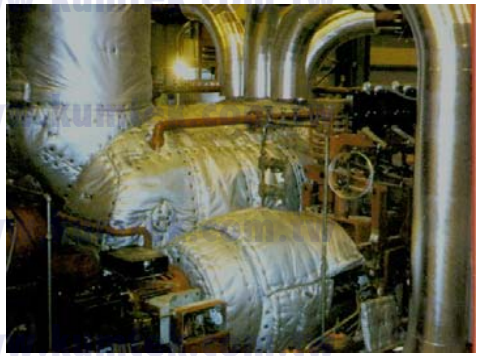
射出機加熱管保溫布包

耐高溫保溫布包介紹

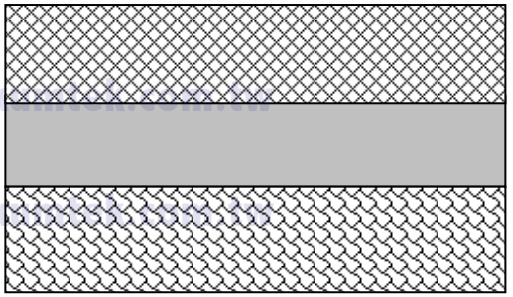
- 1.本系列產品系所使用之材料均為非石棉耐高溫纖維
- 2.特性
- (1)**施工时间短，<u>装卸容易，並可重覆多次使用</u>**，不需要專業人員即可作業。
- (2)**斷熱效果優良**，在有限空間內達到最好隔熱保溫效果。
- (3)**防水、防油、持久性，安全性**，不含石棉物質，避免纖維飛散，無環保安衛之問題。





保溫布包材層介紹

- A:外層(表層)
- B:保溫層(夾層)
- C:內層(受熱面)



- A:INFLUO#4-56P/P　0.4mmT鐵氟龍塗覆玻璃纖維布
- B:複合型保溫材料（多種複合材料，有限空間內達到最好保溫隔熱效果）
- C:KM700#10-81HT 1mmT耐高溫玻璃纖維布

各材層介紹

IN-FLUO 保溫用鐵氟龍布

Thermotech 工德
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IN-Fluo 鐵氟龍塗佈玻纖布系列

基材: KM600 系耐高溫布
表面: PTFE (鐵氟龍)COATING
耐溫: 287℃
特性: 抗化學品,具彈性及**氣密性**, 耐油水,耐候、防沾黏, 潔淨表面, 防火
應用範圍: 膨脹接頭, 防震接頭, 保溫夾克, 伸縮蛇管, 無塵室保溫

IN-Fluo PTFE/Fiberglass Cloth

This series of PTFE coated/impregnated fiberglass fabric are designed for use in removable blankets as weather/chemical resistant barrier. This economic grade fabric is easily sewn and is flexible enough to conform to intricate shapes. The PTFE coating is extremely resistant to most industrial chemicals and has been in applications to 287℃.

Advatnages:

- Flame Resistant,
- Excellent chemical, oil, and weather resistant,
- Suitable for clean room applications

Data and Availability

產品 Product ID	厚度 Thickness (mm)	單位面積重 Areal Weight (g/m^2)	張力強度 Tensile Strength (N/50mm)	每捲呎吋 Roll sizes (m)
3-43P/P	0.3	425	2670x2220	1.5x45.7
4-56P/P	0.43	560	3660x3170	1.5x45.7
4-61P/P	0.46	610	3660x3170	1.5x45.7
6-78P/P	0.6	780	3660x3170	1.5x45.7
9-115P/P	0.86	1153	5400x4600	1.5x45.7

Your solution for Thermal Insulation since 1989 !

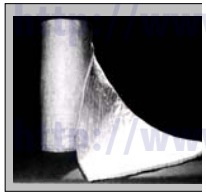
Insulation Blanket 保溫隔熱毯

Thermotech 工德
Tele: +886-3-4644666 Fax: +886-3-4644578 E-mail: thermtec@ms45.hinet.net WWW.kumtek.com.tw

KM600 & KM1000 Needled BLANKET

(CERAMIC FREE INSULATION)

Introducing a revolutionary insulation blanket composed of long length continuous filament high temperature fiber. Fibers are non-respirable and safe to use without protective clothing. The needled blanket is pliable, resilient and easy to fabricate.



APPLICATIDNS INCLUDE: *Pipe Wrap, Mold Wrap, Stress Relieving Insulation, Gaskets, and Insulation Blankets...*
INDUSTPIES: *Petrochemical - Steel - Aluminum Power Generation-Foundries-Glass-Automobile*

Technical Data

Properties	KM600		KM1000	
Material	E-grade fiberglass		Non-amorphous silica fiber	
Composition	SiO_2	55%	SiO_2	94-96%
	CaO	18%	CaO	--
	Al_2O_3	16%	Al_2O_3	3-4%
	$MgO+B_2O_3$	7%	$MgO+B_2O_3$	--
Continuous application temperature °C	600		1000	
Peak Temperature °C (soften or melting)	820		1650	
Thermal Conductivity (W/m.k.)	100°C	0.042	115°C	0.045
	293°C	0.063	315°C	0.088
	450°C	0.080	450°C	0.121
	565°C	0.090	650°C	0.200
Nominal Density (Kg/m^3)	165 +/- 20%		140 +/-20%	
Thickness (mm) available	3, 5, 6, 8, 10, 13, 25		6, 8, 10, 13, 25	
Standard Width (m)	1.2		1.0	

Your One Stop Solution for Insulation Since 1989 !

KM-700 耐高溫布

Thermotech 工德
+886-3-4644666 Fax: +886-3-4644578 E-mail: kumtek@ms13.hinet.net Web: WWW.kumtek.com.tw

KM700 系列防火纖維,

材質: 經特殊高溫處理 E-grade texturized fiberglass
耐溫(軟化點): 830℃
耐溫(長時間): 約 700℃
特性: 大幅減少高溫所致之脆化現像, 並達到
- 較高之強度保持率
- 柔韌性

應用範圍: 爐門遮簾, 高溫膨脹接頭, 高溫保溫布包 (如汽機, 柴油引擎排氣)

KM700 High Temperature Textiles

KM700 series textiles are made of premium E-grade texturized fiberglass with special treatment for continuous service temperature to 700℃ with with no significant deterioration in flexibility or strength. KM700 consistently outperforms other high temperature fiberglass fabrics, and is ideal for expansion joints, turbine covers, removable insulation wraps, welding curtains, heat barriers and as high temperature insulation.

Data and Availability—Fabrics

產品代號 Product ID	厚度 Thickness(mm)	單位面積重 Areal Weight (g/m^2)	編織方式 Structure	寬度 x 長度 widthxLenth (m)
8-61HT	0.8	610	Plain	1.5 x 45.7
8-88HT	0.8	880	Satin	1.5 x 45.7
10-81HT	1.0	810	Plain	1.5 x 45.7
20-120HT	1.7	1220	Plain	1.5 x 45.7
14-176HT	1.4	1760	Satin	1.5 x 45.7
30-210HT	3.0	2170	Plain	1.5 x 45.7

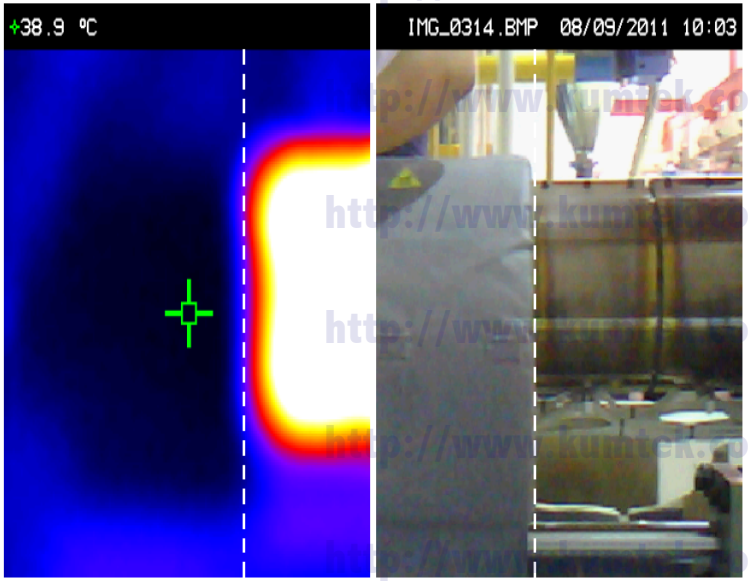
Standard color: blue

實例介紹

- 本公司與財團法人塑膠中心合作專案，主要目的為減少射出成型機熱能散失以達到節能減碳，節省能源成本的目標

熱傳導計算

- 本次專案以不影響生產及設備為主，在有限的空間內達到最好的保溫隔熱效果。



安裝後，保溫材表面約38.9度C，與先前利用軟體模擬結果40度C一致。

Steady State Heat Flow Analysis

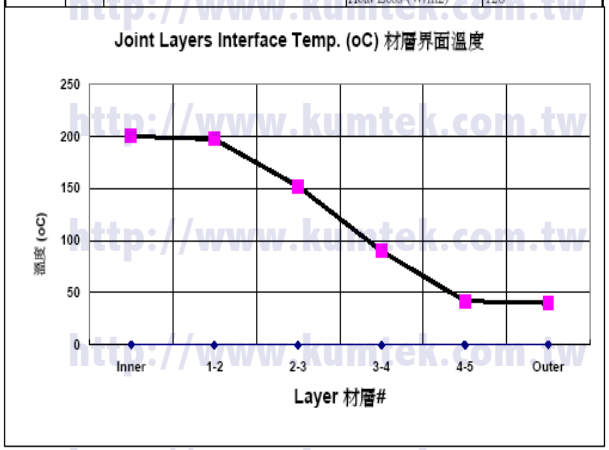
熱傳計算

Thermotech-2011/11/08

Tele: +886-3-4644666

Operation Temperature (°C)操作溫度	200	Wind Velocity(m/sec.)環境風速	0
Ambient Temperature (°C)環境溫度	30	Emissity表面放射率	0.9
Configuration	水平圓柱體	Diameter	160

Layer #	Code	Description	Supplier	Thickness (mm)	Interface	Temp.(°C)
1	59	KM700#10-81HT	Thermotech	1	Inner	200
2	66	KM600高溫隔熱毯	Thermotech	13	1-2	197
3	89	SIB 超低熱傳隔熱毯	Thermotech	10	2-3	152
4	66	KM600高溫隔熱毯	Thermotech	13	3-4	90
5	59	INFLUO#4-56P/P 鐵氟龍玻纖布	Thermotech	0.4	4-5	42
			Outer face Temp.(°C)		Outer	40
			Heat Loss (W/m2)			126

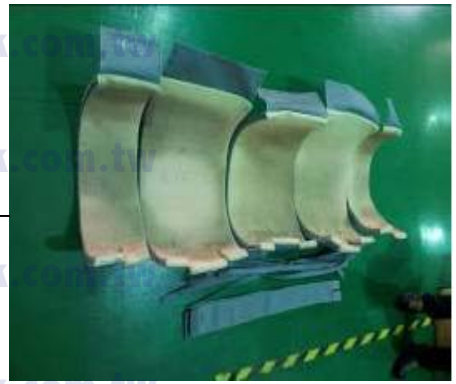


量測尺寸及安裝流程

防護蓋拆除

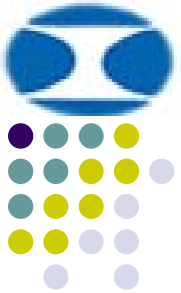
量測尺寸

製作保溫材



保溫材安裝

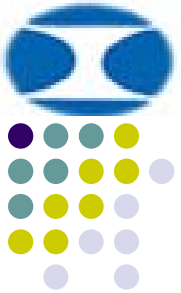
防護蓋復原



試驗機台

本次專案分別以3種不同廠牌及型號之機台做測試

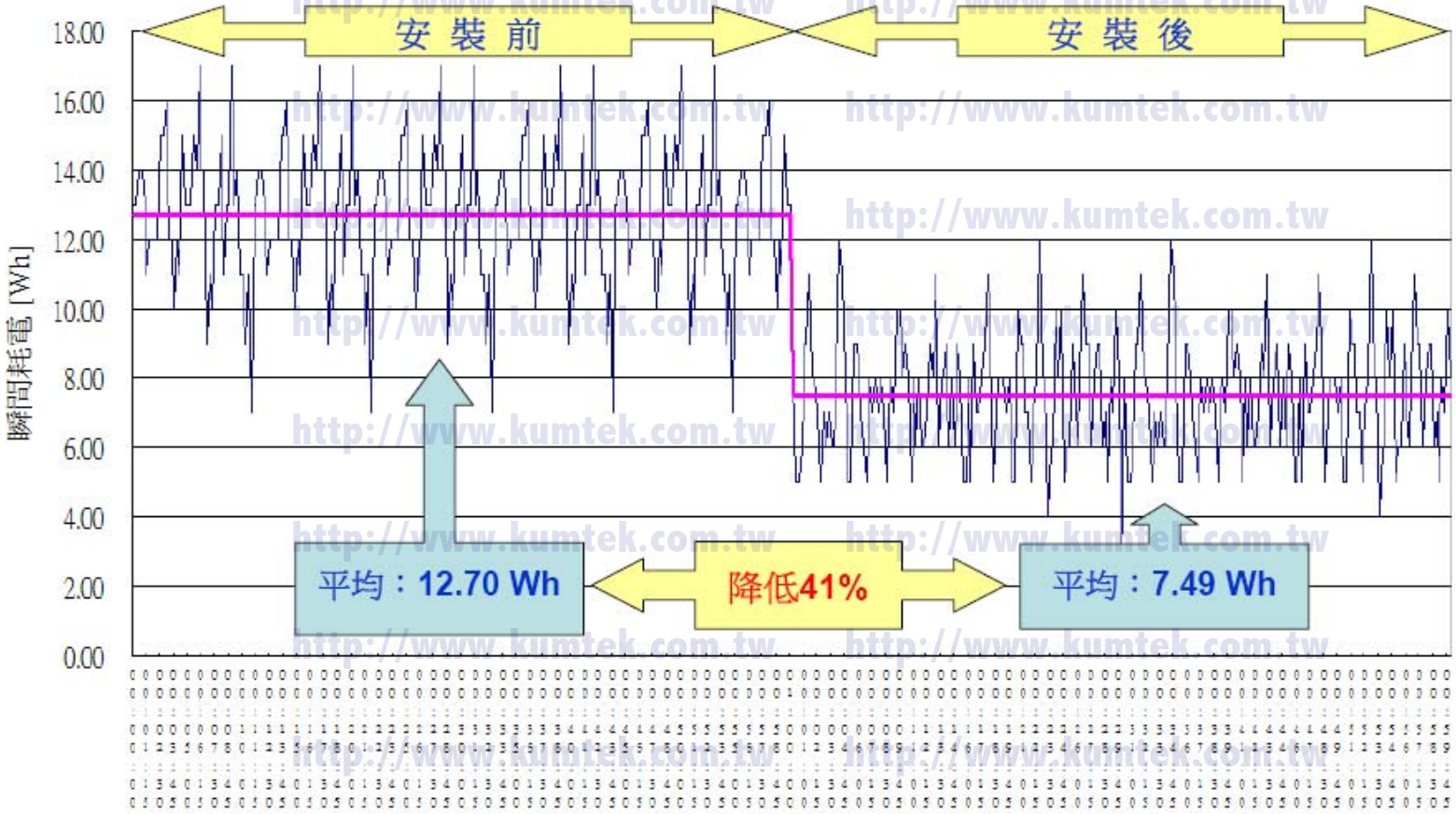
日期	廠區	機台型號
100.9.7	A	Sumitomo 260#14
100.9.8	B	台中精机 550#13
100.9.9	D	HUSKY 400#12



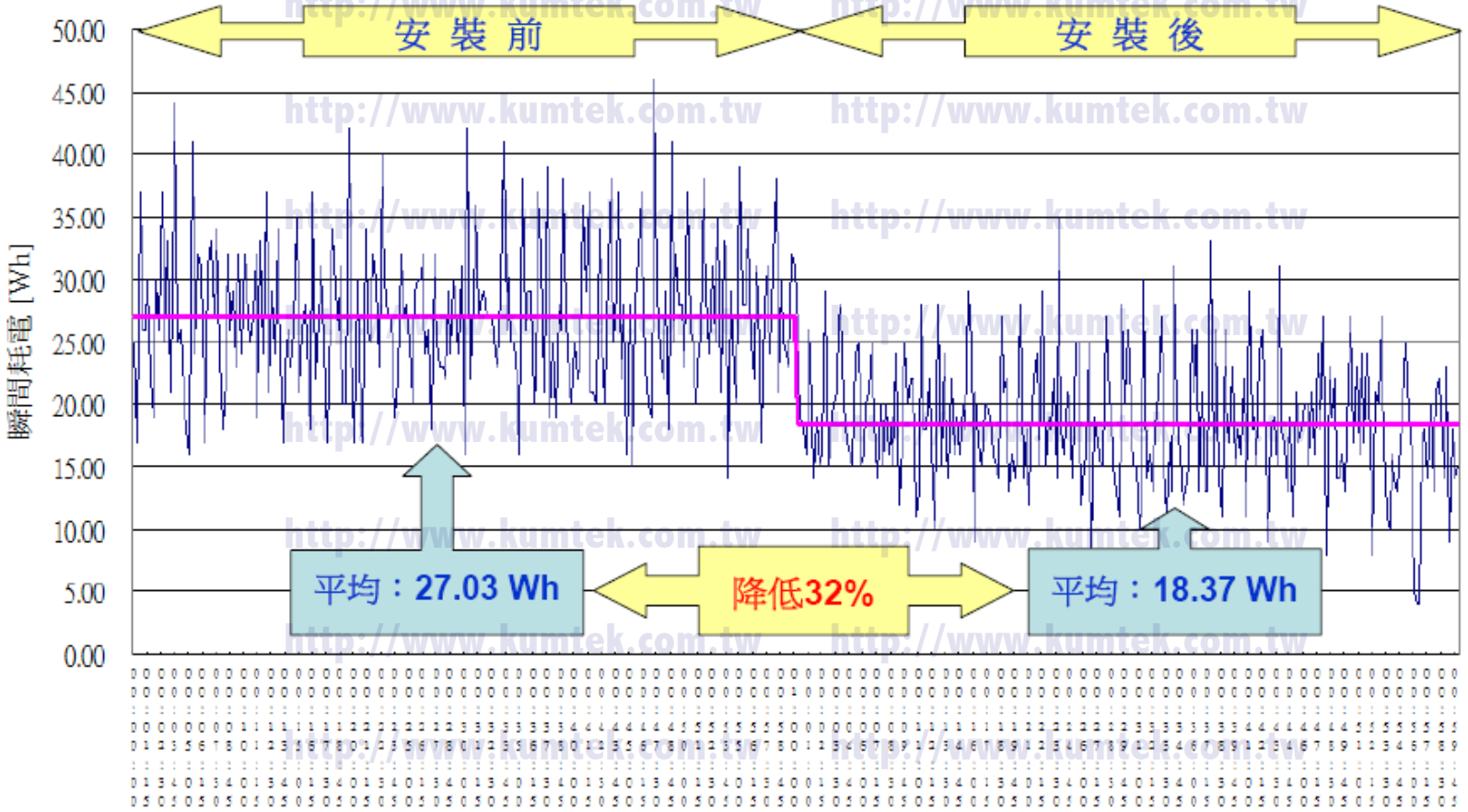
效益分析

機台型號	安裝前耗電量(A)	安裝後耗電量(B)	降低%(A-B/A)	差異原因說明
Sumitomo 260#14	12.7Wh	7.49Wh	41%	无
Victor Taichung Machinery 550#13	27.03Wh	18.37Wh	32%	成型時間82秒，產量較低
HUSKY 400#12	35.24Wh	17.61Wh	50%	1.效果最大，但耗電差異大，需注意是否對產品造成影響 2.車間觀察結果無影響

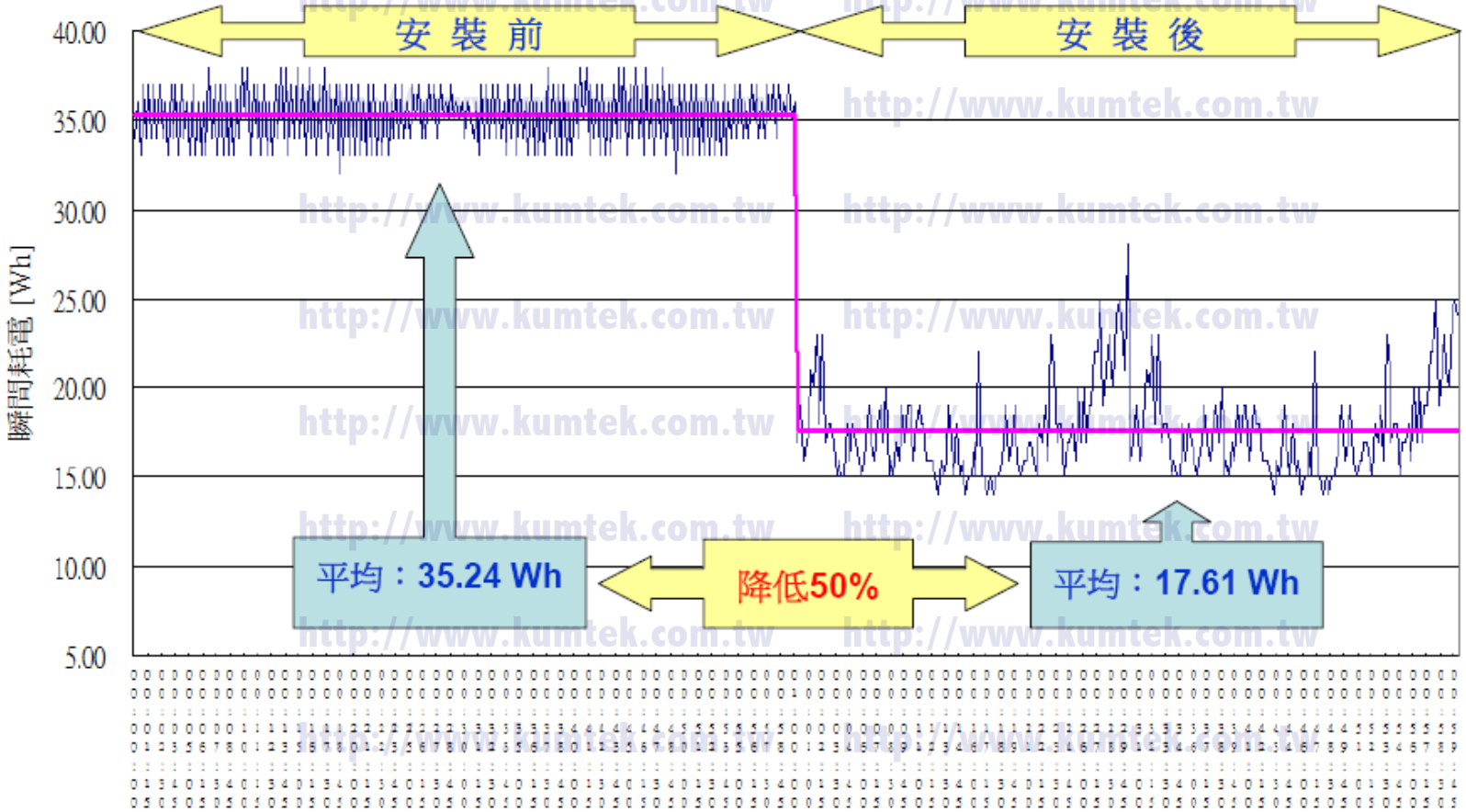
耗電分析:A廠區 Sumitomo 260#14



耗電分析:B廠區台中精機 550#13



耗電分析:D廠區 HUSKY 400#12

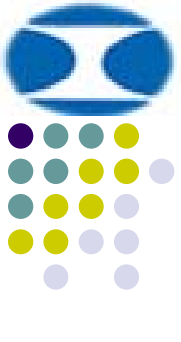


節能效益分析

廠區	廠牌		型號	機台數量	實驗機台	預估節能效益(KWh/year)	預估節能效益(RMB/year)	減少碳排放量(tonCO2e/year)
A	HUSKY		400	5		182823	127976	161432
	Sumitomo		260	13	#14	142871	100010	126155
	Sumitomo		280	2		21980	15386	19408
B	Victor Taichung Machinery		80	3		7916	5542	6990
	Victor Taichung Machinery		180	3		17812	12468	15728
	Victor Taichung Machinery		250	3		24739	17317	21844
	Victor Taichung Machinery		550	3	#13	54425	38098	48057
D	1	HUSKY	225	4		82270	57589	72645
	2	HUSKY	400	1		36565	25595	32286
	3	HUSKY	400	6	#12	219387	153571	193719
合計						1297529	908272	1145717

1 黃色區域表示以實驗機台安裝保溫材所實測數據乘該型號機台數

2 其他數據係以該廠牌之實驗機台推估不同噸數型號之推估效益



結論

- 一、投資加熱系統保溫費用，2個月即可回收成本
- 二、數據的顯示只有針對加熱系統部分，不含環境改善及空調節能部分