA 16003-0670

CONTACT NAME: Jamie McDonald
PHONE (A/C, No, Ext): (724)283-5670 FAX (A/C, No): (724)283-1160
E-MAIL ADDRESS: jamie@bestinsurancebutler.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Cincinnati Insurance Companies	
INSURER B:	
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
Steel Shield Technologies Inc
3351 Industrial Blvd /
Bethel Park PA 15102

COVERAGES CERTIFICATE NUMBER: coi 2014 - 15 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC			ENP04242014	4/24/2014	4/24/2015	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
A	X UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			ENP04242014	4/24/2014	4/24/2015	EACH OCCURRENCE AGGREGATE	$ 1,000,000 $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N/A If yes, describe under DESCRIPTION OF OPERATIONS below						WC STATU-TORY LIMITS / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

CERTIFICATE HOLDER
Steel Shield Technologies Inc.
3351 Industrial Blvd.
Bethel Park, PA 15102

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2010/05)
INS025 (201005).01

Confidence Guarantee

Best Insurance Agency
340 S. Main St., P.O. Box 670
Butler, PA 16003-0670
(724)283-5670 (724)283-1160Fax
Email: Ray@Bestinsurancebutler.com

September 18, 2013

Steel Shield Technologies (Asia Pacific) Limited
22nd Floor, W. Business Centre
4 Kam Hong Street
North Point, Hong Kong

To Whom It May Concern:

Please be advised that Steel Sheild Technologies Inc, manufacturer of specialty lubricants and greases, located in Bethel Park,Pennsylvania, USA, has had no claims, claim related incidents or notices of loss under any General Liability policy issued by our office. We have provided them with General Liability coverage continously since April 24, 2008

If you have any questions or need further information please feel free to contact me. I will be happy to be of further assistance.

Sincerely,

Raymond A. Rosenbauer
Vice President

Confirmation of No Insurance Claim

34. Testimonials

Mark W. Pushnick
President & CEO
Steel Shield Technologies, Inc
3351 Industrial Blvd
Bethel Park, PA 15102-2543

07 May 2008

Mark,

I wanted to take time to express my sincere thanks to you and Steel Shield Technologies, Inc. for your support while I was deployed overseas in support of the Global War on Terrorism.

Your product, Weapon Shield, was truly a "life saver".

In my first combat tour to Afghanistan in late 2003, not knowing much about your product, I began to use it for my personal weapon and my crew-served vehicle weapon as a just another oil that I received in my care packages from home. I soon became educated on how this product was head and shoulders above the rest.

In the grueling conditions of southwestern Afghanistan, our weapons were subject to severe heat, dust, and even potential rust due to the humidity in the area. Compared to the other oils that we received, Weapon Shield was the only product that stood up to the battlefield environment and did not cause the bolt of the weapons to become "gummy" or "sticky". Weapon Shield actually acted as a "shield" and as a dust repellent.

When I found out that I was deploying back to Iraq in 2007, one of my first calls was to my father to get my hands on Weapon Shield. While conducting pre-deployment training at Fort Bragg, I introduced my soldiers to this product. When it comes to selling to a tough audience, young enlisted men are some of the toughest to buy into a new idea. Within days, all of the men were carrying this product and were even hoarding bottles within their packs.

When we got to Iraq, Weapon Shield bottles became a part of the combat packing list as assigned by my Detachment Sergeant. Weapon Shield was now the Standing Operating Procedure, a small bottle on each man and tube of grease in each truck.

Weapons Shield brought us through over 25 fire fights with great success when other soldier's from different unit's weapons failed. On one occasion on patrol with another unit, their .50 cal machine gun jammed. One of my gunners tossed a bottle of Weapon Shield to them. They broke down their weapon, applied the shield and quickly got back into the firefight. In our mission after action review, my soldiers quickly commented on how their weapons would only be treated with this product.

The bottom line is this... In two combat tours to both Afghanistan and Iraq, weapons treated with Weapon Shield, NEVER jammed. That saved lives. As a unit commander, my most important job was to complete this mission while bringing all of my soldiers home. Weapon Shield was a great contributor to my unit accomplishing that mission. In combat, the only option is perfect. If you are not, you can die. Weapon Shield was PERFECT every time.
Victory!

Craig A. Hickerson
MAJOR, Infantry
USAR

SIEMENS
VAI

December 10, 2008

Mark W. Pushnick
President & CEO
Steel Shield Technologies, Inc.
3351 Industrial Blvd.

Mark,

I would like to take this opportunity to thank you for introducing us to Steel Shield Technologies line of lubricants and Metal Treatment products. The performance of your products has been overwhelmingly superior to any other lubricants or metal treatments we have used in the past.

We are currently using the Lithi-Shield grease in our shop and it has proven to work very well in our high temperature applications. We have experienced absolutely no down time due to bearing failure on our high temp furnace since we began using the Lithi-Shield grease. In the past all bearings were replaced on a quarterly basis causing a significant amount of downtime and material cost. We also use the grease in our automated welding equipment and anywhere else frequent greasing is needed. It has out performed our previously used grease in every application and we use it as often as possible.

Because of the performance of the Lithi-Shield grease we started using Steel Shield EPA in all of our metalworking equipment. Since its introduction to our machines we have not experienced a significant breakdown of any kind and it has left them running smoother and quieter than ever. The Steel Shield Drill and Tap fluid is also used our shop and has significantly decreased our tooling costs and become a favorite of most of our machinists. The Spray Shield product is used by our maintenance department and it is proving to be superior to anything used here in the past. We are very happy with the cost and performance of Steel Shield Technologies products and I highly recommend them. I am continually looking for ways to reduce costs and downtime Steel Shield products have been a great contributor to our success.

Bob Cavill
Maintenance Department Supervisor
Siemens VAI Services, LLC
2901 Industrial Blvd.
Bethel Park, PA 15102
412-851-6700

35. Testimonials

中沃汽车有限公司

Original

致：美国离子能源有限公司

香港荃湾德士古道 188-202 号

立泰工业中心二期 11 楼 K 室

感谢 贵司提供神盾润滑油予我司作汽车马力输出测试。于是次测试当中，我司将神盾润滑油使用于 4 辆沃尔沃 Volvo 汽车[型号：沃尔沃 S80]，并将 4 辆汽车分别放上汽车马力输出测试机(Dyno-Shaft On-Vehicle Dynamometer) 进行测试。测试结果显示，4 辆进行测试的沃尔沃 Volvo 汽车在使用神盾润滑油之后，所输出的马力比起未有使用之前增加了 8%－12%。我司非常乐意向客户推荐神盾润滑油。

顺祝

商祺

中沃汽车有限公司

2013 年 11 月 8 日

电话:0571-86852031

Volvo Car Corporation

English

8th November, 2013

To: Steel Shield Technologies
Unit K, 11/F, Leader Industrial Centre, Phase 2,
188-202 Texaco Road, Tsuen Wan, N.T., H.K.

Dear Ms. Eva Lam,

We would like to express our gratitude to Steel Shield Technologies for providing Steel Shield lubricants for our vehicle horse power tests. In this test, our company applied Steel Shield lubricants to 4 Volvo cars (model: Volvo S80). We mounted the 4 cars on the horse power testing machines (Dyno-Shaft On-Vehicle Dynamometer) and conducted the tests individually.

The results indicate that, the 4 Volvo cars which had Steel Shield lubricants applied got horse power boosted by 8% - 12% compared with the same 4 cars without Steel Shield lubricants. Our company will be pleased to recommend Steel Shield to our customers.

Volvo Car Corporation
R/M 1613, 2th Phase, Tongce Square,
3688 Jiangnan Road, Binjiang, Hangzhou, China
www.sinoworldcars.com

This letter states that the horsepower of Volvo vehicles increased by 8% to 12% after using Steel Shield products.

36. MAJOR CUSTOMERS

US ARMY

SIEMENS

UNION PACIFIC RAILROAD
(NEW YORK STOCK EXCHANGE NO.: UNP)

DJE 东江环保 Dongjiang Environment

DONGJIANG ENVIRONMENT
(HONG KONG STOCK EXCHANGE NO.: 895)

37. 60th MACAU GRAND PRIX SPONSORSHIP AND OTHER ACTIVITIES HIGHLIGHTS

60th Macau Grand Prix 〈2013〉

Hong Kong Motorcycle Festival

3 hours motorcycle race in Zhuhai

Lubricant Exhibition in Guangzhou

Qingdao Exhibition

Chongqing Exhibition

38. MACAU GRAND PRIX AND EVENTS

61st Macau Grand Prix 〈2014〉

Exhibition & Events

39. Contact US

Steel Shield Technologies

Not All Oil is Same !

Company Address :
809B, 8/F., Block B,
Goodview Industrial Building,
11 Kin Fat Street, Tuen Mun, N.T., HK
Tel : +852 2545 8029
Fax : +852 2545 8030

Email : steelshieldtech@yahoo.com
Website : www.steelshieldtech.com.hk
Facebook: www.facebook.com/steelshieldtech
Weibo : www.weibo.com/steelshield

Not Just Oil... IT'S TECHNOLOGY

Confidence Guarantee

100% Made In USA

100% Imported From USA