



Not All Oil is Same!



“Steel Shield 神盾”

讓世人知道不是所有潤滑油都是雙胞胎

Steel Shield Technologies



since 1985

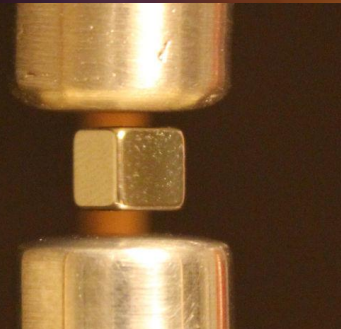
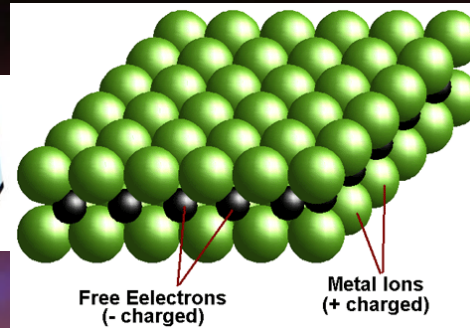
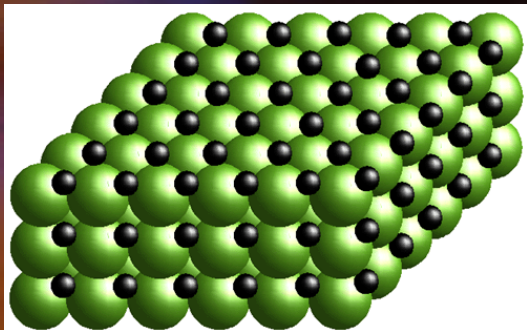
美國神盾

What makes the Difference?

無可取締的潤滑不靠油？



- The Ionic-Maglev – ABF Technology !
- 神盾技術 – 獨家ABF 離子轉移磁浮態



“Reliability is our first concern...
there is no room for system Dysfunction
when customers have chosen Steel Shield.”

神盾

竭盡全力確保系統無故障



此油非等閒...
實是一絕密科技！



About Us

Company Background 公司背景

Steel Shield Technologies Inc 美國神盾的前身是MPC，創辦於1985年，父親Richard Fennell是董事長兼首席執行官，兄長Jay Fennell 是總裁和營銷經理，George 本人是執行副總裁兼技術總監。2006年George及其家族退出了MPC並且創辦了Steel Shield，自始ABF產品正名為Steel Shield美國神盾。

In 1985 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 founded by George Fennell, his brother Jay Fennell and father, Richard Fennell in Pennsylvania USA. In 2006 George resigned all his duty from MPC and incorporated STEEL SHIELD TECHNOLOGIES INC. As of then, ABF products have been renamed “Steel Shield” , and products of MPC received no further endorsement from George being the same product as it supposed to be.



Richard Fennell



Jay Fennell



George Fennell



Carol Fennell



Business Meeting – 1986





美國廠房擁最先進的製造技術和配套設施，全自動電腦監控和整合，設備精鋼打造，100%美國原料生產。

Steel Shield's blending and manufacturing capabilities are state of the art and 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. Materials are 100% Made in USA.

Inventor 發名家 — Dr. George C Fennell



Doctor of Astronomy and Astrophysics
天文學和天體物理學博士

Accreditation:

SAE (Society of Automotive and Aerospace Engineers)
Member

汽車與宇航工程師學會

ASNE (American Society of Naval Engineers) Member
美國海洋工程師學會

NCMA (National Contract Management Association)
Member

國家合同管理協會

STLE (Society of Tribologists and Lubricant Engineers)



1985 年 Dr. George C Fennell 秉承其父親及祖父在磁浮潤滑學的科研，成功開發“離子鍵轉移技術”將金屬表層轉化為陽離子（正電荷），Faradys Law 同極相斥形成磁懸浮狀態的（ABF）無形保護牆。自始，被學界冠以“磁浮態之父”的美譽。

In 1985, Dr. George C Fennell, a former scientist in Astronomy and Astrophysics doing research in advanced lubrication and surface Tribology, formulated a revolutionary metal treatment oil additive which can realize “Ionic Maglev – the ABF Technology” through a proprietary and unique “electro-chemical ionization” process. Since then George has been crowned by the industry as the “Father of ABF Lubrication”.

ABF Technology 磁懸浮



引发强劲潜能

ABF Technology provides
highest Return of Investment

Friction 摩擦



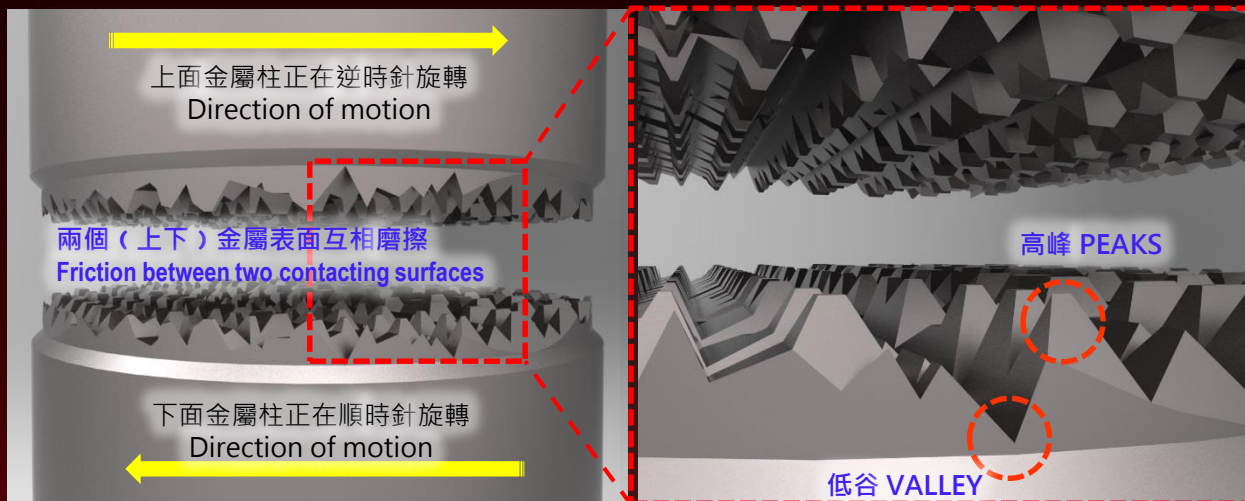
- 1.) Energy Loss 耗能
- 2.) Inefficient 效率低
- 3.) Heat 高熱
- 4.) Dysfunction 功能障礙
- 5.) Clogging 卡機
- 6.) Welding Up 燒結
- 7.) Fatal Damage 報廢
- 8.) High Cost 高維護費

ABF Technology 磁浮潤滑技術基礎

1. 金屬表面 Metal Surfaces

金屬表面是由“高峰”及“低谷”組成，互動產生巨大阻力，這就是磨擦阻力的源頭。

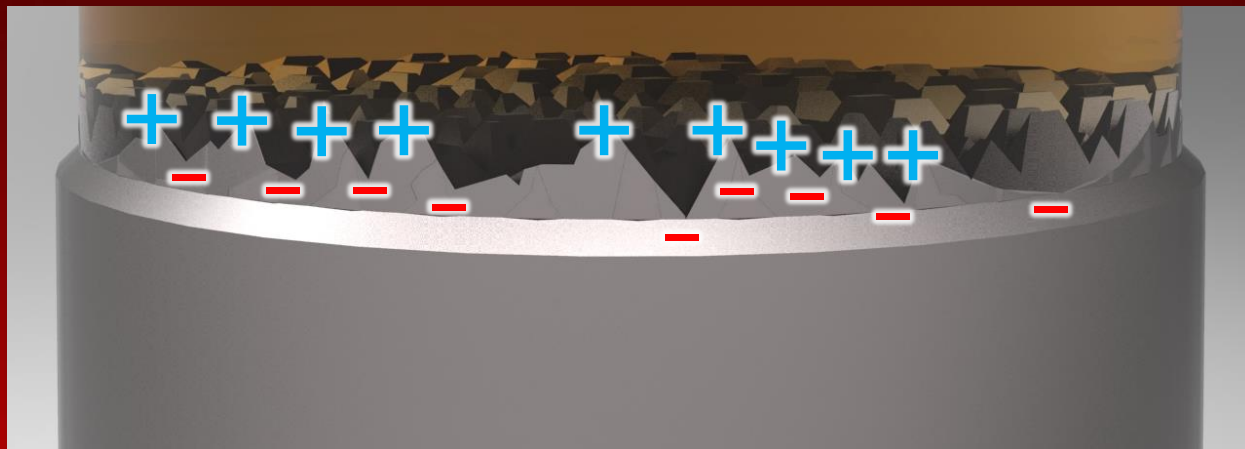
Surfaces characterized by series of peaks and valley. When two metal surfaces contact each other and move in opposite directions, friction is caused, producing heat and metal deterioration.



2. 表面的極性 Surface Charge

“高峰”是帶正極的，而“低谷”是帶負極的。

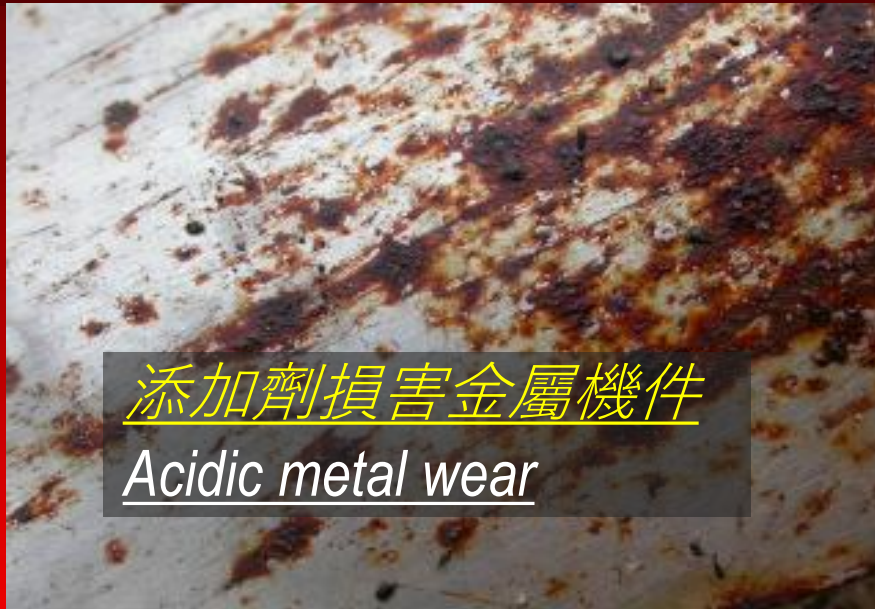
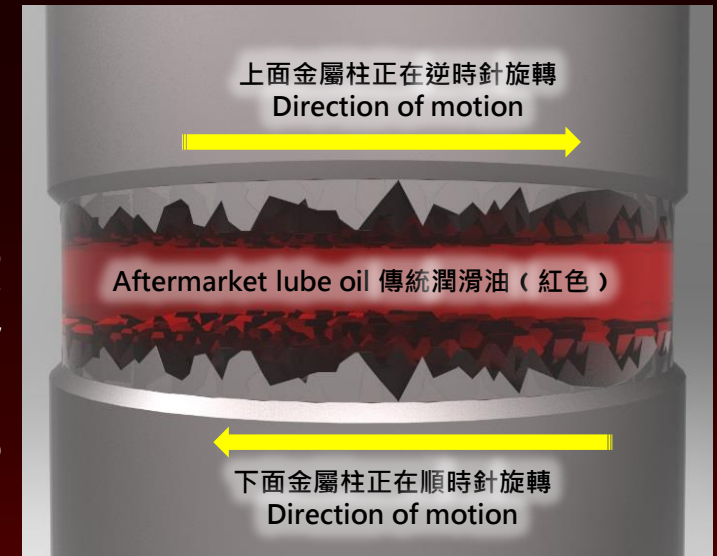
Peaks known as asperities are positive charged whereas valleys referred to as micro-pores and fissures are negative charged.



3. 傳統潤滑油 Aftermarket Lubricants

利用化學物質甚至軟金屬元素(moly 鉬)來改變油品的特性，短暫緩和金屬磨損，這類元素互相制衡甚至因交叉反應產生酸性物質，有腐蝕金屬件之嫌。傳統潤滑之所謂磨合(run in)“金屬平整功能”，實質是要機件互相斬砍，讓凸出的部份被削平，金屬脫落做成部件的原公差值劣化。機件不停碰撞產生碎屑，混合潤滑油，磨損更嚴重。

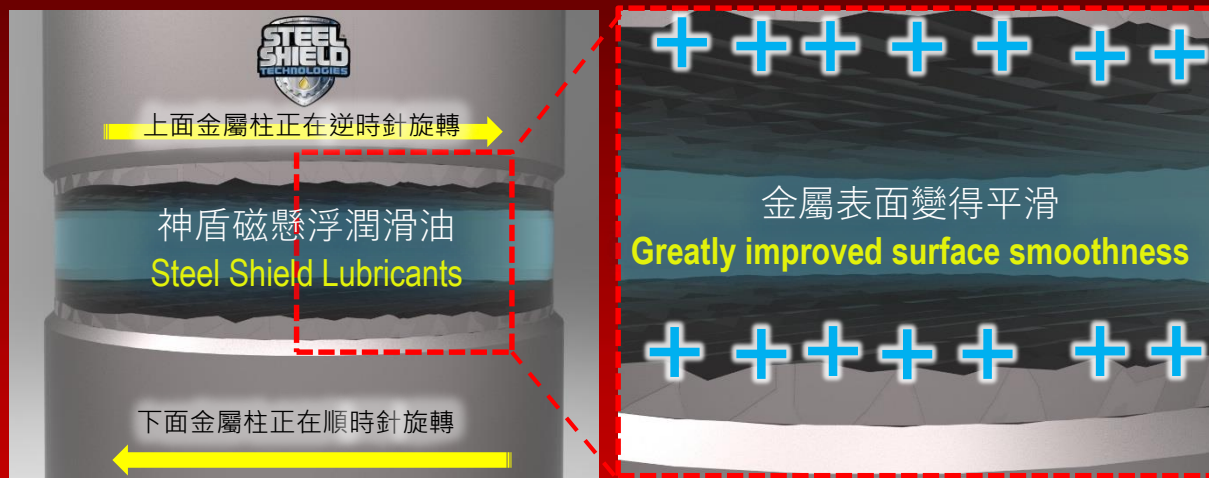
After market lubricants use chemicals and even substances like Moly and Esters to improve the characteristic quality of oil. These chemicals when mix together may cause cross effects creating acidic substances leading to abrasive wear and other adverse effects alike. The long applied traditional method for mechanical Run-In is actually 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 damage to the metal parts of the system is fatal and unrecoverable.



4. 神盾磁懸浮潤滑 ABF Technology

離子鍵轉移激活，金屬表面呈正極電荷狀態，法拉第定律的一股同極互斥能量於兩面互動金屬面之間形成，這能量會對突出的金屬部分進行徑向擠壓，往周邊微孔和裂縫推填並且撫平其表面，跟常規的縱向剪切方式完全相反，不但不會改變金屬體原有質量(mass)和公差值(measurement)，而且加固了金屬表層的堅硬度。

Forms electro-negative surface attaching compounds to seek out and affix themselves to lower surface areas filling the 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, radical surface lapping is achieved instead of the longitudinal shearing. 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 significant reduction in friction due to Faraday reaction of like-charges. Viscosity, however, is a lesser consideration when incorporating Steel Shield techniques.



5. 神盾磁懸浮與傳統潤滑的抗磨對決 ABF vs Traditional technology

神盾不會改變或者提升潤滑劑（載體）的基本參數和功能，它獨有的離子鍵轉移技術確實的改變了兩面金屬的互動常態，產生磁懸浮效應。在磁浮狀態下，負載值與摩擦力之間呈冪函數關係，即在負載達到一定值后，增加負載量對摩擦力值的實質改變是“零”，摩擦力值趨向一恒定值。此時表明，在摩擦接口上，負載已基本上由離子磁場所完全承擔并使摩擦接口保持一定的間隙，而潤滑劑此時的僅有功能只起傳熱作用吧了！

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 to cause the contacting asperities of the metallic surfaces a change of cation. As a result a positive-charge ionic force (like-charge repel) is realized between the two contacting surfaces, and as then the friction coefficient is becoming independent of total load and apparent area of contact. At this stage the function of lube oil is only for heat transfer.



軸承 Bearings

磨損大
huge
wear

使用傳統潤滑油後的軸承
Traditional technology

磨損輕微
minimun
wear

使用神盾潤滑油後的軸承
ABF technology



神盾磁浮潤滑五大突破 Five Major Mechanism

1. 虛擬零摩擦 – RCB 離子磁懸浮

法拉第定律同極相斥 · 偶極反應原理

Virtual Zero Friction - RCB Ionic levitation

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

2. 動態追熱和保護功能

活性因子動態追熱

Dynamic Heat Transfer

Lubricant accumulates at the hot spot automatically

3. 無腐蝕誘導技術物理排污

磁誘導技術徹底清潔金屬碎屑

Non Corrosive Cleansing

Metal sludge repelled and removed

4. 金屬表層加固

縱向剪切轉為定向擠壓改善表層金屬剛度

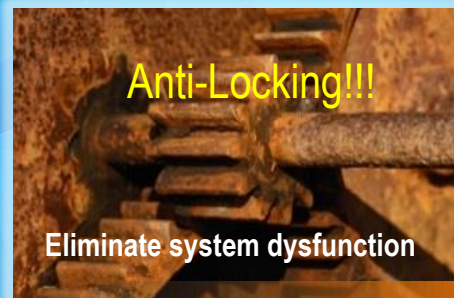
Metal Surface Re-hardening

From Shear Friction to Surface Lapping

5. 運動中保護 · 降低系統故障

Eliminate System Dysfunction

Not Just Oil · It Is Technology !!!



MSNs for the Steel Shield products added to EESOH-MIS

products for weapons, weapon systems and military equipment running under harsh conditions and environments
US Air-Force Purchasing Items

NSN/LPN: 9150PHM00065498

MSN: 9150PHM00065498

CAGE: 4TXQ2

**Trade Name: STEEL SHIELD WEAPON SHIELD METAL TREATMENT
GREASE**

NSN/LPN: 9150PHM00065584

MSN: 9150PHM00065584

CAGE: 4TXQ2

Trade Name: STEEL SHIELD ANTI-WEAR EP METAL TREATMENT

NSN/LPN: 9150PHM00065587N

MSN: 9150PHM00065587

CAGE: 4TXQ2

Trade Name: STEEL SHIELD STRIKE SHIELD

NSN/LPN: 9150PHM00065496

MSN: 9150PHM00065496

CAGE: 4TXQ2

Trade Name: WSG-EP1, WEAPON-SHIELD EP #1

NSN/LPN: 9150PHM00065578

MSN: 9150PHM00065578

CAGE: 4TXQ2

Trade Name: LITHI-SHIELD EP #2 GREASE

SN/LPN: 9150PHM00065590

MSN: 9150PHM00065590

CAGE: 4TXQ2

Trade Name: STEEL SHIELD TOOL SHIELD

NSN/LPN: 9150PHM00065581

MSN: 9150PHM00065581

CAGE: 4TXQ2

Trade Name: STEEL SHIELD SPRAY SHIELD



December 10, 2008

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

SIEMENS Letter of Gratitude

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

Original



SOUTHWEST RESEARCH INSTITUTE TEST REPORTS

STEEL SHIELD LARGELY OUTPERFORMS REPUTED GREASES MADE BY YAMAMOTO AND

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

ATLAS

SwRI	Sample ID:		20003	20004
Code:	Sample Identification:		Litho Shield	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 grease sample "Yamamoto EP grease", therefore, sample is considered "outside the scope of the method".

WIN

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

SwRI	Sample ID:		20005
Code:	Sample Identification:		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 considered "outside the 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

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Benefiting government, industry and the public through innovation.



SOUTHWEST RESEARCH INSTITUTE TEST REPORTS

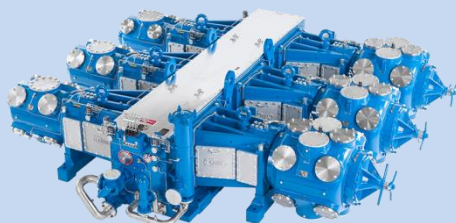
STEEL SHIELD GAS ENGINE OILS AND COMPRESSOR OILS ASTM D2782 TIMKEN TESTS

THE TEST REPORT FROM SOUTHWEST RESEARCH INSTITUTE – Timken ASTM D2782

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 (°C)	38	38	38	38	38	38

Products of the same class



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

SOUTHWEST RESEARCH INSTITUTE 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

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
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

美國聯合太平洋鐵路成本節省報告 UPRR REPORT

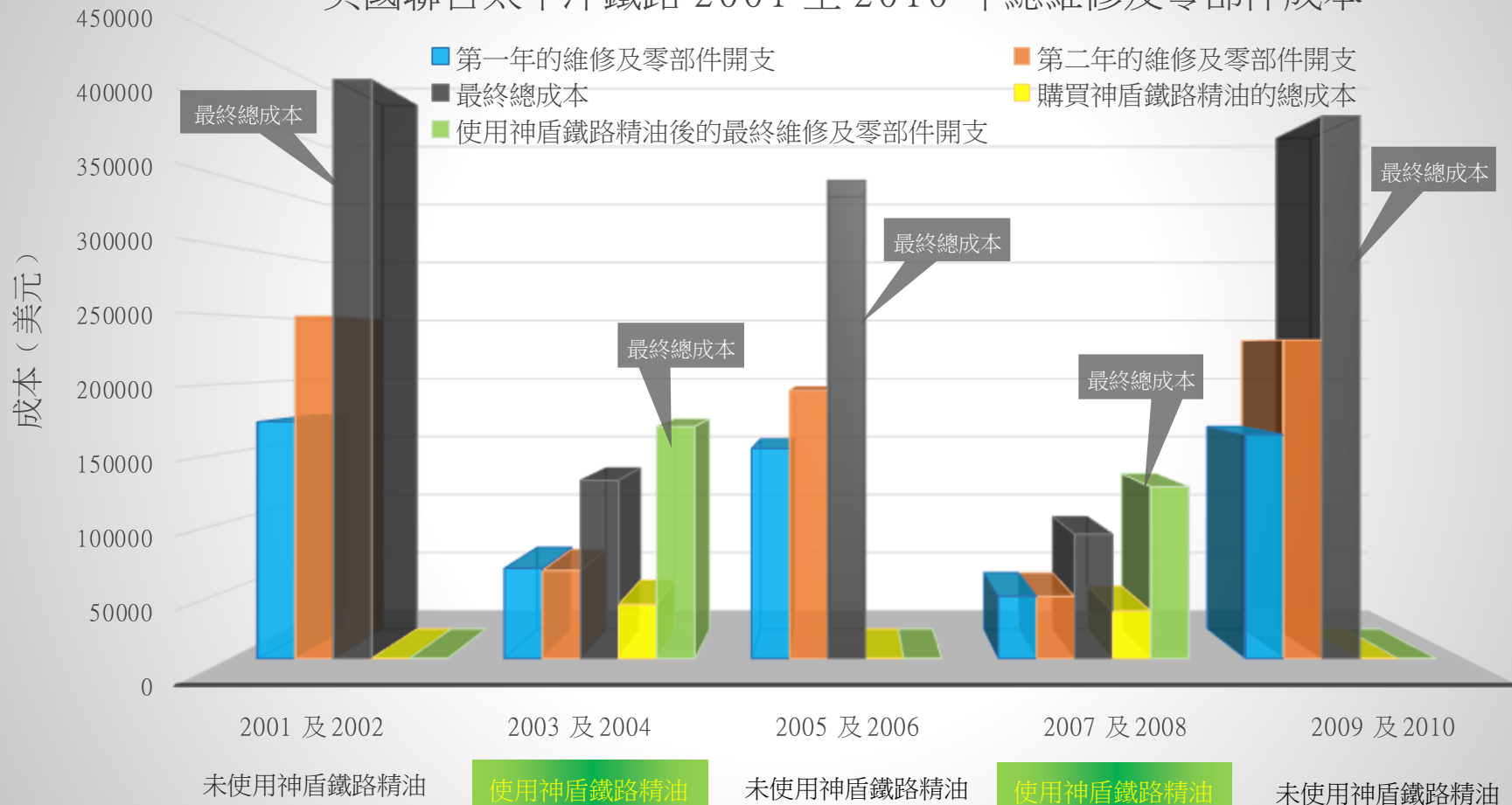
美國聯合太平洋鐵路總維修及零部件成本比較

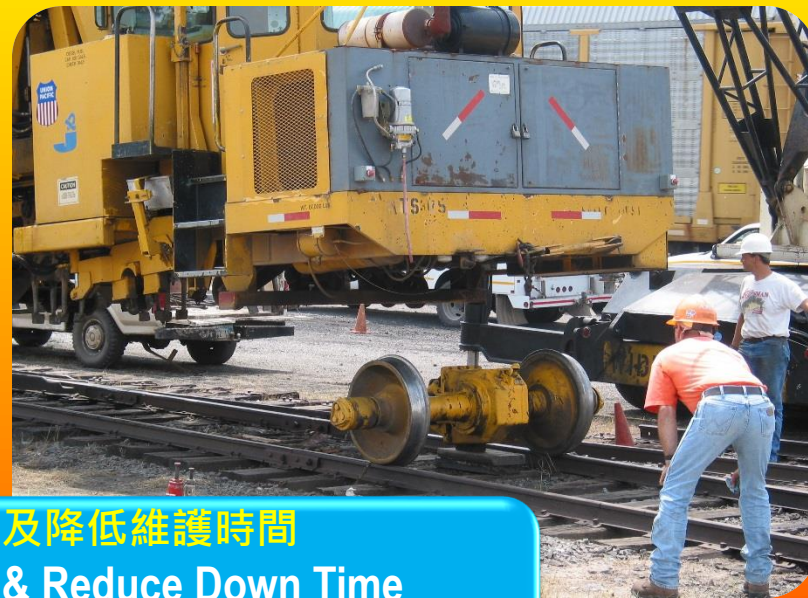
使用神盾前 對 使用神盾後

UPRR Repair & Maintenance Expenses

Before & After applying Steel Shield Products

美國聯合太平洋鐵路 2001 至 2010 年總維修及零部件成本





大幅提升產能及降低維護時間
Improve Reliability & Reduce Down Time
使用神盾鐵路潤滑劑 是您唯一的選擇！
We're the Champion, Let's help you make yours!



使用高級邊界膜技術的神盾鐵路潤滑劑 ABF TECHNOLOGY-RAIL EQUIPMENT

- ABF離子轉移磁浮技術，高效提升潤滑及負載能力
- **ABF Ionic Maglev improves system performance & reliability**
- 形成一層複雜的斥力保護牆於兩面金屬面之間
- **Realize like-charges ionic force between two metal surfaces**
- 經 ABF 技術處理後的金屬面變得極之平滑，而金屬的各種特性亦同時被優化
- **Surface lapping improves smoothness & rehardens metal surface**
- ABF 技術讓工作溫度下降，金屬件工作於適溫狀態，磨損減少，抗極壓性能亦被提升
- **ABF Technology reduces system temperature, friction & improves loading capability**

使用神盾鐵路潤滑劑所得到的益處 BENEFITS YOU MAY EXPECT FROM ABF TECHNOLOGY

- 增加列車行駛速度 **increase train velocity**
- 列車到站更準時 **improve on-time train performance**
- 延長零部件壽命及可靠性 **extend parts life and component reliability**
- 減少維修及停機時間 **reduce maintenance interval and downtime**
- 減少金屬互相磨擦 **reduce friction**
- 節省能源 **save energy**
- 降低運作溫度 **reduce working temperature**
- 機件操作時更順暢 **improve smoothness & reduce noise**
- 保護活動組件 **protect metal parts from cold start & motion damage**



節省
成本



Substantial Savings in costs !!!



中央地區的 M/W 設備 (動力組件) M/W EQUIPMENT CENTRAL REGION (POWER UNITS ONLY)

Case Study 1

- 在 2001 及 2002 年 **Year 2001 & 2002**
未有使用神盾鐵路潤滑劑於任何動力組件或其他 M/W 零部件 **Without Steel Shield products**
- 在 2003 及 2004 年 **Year 2003 & 2004**
採用神盾鐵路潤滑劑於動力組件包括傳動系統、液壓系統、齒輪系統及差速系統
Steel Shield applied to the engine, gear, hydraulic, transmission & traction motor system

2001 至 2004 年美國聯合太平洋鐵路成本節省比較 **Year 2001/2 vs 2003/4 cost analysis**



**Not Just Oil...
IT'S TECHNOLOGY**



**節省
60%
Savings**

2001 及 2002 (未有使用神盾油)		2003 及 2004 (使用神盾油) with Steel Shield	
系統維修成本 = \$172,296 + \$249,476		系統維修成本	= \$65,722 + \$64,021
Cost of Failures = \$421,772		Cost of Failures	= \$129,742
(每年平均 cost \$210,886/p.a.)		(每年平均 cost \$64,871/p.a.)	
		神盾鐵路潤滑劑成本	= \$21,195 + \$18,000
		Cost of Steel Shield products	= \$39,195 (每年平均 cost \$19,598/p.a.)
		聯合太平洋總成本 Total Cost to UPRR	= \$168,937 (每年平均 cost \$84,469/p.a.)
		節省的開支 Savings to UPRR	= \$252,835 (每年平均 cost \$126,417/p.a.)
		使用神盾鐵路油的投資回報 (ROI)	= $\frac{\$252,835}{\$39,195}$
		Return on Investment with Steel Shield	\$39,195
(以上為美元)		(以上為美元 US\$ basis)	= 5.45 (545% 回報率 ROI)

註：以上節省的開支不包括工資、租金、停機時間或延誤 This savings does not include man hours, rentals, downtime costs or
* 投資回報 Return on Investment : $\frac{\text{節省的開支 Savings} - \text{成本 Cost}}{\text{成本 Cost}} = \text{ROI}$



美國離子能源

美國聯合太平洋鐵路2005至2008年維修費分析 UPRR 2005-2008 Cost Analysis

Case Study 2

Steel Shield products was purchased and added to M/W equipment components even though Case Study 2 is only showing the savings for Power Units.

- 2005 至 2006 年 Year 2005 & 2006

UPRR 維修費 (沒有使用神盾油) Cost of Failures

- 2007 至 2008 年 Year 2007 & 2008

UPRR 採用神盾油的維修費分析 Cost of Failures with Steel Shield。



註：所有的主損壞及應用維修費均為平均值 All Repair cost are averaged due to core damage & applications

所有維修均為潤滑失效及過度磨損所引致 All repairs are due to poor lubrication & excessive wear

維修費並不包括工時、停機時間、租金或誤點損失 Repair Costs do not include man hours, downtime, rentals or delays

	維修單元 Unit Repairs to	每單元維修費 Cost per unit	2005 年的維修單元 Unit Repairs		2006 年的維修單元 Unit Repairs		2007 年的維修單元 Unit Repairs		2008 年的維修單元 Unit Repairs	
			Units	維修費 Cost	Units	維修費 Cost	Units	維修費 Cost	Units	維修費 Cost
每年 綜合單元 總維修費 Total Cost of Units Per Year	動力系統 Engines	12,000.00	4	48,000.00	6	72,000.00	1	12,000.00	0	0
	變速系統 Transmissions	11,000.00	3	33,000.00	4	44,000.00	0	0	1	24,000.00
	差速系統 Differentials	1,300.00	2	2,600.00	4	5,200.00	1	1,300.00	0	0
	液壓系統油泵 Hydraulic Pumps	4,000.00	10	40,000.00	8	32,000.00	4	16,000.00	5	14,000.00
	閥門失效 Valve Failures	935.00	3	2,800.00	3	2,800.00	0	0	2	2100
	液壓系統汽缸 Hydraulic Cylinders	600.00	12	7,200.00	15	9,000.00	6	3,600.00	5	3,800.00
	液壓系統發動機 Hydraulic Motors	2,500.00	8	20,000.00	12	30,000.00	5	12,500.00	1	1200
	年均總維修費 Total Cost of Repairs per year			\$153,000.00		\$195,000.00		\$45,400.00		\$45,100.00



Case Study 2 : Continued

- 2007 年，UPRR 購買了 US\$20,394 神盾潤滑劑 Purchased US\$20,394 Steel Shield Products
- 2008 年，UPRR 購買了 US\$14,100 神盾潤滑劑 Purchased US\$14,100 Steel Shield Products
- Steel Shield products was purchased and added to M/W equipment components even though Case Study 2 is only showing the savings for Power Units

	2005 年	2006 年	2007 年	2008 年
系統失效維修費 Cost of Failures	153,000	195,000	45,400	45,100
神盾產品成本 Cost of Steel Shield Products			20,394	14,100
總維修費 Total Cost of Failures	153,000	195,000	65,794	59,200

2005-2006 與 2007-2008 年度UPRR成本節省比較 **Cost of Failures Analysis**

2005 及 2006 (未有採用神盾鐵路潤滑劑)		2007 及 2008 (採用神盾鐵路潤滑劑 Steel Shield Products being used)	
系統維修費 = \$153,000 + \$195,000		系統維修費 = \$45,400 + \$45,100	
Cost of Failures = \$348,000		Cost of Failures = \$90,500	
(每年平均 \$174,000/p.a.)		(每年平均 \$45,250/p.a.)	
		神盾產品消費 = \$20,394 + \$14,100	
		Cost of Steel Shield Products = \$34,494 (每年平均 \$17,247/p.a.)	
		UPRR總成本 Total Cost of Failures = \$124,994 (每年平均 \$62,497/p.a.)	
		節省的開支 Savings to UPRR = \$223,006 (每年平均 \$111,503/p.a.)	
		使用神盾產品的投資回報 (US\$) = \$223,006 - \$34,494	
		Return of Investment (US\$) = 5.46 (546% 回報率)	
(以上為美元)			



**節省
64%
Savings**

- 註：以上節省的開支不包括工資、租金、停機時間或延誤 This Savings does not include man hours, rentals, downtime costs or delays.



美國太平洋鐵路神盾產品編號 UPRR PRODUCT CODE FOR STEEL SHIELD

- RES-MT-16oz # 310-4437-0
- RES-MT-128oz # 310-4440-0
- RES-MT-5G # 310-4441-0
- RES-MT-55G # 310-4444-0
- RES-MT-300G # 310-4446-0



**Not Just Oil...
IT'S TECHNOLOGY**

總結 SUMMARY

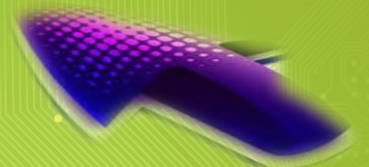
- 美國神盾潤滑劑能夠提高列車行駛速度、使列車到站更準時、延長零部件壽命及可靠性，及減少維修及停機時間，因為神盾 ABF 技術非靠油，它讓兩面反向互動的金屬表面產生質的優化，讓離子磁浮能量替代常態潤滑油的流體潤滑以減少金屬互相磨擦及工作溫度。
- 美國太平洋鐵路對美國神盾潤滑劑進行以年計算的長時間測試，證實神盾對所有金屬部件有正面效益，值得信賴。
- 美國神盾潤滑劑幫助美國聯合太平洋鐵路每年平均節省60% 以上的維護成本。
- Steel Shield Products have increased train velocity, improved on-time train performance, extended parts life and component reliability and reduced maintenance and downtime by treating the metal surfaces to reduce friction, heat and wear.
- After more than 8 years of use experience shows that Steel Shield Products have had no negative or detrimental effects.



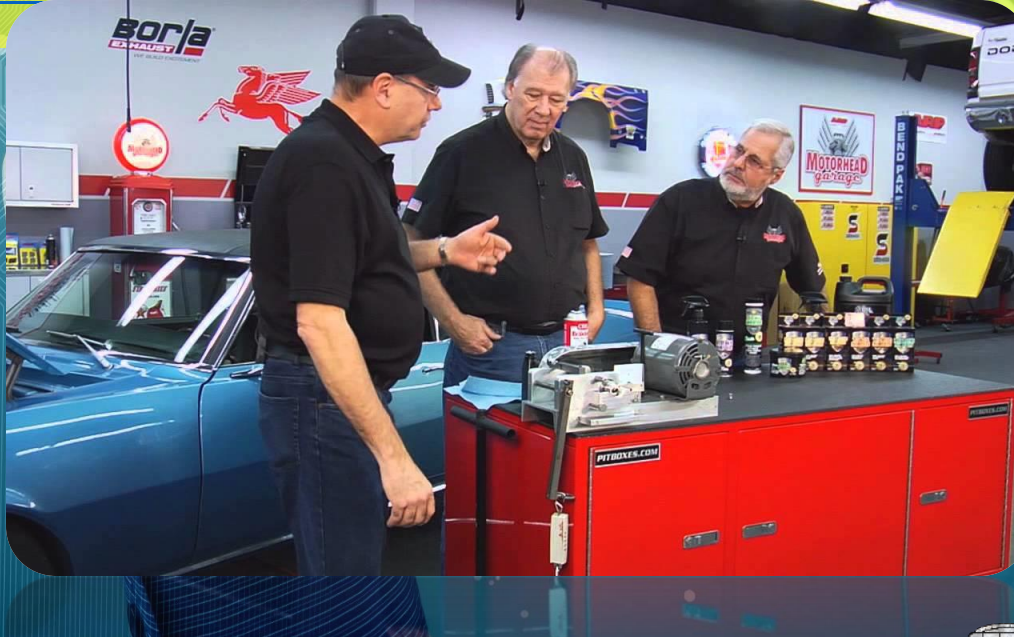
美國離子能源

STEEL SHIELD VIDEO DEMONSTRATIONS

- [Steel Shield ABF Technology – How it works?](#)
- [Steel Shield ABF Technology – Timken Demonstration.](#)
- [Steel Shield Technology Demo 1](#)
- [Steel Shield Technology Demo 2](#)
- [Steel Shield Tech Full Feature on Motorhead Garage](#)
- [Steel Shield Motorhead Garage Commercial](#)
- [Steel Shield Interviewed by the Guangdong Sport TV in the China International Lubricants and Technology Exhibition](#)



Please click the links



32. Letters from Union Pacific Railroad & PA Port Authority

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 protecting 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



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. F.
Manager of
Bus & Rail

This is

信內述明每投入 1 美元
購買神盾磁浮潤滑油，
就使他們節省 45 美元維
修開支。
車輛失誤比率下降至只
有原來的 10%。



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. 4-6880-143-7243 pm-888926
jfhendri@up.com



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MACAU GRAND PRIX AND EVENTS

61st Macau Grand Prix 〈2014〉



Exhibition & Events





SST Racing



***We're the CHAMPION,
Let's help you make yours !!!
我們是冠軍領航者, 助你踏上冠軍路 !!!
Are you READY? 你要來
嗎?***



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