

台湾玻璃工业公司

TAIWAN GLASS IND. CORP.

2018 ANNUAL BRIEF

目錄 Table of Contents

01	生產基地 Production Facilities
05	集團一覽 Company List
06	2017年度營運報告 2017 Operation Report
08	合併財務一覽 Consolidated Financial Scan
09	合併資產負債表 Consolidated Balance Sheet
10	歷年財務簡表 Financial Charts by Year
11	2018年展望 2018 Operation Perspectives
13	台灣玻璃工業有限公司第 19 屆董事 / 第 2 屆審計委員 (2018-2021) TGI 19 th Directors / 2nd Audit Committee
15	台灣經營團隊 Taiwan Management Team
16	大陸經營團隊 China Management Team
18	集團產能 Production Capacity
19	產品介紹 Products
31	節能實例 Energy Saving Project Case Study
32	股務紀錄 Stock
33	集團沿革 Taiwan Glass Group History

生產基地 Production Facilities

台灣玻璃工業股份有限公司 TGI 1964年成立 Establishment
TAIWAN GLASS IND. CORP.

平板玻璃 Flat Glass

台灣台中廠 TF

TAIWAN TAICHUNG FACTORY
1983年投產
浮板玻璃 / 加工玻璃 / Float Glass / Processed Glass
微薄玻璃 / Ultra-Thin Glass

台灣鹿港平板廠 TF-4

TAIWAN LUKANG FLAT GLASS FACTORY
2006年投產
浮板玻璃 / Float Glass

台灣彰濱廠 TC

TAIWAN CHANGPIN FACTORY
2011年投產
低輻射玻璃 / 加工玻璃
Low-E Glass / Processed Glass

台玻東元真空節能玻璃股份有限公司 TVIG

TG TECO VACUUM INSULATED GLASS CORP.
2013年投產
低輻射真空玻璃 / Low-E Vacuum Glass

台玻青島玻璃有限公司 QFG

TG QINGDAO GLASS CO., LTD.
1993年成立
浮板玻璃 / 加工玻璃
Float Glass / Processed Glass

青島壓花玻璃有限公司 QRG

QINGDAO ROLLED GLASS CO., LTD.
1993年成立
彩色壓花玻璃 / Color Rolled Glass

台玻長江玻璃有限公司 CFG

TG CHANGJIANG GLASS CO., LTD.
1994年成立
浮板玻璃 / 加工玻璃 / 低輻射玻璃
Float Glass / Processed Glass / Low-E Glass

台玻昆山玻璃有限公司 TKG

TG KUNSHAN GLASS CO., LTD.
2004年成立
浮板玻璃 / Float Glass

生產基地 Production Facilities

台玻成都玻璃有限公司 CDG

TG CHENGDU GLASS CO., LTD.
2002年成立
浮板玻璃 / 加工玻璃 / 低輻射玻璃
Float Glass / Processed Glass / Low-E Glass

台玻華南玻璃有限公司 HNG

TG HUANAN GLASS CO., LTD.
2003年成立
浮板玻璃 / 加工玻璃 / 低輻射玻璃
Float Glass / Processed Glass / Low-E Glass

台玻東海玻璃有限公司 DHG

TG DONGHAI GLASS CO., LTD.
2003年成立
浮板玻璃 / 平板玻璃
Float Glass / Flat Glass

台玻天津玻璃有限公司 TJG

TG TIANJIN GLASS CO., LTD.
2004年成立
浮板玻璃 / 加工玻璃 / 低輻射玻璃
Float Glass / Processed Glass / Low-E Glass

台玻咸陽玻璃有限公司 TXY

TG XIANYANG GLASS CO., LTD.
2010年成立
浮板玻璃 / 加工玻璃 / 低輻射玻璃
Float Glass / Processed Glass / Low-E Glass

台玻安徽玻璃有限公司 TAH

TG ANHUI GLASS CO., LTD.
2010年成立
浮板玻璃 / Float Glass

台玻太倉工程玻璃有限公司 TTAR

TG TAICANG ARCHITECTURAL GLASS CO., LTD.
2010年成立
低輻射玻璃 / Low-E Glass

台玻武漢工程玻璃有限公司 TWAR

TG WUHAN ARCHITECTURAL GLASS CO., LTD.
2010年成立
低輻射玻璃 / Low-E Glass



TF, 250,068 M² (375 畝)



TF-4, 260,343 M² (395 畝)



TC / TVIG, 272,480 M² (408 畝)



QFG / QRG, 429,126 M² (643 畝)



CFG / TKG, 404,770 M² (607 畝)



CDG, 452,027 M² (678 畝)



HNG, 364,907 M² (547 畝)



DHG, 398,096 M² (597 畝)



TJG, 300,448 M² (450 畝)



TXY, 452,703 M² (679 畝)



TAH, 572,643 M² (858 畝)



TTAR, 199,525 M² (300 畝)



TWAR, 222,000 M² (333 畝)

生產基地 Production Facilities

玻璃纖維增強絲 / 玻璃纖維布 Fiberglass Reinforced / Fiberglass Fabric

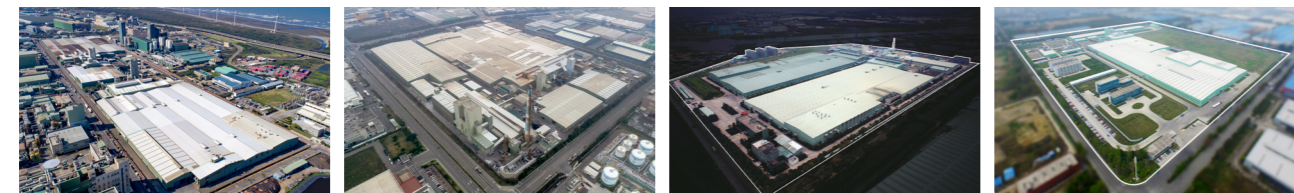
台灣桃園廠 TT
TAIWAN TAOYUAN FACTORY
1990年投產
玻璃纖維增強絲 / 玻璃纖維布
Fiberglass Reinforced / Fiberglass Fabric

台灣鹿港廠 TL
TAIWAN LUKANG FACTORY
1998年投產
玻璃纖維布 / Fiberglass Fabric

台嘉蚌埠玻璃纖維有限公司 TBF
TAICHIA BENGBU GLASS FIBER CO., LTD.
2012年成立 (EST. 2019-1Q 投產)
玻璃纖維布 / Fiberglass Fabric
(建廠中 Under Construction)

台嘉玻璃纖維有限公司 TGF
TAICHIA GLASS FIBER CO., LTD.
2001年成立
玻璃纖維布 / Fiberglass Fabric

台嘉成都玻纖有限公司 TCD
TAICHIA CHENGDU GLASS FIBER CO., LTD.
2011年成立
玻璃纖維布 / Fiberglass Fabric

TT, 181,181 M² (271 畝)TL, 260,343 M² (395 畝)TGF, 323,539 M² (485 畝)TCD, 362,668 M² (544 畝)

生產基地 Production Facilities

太陽能玻璃 Photovoltaic Glass

台玻福建光伏玻璃有限公司 FPG
TG FUJIAN PHOTOVOLTAIC GLASS CO., LTD.
2006年成立
光伏玻璃 / Photovoltaic Glass

台玻悅達太陽能鏡板有限公司 TYSM
TG YUEDA SOLAR MIRROR CO., LTD.
2011年成立
太陽能鏡板 / Solar Mirror

容食廚玻璃 Glass Container / Glass Tableware & Glass Kitchenware

台灣新竹廠 TS
TAIWAN HSINCHU FACTORY
1967年投產
容器玻璃 / 食器玻璃 / 廚器玻璃
Glass Container / Glass Tableware / Glass Kitchenware

FPG, 388,822 M² (583 畝)TYSM, 266,400 M² (400 畝)TS, 129,090 M² (173 畝)TYAU, 132,755 M² (199 畝)SCJ, 2,000,010 M² (3,000 畝)

汽車玻璃 Automotive Glass

台灣汽車玻璃有限公司 TAGC
TAIWAN AUTOGLASS IND. CORP.
1988年成立
汽車玻璃 / Automotive Glass

台玻悅達汽車玻璃有限公司 TYAU
TG YUEDA AUTOGLASS CO., LTD.
2010年成立
汽車玻璃 / Automotive Glass

鹽化工 Salt Chemical

實聯化工江蘇有限公司 SCJ
SHIHLIEN CHEMICAL INDUSTRIAL
JIANGSU CO., LTD.
2009年成立
純鹼 / 氯化銨
Soda Ash / Ammonium Chloride

集團一覽 Company List

截至2018-03-31

項目 Item	創立 Est.	資本額 Capital		營業項目 Business Scope	主要股東 Major Shareholder	持股率 Holding %
		千元	US\$000			
台灣玻璃工業股份有限公司 Taiwan Glass Ind. Corp.	TGI 1964	29,080,608	-	玻璃製造 Glass Mfg.	THG	63
台灣玻璃美國銷售有限公司 Taiwan Glass USA Sales Corp.	TGUS 1973	-	461	玻璃銷售 Glass Sales	TGI	100
台灣汽車玻璃股份有限公司 Taiwan Autoglass Ind. Corp.	TAGC 1988	300,000	-	汽車玻璃製造 Automotive Glass Mfg.	TGI	87
台灣玻璃中國控股有限公司 Taiwan Glass China Holding Ltd.	TGCH 1993	-	1,393,977	大陸投資控股公司 China Investment	TGI	94
台玻青島玻璃有限公司 TG Qingdao Glass Co., Ltd.	QFG 1993	-	87,800	平板玻璃製造 Flat Glass Mfg.	TGCH	100
青島壓花玻璃有限公司 Qingdao Rolled Glass Co., Ltd.	QRG 1993	-	29,293	壓花玻璃製造 Rolled Glass Mfg.	TG-G	100
台玻長江玻璃有限公司 TG Changjiang Glass Co., Ltd.	CFG 1994	-	70,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台嘉玻璃纖維有限公司 Taichia Glass Fiber Co., Ltd.	TGF 2001	-	110,000	玻璃纖維布製造 Fiberglass Fabric Mfg.	TGCH	100
台玻成都玻璃有限公司 TG Chengdu Glass Co., Ltd.	CDG 2002	-	70,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台玻華南玻璃有限公司 TG Huanan Glass Co., Ltd.	HNG 2003	-	106,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台玻東海玻璃有限公司 TG Donghai Glass Co., Ltd.	DHG 2003	-	80,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台玻昆山玻璃有限公司 TG Kunshan Glass Co., Ltd.	TKG 2004	-	24,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台玻天津玻璃有限公司 TG Tianjin Glass Co., Ltd.	TJG 2004	-	71,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台玻福建光伏玻璃有限公司 TG Fujian Photovoltaic Glass Co., Ltd.	FPG 2006	-	82,928	光伏玻璃製造 Photovoltaic Glass Mfg.	TGCH	100
台玻咸陽玻璃有限公司 TG Xianyang Glass Co., Ltd.	TXY 2010	-	100,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台玻太倉工程玻璃有限公司 TG Taicang Architectural Glass Co., Ltd.	TTAR 2010	-	35,000	Low-E 玻璃製造 Low-E Glass Mfg.	TGCH	100
台玻悅達汽車玻璃有限公司 TG Yueda Autoglass Co., Ltd.	TYAU 2010	-	68,000	汽車玻璃製造 Automotive Glass Mfg.	TG-G	60
台玻安徽玻璃有限公司 TG Anhui Glass Co., Ltd.	TAH 2010	-	85,000	平板玻璃製造 Flat Glass Mfg.	TGCH	100
台玻武漢工程玻璃有限公司 TG Wuhan Architectural Glass Co., Ltd.	TWAR 2010	-	35,000	Low-E 玻璃製造 Low-E Glass Mfg.	TGCH	100
台玻悅達太陽能鏡板有限公司 TG Yueda Solar Mirror Co., Ltd.	TYSM 2011	-	65,000	太陽能鏡板玻璃製造 Solar Mirror Glass Mfg.	TGCH	75
台嘉成都玻纖有限公司 Taichia Chengdu Glass Fiber Co., Ltd.	TCD 2011	-	93,000	玻璃纖維布製造 Fiberglass Fabric Mfg.	TGCH	100
台玻東元真空節能玻璃股份有限公司 TG TECO Vacuum Insulated Glass Corp.	TVIG 2012	675,000	-	Low-E 真空玻璃製造 Low-E Vacuum Glass Mfg.	TGI	65
台嘉蚌埠玻璃纖維有限公司 Taichia Bengbu Glass Fiber Co., Ltd.	TBF 2012	-	60,000	玻璃纖維布製造 Fiberglass Fabric Mfg.	TGCH	100
台玻文教基金會 TG Cultural & Educational Foundation.	TG-F 1989	170,000	-	文教事業 Cultural & Educational Fdn.	TGI	100
總資本額 Total		30,225,608	2,666,459			

2017 年度營運報告 2017 Operation Report

2017年度
營運合併報表

銷售量	3,599千公噸	(-2.9%)	
營業收入	44,870百萬元	(+4.1%) =U\$	1,477 mil
營業利益	2,641百萬元	(+261.6%) =U\$	87 mil
營業外收支	(250)百萬元	(-89.9%) =U\$	(8) mil
稅前淨利	2,391百萬元	(+236.6%) =U\$	79 mil
稅後淨利	2,176百萬元	(+214.3%) =U\$	72 mil
稅後淨利歸屬於母公司業主	2,124百萬元	(+229.4%) =U\$	70 mil
母公司業主權益	46,039百萬元	(+4.4%) =U\$	1,547 mil
股票市值	64,995百萬元	(+68.0%) =U\$	2,184 mil

每股純益0.73元，股東權益每股15.83元=U\$0.53，
每股現金股利0.5元，股票股利0.0元，提股東會審議。

2017 年生產

平板玻璃	台灣 大陸	台中廠平板玻璃1座、鹿港廠平板玻璃1座、台中廠微薄玻璃1座，計3座生產線，年產 306千公噸 (-9.0%) 昆山、成都、天津、東莞、青島、東海、咸陽及安徽廠平板玻璃12座，福建光伏玻璃1座，計13座生產線，年產 2,805千公噸 (+0.7%)
玻布 / 玻纖	台灣 大陸	桃園廠玻纖2座及鹿港廠玻布2座，計4座生產線，年產 66千公噸 (-1.1%) 昆山廠玻布4座、成都廠玻布1座，計5座生產線，年產 55千公噸 (+10.0%)
容食廚玻璃	台灣	新竹廠容食廚器玻璃7座生產線，年產 144千公噸 (+1.5%)
汽車玻璃	台灣 大陸	台中廠汽車玻璃生產線，年產 9千公噸 (-19.6%) 鹽城廠汽車玻璃生產線，年產 10千公噸 (-14.3%)
合計		3,395千公噸 (-0.2%)

2017 年銷售

平板玻璃	台灣 大陸 計	銷售量 292千公噸 (-9.1%)，銷售額 4,274百萬元 (-9.7%) 銷售量 3,003千公噸 (-2.3%)，銷售額 26,449百萬元 (+4.3%) 計3,295千公噸，新台幣30,723百萬元 = U\$ 1,011mil (+2.1%)，佔集團營業額 65.3%
玻布 / 玻纖	台灣 大陸 計	銷售量 69千公噸 (-2.3%)，銷售額 5,363百萬元 (+14.2%) 銷售量 74千公噸 (-5.1%)，銷售額 6,501百萬元 (+21.1%) 計 143千公噸，新台幣 11,864百萬元 = U\$391mil (+17.9%)，佔集團營業額 25.2%
容食廚玻璃	台灣	銷售量 142千公噸(+0.6%)，銷售額 3,385百萬元 = U\$111mil (-1.3%)，佔集團營業額 7.2%
汽車玻璃	台灣 大陸 計	銷售量 9千公噸(-22.4%)，銷售額640百萬元 (-22.6%) 銷售量 10千公噸(-7.4%)，銷售額 447百萬元 (-11.7%) 計 19千公噸，新台幣 1,087百萬元 = U\$ 36mil (-18.5%)，佔集團營業額 2.3%
合計		銷售量3,599千公噸，銷售額新台幣 47,059百萬元 = U\$ 1,549mil (+4.7%)，減合併沖銷後，銷售額新台幣44,870百萬元 = U\$ 1,477mil (+4.1%)，內銷佔82%，外銷佔 18%

2017 Operation Report

2017 Consolidated Performance			
Sales Volume	3,598,823 MT		(-2.9%)
Operating Revenue	U\$ 1,477mil		(+4.1%)
Operating Income	U\$ 87mil		(+261.6%)
Non-operating Income and Expenses	U\$ (8)mil		(-89.9%)
Income Before Tax	U\$ 79mil		(+236.6%)
Net Income After Tax	U\$ 72mil		(+214.3%)
Income After Tax Attributable to Stockholders of the Parent	U\$ 70mil		(+229.4%)
Total Equity Attributable to Stockholders of the Parent	U\$ 1,547mil		(+4.4%)
Stock Market Value	U\$ 2,184mil		(+68.0%)
Earnings per share : U\$0.02, Equity per share: U\$0.53			
Dividend Cash: U\$0.0165, Dividend Stock: U\$0.00, Totaling: U\$0.0165			
To be submitted to the shareholders' meeting for approval.			

2017 Production

Flat Glass	Taiwan	3 float plants, annual production 306,000MT (- 9.0%)
	China	12 float plants & 1 Photovoltaic Cover Glass plant, annual production 2,805,000MT (+ 0.7%)
Fiberglass / Fiberglass Fabric	Taiwan	2 glass fiber plants, & 2 glass fabric plants annual production 66,000MT (-1.1%)
	China	5 glass fabric plants, annual production 55,000MT (+10.0%)
Glass Container & Glassware	Taiwan	7 plants, annual production 144,000MT (+1.5%)
Automotive Glass	Taiwan	TAGC plant, annual production 9,000MT (-19.6%)
	China	TYAU plant, annual production 10,000MT (-14.3%)
Group Total		3,395,000MT (-0.2%)

2017 Sales

Flat Glass	Taiwan	Volume 292,000MT (-9.1%), sales revenue U\$141mil (-9.7%)
	China	Volume 3,003,000MT (-2.3%), sales revenue U\$870mil (+4.3%)
	Total	3,295,000MT, U\$1,011 mil (+2.1%), 65.3% of group sales
Fiberglass / Fiberglass Fabric	Taiwan	Volume 69,000 MT (-2.3%), sales revenue U\$177mil (+14.2%)
	China	Volume 74,000 MT (-5.1%), sales revenue U\$214mil (+21.1%)
	Total	143,000MT, U\$391 mil (+17.9%), 25.2% of group sales
Glass Container & Glassware	Taiwan	Volume 142,000MT(+0.6%), sales revenue U\$111mil (- 1.3%), 7.2% of group sales
Automotive Glass	Taiwan	Volume 9,000MT(-22.4%), sales revenue U\$21mil (-22.6%)
	China	Volume 10,000MT(-7.4%), sales revenue U\$15mil (-11.7%)
	Total	19,000MT, U\$36 mil (-18.5%), 2.3% of group sales
Group Total		3,599,000MT, revenue U\$1,549mil (+4.7%) : Net Sales revenue U\$1,477mil (+4.1%) domestic market 82% and export 18%

合併財務一覽 Consolidated Financial Scan

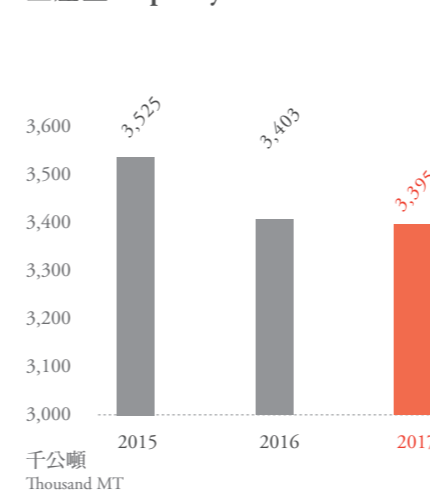
項目 Item	單位 Unit	2016	2017	+%	-%
銷售量 Sales Volume	公噸 MT	3,707,765	3,598,823		2.9
營業收入 Operating Revenue	千元 U\$000	43,097,625 1,337,895	44,869,581 1,476,653	4.1	
營業利益 Operating Income	千元 U\$000	730,184 22,667	2,640,535 86,900	261.6	
營業外收入及支出 Non-operating Income and Expenses	千元 U\$000	(2,480,608) (77,006)	(249,740) (8,219)		89.9
稅前淨(損)利 (Loss) Income Before Tax	千元 U\$000	(1,750,424) (54,339)	2,390,795 78,681	236.6	
稅後淨(損)利 Net (Loss) Income After Tax	千元 U\$000	(1,903,381) (59,087)	2,175,745 71,604	214.3	
稅後淨(損)利歸屬於母公司業主 (Loss) Income After Tax Attributable to Stockholders of the Parent	千元 U\$000	(1,641,685) (50,963)	2,123,773 69,893	229.4	
每股純益 Earnings Per Share	元 U\$	(0.62) (0.02)	0.73 0.02	217.7	
純益率 Earning Ratio	%	(3.81)	4.73	224.1	
每股股利(現金+股票) Dividend Per Share (Cash+Stock)	元 U\$	0 0.0000	0.5(0.5+0.0) 0.0165(0.0165+0)		
資產總額 Total Assets	千元 U\$000	85,683,708 2,660,985	84,026,561 2,823,473		1.9
實收資本 Capital	千元 U\$000	29,080,608 903,124	29,080,608 977,171		
母公司業主權益 Total Equity Attributable to Stockholders of the Parent	千元 U\$000	44,096,664 1,369,462	46,039,260 1,547,018	4.4	
每股淨值 Equity Per Share	元 U\$	15.16 0.47	15.83 0.53	4.4	
自有資本率 Shareholders' Equity to Total Assets Ratio	%	51.5	54.8	6.4	
合併權益報酬率 Return on Total Equity	%	(4.0)	4.5	212.5	
股票市值 Stock Market Value	千元 U\$000	38,677,209 1,201,156	64,995,159 2,183,977	68.0	
新投資金額 New Capital Expenditure	千元 U\$000	2,219,577 68,903	2,917,760 96,023	31.5	

合併資產負債表 Consolidated Balance Sheet

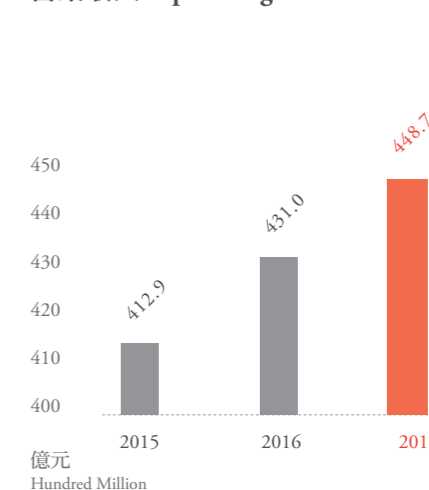
	2016			2017		
	千元	US\$000	%	千元	US\$000	%
資產						
流動資產	23,736,248	737,151	27.7	25,148,319	845,038	29.9
Assets Current Assets						
採用權益法之投資	2,477,299	76,935	2.9	3,031,338	101,859	3.6
Investments Accounted for Using the Equity Method						
不動產、廠房及設備	55,541,081	1,724,878	64.8	51,931,352	1,745,005	61.8
Property, Plant and Equipment						
其他非流動資產	3,929,080	122,021	4.6	3,915,552	131,571	4.7
Other Noncurrent Assets						
資產合計	85,683,708	2,660,985	100.0	84,026,561	2,823,473	100.0
Total Assets						
負債						
流動負債	25,072,512	778,649	29.2	21,602,960	725,906	25.7
Liabilities Current Liabilities						
長期負債	10,726,206	333,112	12.5	10,524,563	353,648	12.5
Long-term Loan						
其他非流動負債	2,627,665	81,605	3.1	2,285,076	76,783	2.7
Other Noncurrent Liabilities						
負債合計	38,426,383	1,193,366	44.8	34,412,599	1,156,337	40.9
Total Liabilities						
權益						
母公司業主權益計	44,096,664	1,369,462	51.5	46,039,260	1,547,018	54.8
Total Equity Attributable to Stockholders of the Parent						
實收資本	29,080,608	903,124		29,080,608	977,171	
Capital						
非控制權益	3,160,661	98,157	3.7	3,574,702	120,118	4.3
Non-controlling Interests						
權益合計	47,257,325	1,467,619	55.2	49,613,962	1,667,136	59.1
Total Equity						
負債及權益	85,683,708	2,660,985	100.0	84,026,561	2,823,473	100.0
Liabilities & Equity						

歷年財務簡表 Financial Charts by Year

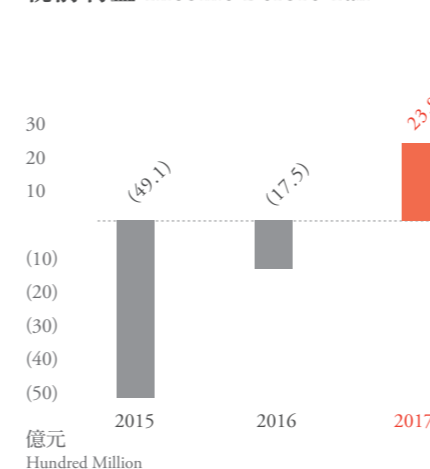
生產量 Capacity



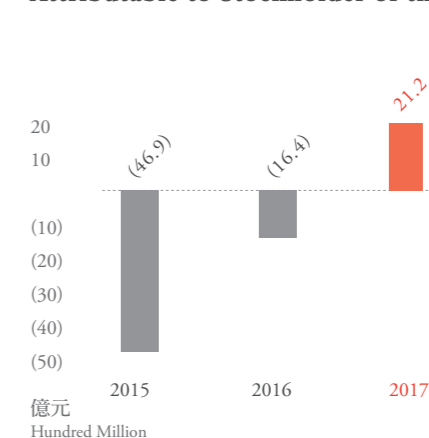
營業收入 Operating Revenue



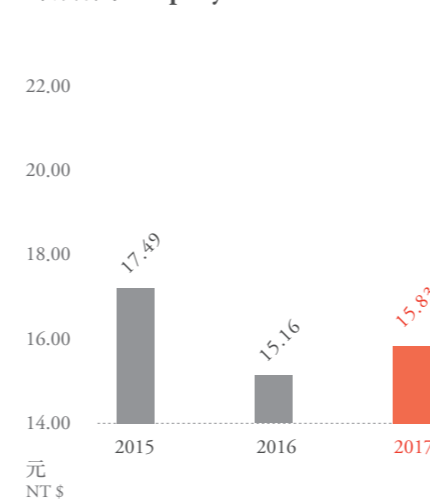
稅前利益 Income Before Tax



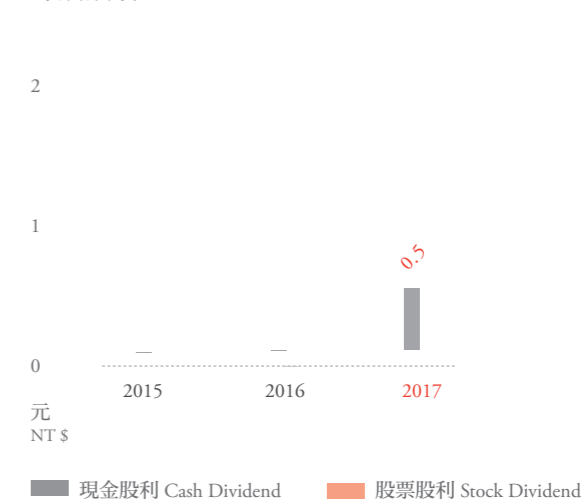
稅後純益歸屬於母公司業主 Income After Tax Attributable to Stockholder of the Parent



每股淨值 Equity Per Share



每股股利 Dividend Per Share



董事長致詞

2018 年 展望

各位董事、股東好:

2017年受惠於全球景氣持續復甦成長等效應，國際貿易動能增強，預期2018年經濟表現可望維持穩健成長的態勢，不過仍存有不定性之風險，包含中美貿易衝突的蝴蝶效應、美國聯準會升息、新台幣匯率走勢，以及中國大陸持續性的宏觀調控等，都需要政府與企業謹慎應對。

就台玻本身而言，2017年受益兩岸皆有利多發展，加以各事業部、台灣、大陸經營團隊及全體同仁努力下達到業績回升，集團合併營業額448億，稅前淨利達23.9億元，稅前獲利率5.3%，以下分別就各項營業內容進行報告。

在平板玻璃方面，台灣市場產銷穩定，將持續加強培訓專業人才，更新自動化技術設備，以Low-E節能玻璃、優白玻璃等高級建材銷售為首要目標，提高產品附加價值。

在新材料微薄玻璃方面，厚度0.33mm良率提高並陸續供貨大陸及美國市場，同時因應電子保護蓋板及玻璃保護貼越來越輕薄的趨勢，積極開發厚度0.28mm、0.25mm產品，以區隔競爭型態，提升產品價值與競爭力。

在大陸事業部方面，中國大陸持續推動供給側結構性改革，經濟發展轉為高質量與內需導向發展，以全面建成小康社會為目標，並藉由嚴格執行環保等法規，淘汰落後產能，促使產業供需回歸正軌。台玻大陸各廠均遵循公司治理及環保規範標準，每年持續投入環保支出，落實各項風險管控，以應變政策法規的快速變動，充分利用集團佈局靈活調配產能及庫存，減少風險事件發生的可能及損失。

在纖維事業方面，台玻玻璃纖維產品的技術與品質，向來為公司的核心競爭力，其中電子級玻璃纖維布產能佔全球16%，作為印刷電路板(PCB)的上游原料，已成功開發領先全球技術的產品，符合先進的行動裝置、車用電子、科技物聯網等新興產業應用，並持續抓緊市場趨勢，供應高端客戶產品領域。對於FRP，今年更與全球生產玻璃纖維的領導廠商-美國OWENS CORNING公司，重啟技術授權合作並簽署技術授權與製造供應協議，藉由此次簽訂的協議，取得全球最先進玻璃纖維的配方與生產技術，年產能由6萬噸提升至8萬噸，並致力於降低生產成本，提供客戶更高性能及更環保的產品，提升國內廠商的複合材料產品品質，增加市場的整體競爭力。

在容食廚器方面，容器產品內外銷需求持續穩定，其中以新開發的 α 33硼矽酸耐熱玻璃產製的一體成型奶瓶，全球市佔率達40%，可承受瞬間溫差150°C，品質安全優異，已打入全球知名領導品牌供應鏈；食廚器產品持續強化傳統銷售通路，同時精選商品進行B2C電子商務平台銷售，更貼近消費者市場。有關發展品牌事業方面，台玻為建立產品特性及市場區隔，委請日本工業設計大師深澤直人先生(MR. Naoto Fukasawa)，規劃設計品牌的商標識別與產品，預計今年年底上市銷售。

台玻轉投資實聯化工江蘇公司，由於大陸落實環保執行力度，平板玻璃市場需求增溫，純鹼售價同步走升，2017年達到全產全銷。藥用氯化鈉高端綜合生技鹽項目，預估今年上半年可取得大陸藥品GMP認證，開始進行銷售佈局。實聯化工致力優化環保技術條件，改善財務規劃，營運及獲利正向樂觀。

展望未來，台玻將致力優化現有的產品與生產力、創新研發玻璃纖維新產品、新事業及發展自有品牌，更以專注本業提升集團綜合績效，重視專業技術人才培育，優化公司治理，也承諾持續善盡企業社會責任，加強工安管理，提昇環保設備，促進環境永續，強化能源安全、創新綠色經濟，讓營運成長續創佳績，為台灣經濟貢獻心力，帶領產業正向發展，開創更成功，更有前景的未來。

林伯豐

2018.06.13

Chairman's Message

2018

Operation Perspectives

Directors and stockholders, thank you and look forward to having your opinions on 2018 operation perspective.

International trade was increased in 2017 due to the efficiency of global economic growth. 2018's economic situation is expected to maintain steady growth. However, there are still uncertainties including the butterfly effect of the US-China trade conflict, the rising Fed rate, the trend of NTD exchange rate, and the continuous macro-economic control of Mainland China. All these risks require government and enterprises to respond carefully.

TGI benefited from Taiwan and Mainland China's profitability and the turnaround of business profitability. TGI's consolidated operating revenue was 44.8 billion, net income before tax was NTD2.39 billion, and the profit ratio before tax was 5.3%. We make a brief report by product lines as follows.

In flat glass, both production and marketing in Taiwan is stable. TGI is training more professional personnel, improving automatic technology equipment, and enhancing the added-value of products by selling high-class building materials such as Low-E Glass and Super Clear Glass, etc.

In ultra-thin glass, the yield rate of 0.33mm product was improved and is supplied steadily to Mainland China and USA market. Meanwhile, to respond to the thinner and lighter covers of electronic products and glass screen protectors, TGI has actively developed the 0.28mm and 0.25mm products to upgrade product value and competitiveness by segmenting the type of competition.

Mainland China continuously pushes the reform of overproduction. It intends to achieve the goal of building a well-off society by conducting its economic development to high quality and domestic demand, and weeding out outdated industrial capacity and restore the balance of supply and demand by implement strict environment law. All TGI's subsidiaries in Mainland China respond to the rapid change of policy and law by complying with the environmental standard, investing in environmental equipment, and controlling risks. TGI fully uses its flexible capacity and inventory to reduce risk and loss.

In fiberglass, the technology and quality of fiberglass products are always the core competency of TGI. In particular, the capacity of electronic Fiberglass fabric accounts for 9.5% of the global market. For the material of PCB, TGI has successfully developed products with global leading technology. It meets the demand of mobile devices, electronic products for automobile and IoT, and continues to hold the market trend to supply products to high-end clients. For FRP, this year TGI signed an agreement for technology cooperation, manufacturing and supply with Owens Corning, the global leading manufacturer of fiberglass. Through this agreement, TGI obtains the most advanced fiberglass formulation and technology in the world. It will help to increase capacity to 80,000 tons from 60,000 tons, cut production costs, and provide clients with higher performance and more environmental products. Furthermore, it will also boost domestic clients' composite material quality and market competitiveness.

In container glass, the demands of domestic and export sales are steady. The heat-resistant baby feeding bottles made of α - 33, which has 40% global market share, with thermal resistance to 150C of temperature difference, have entered the supply chain of global leading brands by safe and high quality. TGI continues to reinforce traditional sales channels for tableware and kitchenware products, as well as selling select products on B2C platforms, to get closer to consumer markets. Regarding the private brand development, to create product and market differentiation, TGI has commissioned Fukasawa Naoto, who is a Japanese artist of industrial design, to plan and design logotype and products of our private brand. It will be sold on the market by the end of this year.

As Mainland China implements its environmental policy, the demand in the flat glass market is increasing, as well as the price of soda ash. Therefore, Shihlien Chemical Industrial Jiangsu Co., Ltd. (SCJ) reached full production and sales in 2017. With regard to Pharmaceutical sodium chloride, sales are expected to start after GMP certification is obtained in the first half of this year.

Looking to the future, TGI will devote itself to improvement of existing products and production capacity, R&D of fiberglass new products, and development of a private brand, continuing to train technical personnel to achieve greater operational success. TGI is committed to carry out its corporate social responsibility by promoting environmental sustainability, enhancing energy safety, creating a green economy, and to contribute to the society of Taiwan, leading this industry to positive development and initiating a more successful and forward-looking future.

Lin, Por Fong

2018.06.13

台灣玻璃工業有限公司第 19 屆董事 / 第 2 屆審計委員

(2018-2021)

TGI 19 th Directors / 2nd Audit Committee

董事長 Chairman	林伯豐 Lin, P F Since 1967		
總經理 總裁 President & CEO	林伯實 Lin, P S Since 1967		
駐會董事 Executive Director	林伯淳 Lin, P C Since 1976		
	林瀚東 Lim, H T Since 2009	彭誠浩 Peng, C H Since 2018	徐莉玲 Hsu, L L Since 2015
董事 Directors	林嘉宏 Lin, C H Since 2000	蘇育德 Su, Y T Since 1996	林嘉佑 Lin, C Y Since 2004
	林嘉明 Lin, C M Since 2006	陳正章 Chen, C C Since 2009	蔡增銘 Tsai, T M Since 2018
獨立董事/審計委員 Independent Directors/ Audit Committe	林豐正 Lin, F C Since 2012	陳清治 Chen, C C Since 2012	黃清苑 Hwang, T Y Since 2012

台灣玻璃工業有限公司第 19 屆董事 / 第 2 屆審計委員

(2018-2021)

TGI 19 th Directors / 2nd Audit Committee



(數字由左至右 Number from left side to right side)

林伯豐 Lin, P F 前排4 front row 4	林伯實 Lin, P S 前排5 front row 5	林伯淳 Lin, P C 前排6 front row 6	
林豐正 Lin, F C 前排3 front row 3	陳清治 Chen, C C 前排2 front row 2	黃清苑 Hwang, T Y 前排1 front row 1	彭誠浩 Peng, C H
林瀚東 Lim, H T 前排8 front row 8	徐莉玲 Hsu, L L 前排7 front row 7	林嘉宏 Lin, C H 後排4 back row 4	蘇育德 Su, Y T 後排3 back row 3
林嘉佑 Lin, C Y 後排5 back row 5	林嘉明 Lin, C M 後排6 back row 6	陳正章 Chen, C C 後排2 back row 2	蔡增銘 Tsai, T M 後排1 back row 1



台灣經營團隊 Taiwan Management Team

董事長 Chairman	林伯豐 Lin, P F	平板事業部營運長 COO, Flat	林嘉宏 Lin, C H
總經理 總裁 President & CEO	林伯實 Lin, P S	平板事業部總經理 GM, Flat	許吉清 Hsu, C C
駐會董事 Executive Director	林伯淳 Lin, P C	玻璃新材料部副總 VGM, New Glass Materials	趙宏榮 Chao, H J
纖維事業部營運長 COO, Fiber	蘇育德 Su, Y T	玻璃新材料部協理 AGM, New Glass Materials	林峻毅 Lin, J I
纖維事業部總經理 GM, Fiber	林嘉佑 Lin, C Y	平板研發部協理 AGM, Flat Glass R&D	周敬群 Chou, C C
纖維事業部專案副總 VGM, Project Fiber	陳正章 Chen, C C	台中廠 / 鹿港平板廠協理 Plant AGM., TF / TF4	王澤南 Wang, C N
纖維事業部協理 AGM, Fiber	蔡維新 Tsai, W S	彰濱廠代協理 Deputy AGM,TC	蕭俊彥 Hsiao, C Y
鹿港廠廠長 Plant Dir., TL	紀錦水 Chi, C S	容食事業部副總 VGM, Container & Glassware	謝進興 Hsieh, C H
鹿港廠研發協理 AGM, R&D, TL	劉敏雄 Liu, M H	新竹廠廠長 Plant Dir., TS	吳青杰 Wu, C C
桃園廠廠長 Plant Dir., TT	陳慶良 Chen, C L	新竹廠生產協理 AGM, Prod., TS	王再興 Wang, T H
大陸事業部營運長 COO, China Prod.	林嘉宏 Lin, C H	新竹廠工務/印刷部協理 AGM, Engineering /Print, TS	吳蔚騰 Wu, W T
財務/管理本部總經理 GM, Finance/ Admin	林嘉明 Lin, C M	品牌部副總 VGM,Brand	林家凱 Lin, C K
管理本部副總 VGM, Admin.	洪有欽 Hung, Y C	車板本部總經理 GM, Autoglass	吳志郎 Wu, T L
採購本部副總 VGM, Purchasing	蔡增銘 Tsai, T M	車板本部副總 VGM, Autoglass	陳冠宇 Chen, K Y

大陸經營團隊 China Management Team

台灣玻璃中國控股有限公司 TGCH	董事長 Chairman 副董事長 Vice Chairman 董事 Directors	林伯豐 Lin, P F 林伯實 Lin, P S 林伯淳 Lin, P C 林嘉宏 Lin, C H	林嘉佑 Lin, C Y	林嘉明 Lin, C M
台玻長江玻璃有限公司 CFG	董事長 Chairman	林嘉宏 Lin, C H		
台玻昆山玻璃有限公司 TKG	代總經理 Deputy GM 專案副總 VGM, Project 營業/加工部副總 VGM, Sales/ Processing	李 虎 Lee, H 高武德 Kao, W T 趙建新 Chao, C H	LE玻璃總經理 GM, LE glass	張政峰 Chang, C F
台玻成都玻璃有限公司 CDG	董事長 Chairman 代總經理 Deputy GM 副總 VGM	林嘉宏 Lin, C H 李廣玉 Li, K Y 姬文剛 Chi, W G	LE玻璃總經理 GM, LE glass	張政峰 Chang, C F
台玻咸陽玻璃有限公司 TXY	董事長 Chairman 總經理 GM 營加/加工部協理 AGM, Sales/ Processing	林嘉宏 Lin, C H 劉金璋 Liu, C C 宋小波 Sung, H P	LE玻璃總經理 GM, LE glass 專案/採購協理 AGM,Project./ Purchasing	張政峰 Chang, C F 李建誼 Li, C Y
台玻安徽玻璃有限公司 TAH	董事長 Chairman 代理總經理 Deputy GM	林嘉宏 Lin, C H 陳祺灝 Chen, C H	管理/營業/ 成品/品管/ 製板部副總 VGM, Admin./ Sales / W&D/QA/ Prod.	王鳳寶 Wang, F P
台玻太倉工程玻璃有限公司 TTAR	董事長 Chairman 營加/生管/ 加工部副總 VGM, Sales /Production / Processing	林嘉宏 Lin, C H 趙建新 Chao, C H	總經理 GM 研發部副總 VGM, R&D	張政峰 Chang, C F 周敬群 Chou, C C
台玻武漢工程玻璃有限公司 TWAR	董事長 Chairman 總經理 GM	林嘉宏 Lin, C H 張政峰 Chang, C F		
台玻悅達汽車玻璃有限公司 TYAU	董事長 Chairman 總經理 GM 生產部副總 VGM, Prod.	林嘉宏 Lin, C H 吳英華 Wu, Y H 李德貴 Li, T K	副董事長 Vice Chairman 常務副總 Managing VGM 品管/研發部副總 VGM QA/R&D	符貴興 Fu, K H 呂宗祥 Lu, T H 朱烘魯 Chu, H L

大陸經營團隊 China Management Team

台玻悅達太陽能鏡板有限公司 TYSM	董事長 Chairman 總經理 GM	林嘉宏 Lin, C H 趙明 Chao, M		
台嘉玻璃纖維有限公司 TGF	董事長 Chairman 纖維事業部營運長 COO, Fiber 副總 VGM 採購部協理 AGM, Purchasing	林伯豐 Lin, P F 蘇育德 Su, Y T 蕭世欽 Hsiao, S C 張森河 Chang, S H	纖維事業部總經理 G M, Fiber 廠長 Plant Dir. 營業部協理 AGM, Sales	林嘉佑 Lin, C Y 王明慶 Wang, M C 蔡維新 Tsai, W S
台嘉成都玻纖有限公司 TCD	董事長 Chairman 纖維事業部營運長 COO, Fiber 總經理 GM 採購部協理 AGM, Purchasing	林伯豐 Lin, P F 蘇育德 Su, Y T 胡文亮 Hu, W L 張森河 Chang, S H	纖維事業部總經理 GM, Fiber 營業部協理 AGM, Sales	林嘉佑 Lin, C Y 蔡維新 Tsai, W S
台玻青島玻璃有限公司 QFG	董事長 Chairman	林伯實 Lin, P S		
青島壓花玻璃有限公司 QRG	總經理 GM	宋成紅 Sung, C H		
台玻華南玻璃有限公司 HNG	董事長 Chairman 總經理 GM 節能玻璃部副總 VGM, LE glass	林伯淳 Lin, P C 李天明 Lee, T M 趙新臣 Chao, H C	鏡板部副總 VGM, Mirror glass 平板部協理 AGM, Flat Glass	趙成家 Chao, C C 李友然 Lee, Y J
台玻東海玻璃有限公司 DHG	董事長 Chairman 總經理 GM	林伯實 Lin, P S 陳月進 Chen, Y C	副總 VGM	顏和平 Yan, H P
台玻福建光伏玻璃有限公司 FPG	董事長 Chairman 總經理 GM 生產部協理 AGM, Prod.,	林伯實 Lin, P S 陳國明 Chen, K M 巫定健 Wu, T C	營業部協理 AGM, Sales 加工部協理 AGM, Processing	盧宗藝 Lu, T Y 馬俊風 Ma, C F
台玻天津玻璃有限公司 TJG	董事長 Chairman 總經理 GM LE玻璃部副總 VGM, LE glass 浮法玻璃部生產協理 AGM, Flat glass	林伯淳 Lin, P C 楊溪鎮 Yang, S J 趙新臣 Chao, H C 侯俊山 Hou, C S	工程玻璃部協理 AGM, Engineering glass 浮法玻璃部工務協理 AGM, Flat glass engineering	侯琨玉 Hou, K Y 李洪德 Lee, H T
台嘉蚌埠玻璃纖維有限公司 TBF (建廠中 Under Construction)	董事長 Chairman 纖維事業部營運長 COO, Fiber 總經理 GM 採購部協理 AGM, Purchasing	林伯豐 Lin, P F 蘇育德 Su, Y T 陳正章 Chen, C C 張森河 Chang, S H	纖維事業部總經理 GM, Fiber 廠長 Plant Dir	林嘉佑 Lin, C Y 陳慶良 Chen, C L 王明慶 Wang, M C

集團產能 Production Capacity

項目 Item	地區 Area	窯爐座 Furnaces	現有產能 Existing Capacity(MT)
台玻集團各產品總產能 Total Production Capacity of Each Product			
產品 Products	地區 Area	窯爐座 Furnaces	現有產能 Existing Capacity(MT)
浮式平板玻璃 Float Glass	台灣 Taiwan	2	340,000
	大陸 China	12	3,084,000
	小計 Total	14	3,424,000
微薄玻璃 Ultra-Thin Glass	台灣 Taiwan	1	21,480
	大陸 China	-	-
	小計 Total	1	21,480
光伏玻璃 Photovoltaic Glass	台灣 Taiwan	-	-
	大陸 China	1	219,000
	小計 Total	1	219,000
太陽能鏡板 Solar Mirror	台灣 Taiwan	-	-
	大陸 China	1	72,000
	小計 Total	1	72,000
壓花玻璃 Rolled Glass	台灣 Taiwan	-	-
	大陸 China	1	33,000
	小計 Total	1	33,000
玻璃纖維布 Fiberglass Fabric	台灣 Taiwan	2	25,000
	大陸 China	5	86,000
	小計 Total	7	111,000
玻璃纖維增強絲 Fiberglass Reinforced	台灣 Taiwan	2	75,000
	大陸 China	-	-
	小計 Total	2	75,000
容器玻璃 Glass Container	台灣 Taiwan	5	170,000
	大陸 China	-	-
	小計 Total	5	170,000
食廚玻璃 Glassware	台灣 Taiwan	2	10,000
	大陸 China	-	-
	小計 Total	2	10,000
合計 Total		14	641,480
		20	3,494,000
		34	4,135,480

台玻集團Low-E線加工產能 Capacity of Low-E Processing Production Lines

產品 Products	地區 Area	生產線 Lines	千M ² Thousand M ²
低輻射Low-E玻璃 Low-E Glass	台灣 Taiwan	1	4,000
	大陸 China	8	32,000
合計 Total		9	36,000

台玻集團汽車玻璃加工線產能 Capacity of Automotive Glass Processing Production Lines

產品 Products	地區 Area	生產線 Lines	千台 Thousand Cars
汽車玻璃 Automotive Glass	台灣 Taiwan	1	250
	大陸 China	4	600
合計 Total		5	850

產品介紹 Products

平板玻璃

平板玻璃是台玻發展的核心產品，台灣及中國大陸是台玻生產製造的兩大區域。產品主要行銷台灣、中國、日本、韓國、東南亞、北美、中東、澳洲、歐洲、南非及俄羅斯等地區。

建築用

浮式明板玻璃 / 浮式色板玻璃

浮式明板玻璃表面平滑，波紋少，透視性佳，透過調伴適量色料，成為色板玻璃，可減少輻射熱的穿透，節省能源，增加建築物外觀色彩變化，創造更高價值感。

壓花玻璃

具有透光不透視之功能，亦可創造各種不同的模糊光移及陰影。

低輻射玻璃

隔熱效果最佳，具高透光率，可達環保節能及綠建材、綠建築的要求。世界先進國家生產之低輻射玻璃皆以雙層玻璃(隔熱及隔音效果佳，中間層為乾燥氣層有防霧效果)成品銷售。台玻各種低輻射玻璃產品輻射率可達最高級的0.02-0.12。

低輻射真空玻璃

真空玻璃是由一片浮式玻璃與一片低輻射玻璃組合密封，並將中間0.2mm的間隙抽成真空，為新一代的節能玻璃產品。結合低輻射鍍膜與真空的優點，具有良好的隔熱、隔音及防結霧功效，尤其保溫性能是中空玻璃的2-3倍，是單片普通玻璃的4-6倍，能為居家創造更舒適的生活環境。

反射玻璃

可防止陽光直射，隔熱性能高，提供室內居住者舒適感，亦能節省能源，並呈現多彩和諧的建築物外觀。

強化玻璃

強度約為普通玻璃的3-5倍，可增加玻璃使用的安全性，當玻璃遭受外力破壞時成為豆粒大的顆粒，減少對人體的傷害；可耐溫度之急速變化，因有瞬間破裂的風險，應再作熱浸處理Heat Soak test，確保使用上更安全。

熱處理增強玻璃

強度為普通玻璃的2倍，波紋較平整，且不易瞬間破裂。

膠合玻璃 / 高性能隔音膠合玻璃

具有安全性、防犯性、隔離紫外線、控制可視光線透過率、防止玻璃碎片飛散等特性，如使用有色膠合膜，亦可提昇建築物外觀的美感，且可減輕熱能進入室內，節省冷氣能源，增加生活環境舒適度。台玻開發製成之高性能隔音膠合玻璃，除上述特點，更具備了極佳的中高頻的隔音效果。

網印漆板玻璃

色澤多樣化，穩定不褪色，可減少太陽熱能進入室內，降低空調費用，且經強化處理，安全性高，可替代石材、磁磚，減輕建築物外牆結構負荷，亦可有效降低眩光作用。顏色及圖案也能提供客製化服務，創造設計獨特性及美感。

彎曲玻璃 / 彎曲強化玻璃

增添建築物景觀的雄偉性與優美性，使室內隔間更具多采多姿的變化；經過強化加工後，強度為一般彎曲玻璃的3-5倍，可因應對彎曲造型更大尺寸的要求，視覺品質佳。

銀鏡玻璃

反射影像清晰、精準，背漆可耐酸、耐濕，環保銀鏡運用無銅、鉛製程，避免重金屬污染，符合地球環保潮流。

光電用

優白玻璃

具有比一般透明玻璃更優越的光學性能，更高的可見光及紅外線透過率，大量提升太陽熱能使用率，可使用在任何需要低鐵高透光及高透視場合或產品，例如太陽能電池BIPV及高級建材需求使用，以因應未來因石油資源枯竭，人類對節能環保及再生能源的需求。

超白光伏玻璃

主要用於晶體矽太陽電池板的蓋板玻璃，具有低含鐵量、高透光率、低光反射率、高平整度、高機械強度、低自爆率、抗風化、抗沖擊等優異特點。

產品介紹 Products

微薄玻璃

台中廠TF5為全新微薄觸控玻璃生產線，全面導入電腦化自動生產管理系統、無塵室及機械手臂收片等設備。2014年11月正式投產,厚度1.1mm、0.7mm至0.55mm皆已量產，0.33mm也已產出，產品經過多重檢驗嚴格把關，媲美日系供應廠商,達到高品質的國際水準，可供應國內外電子大廠生產高品質之消費性電子產品。

汽車玻璃

台灣汽車玻璃股份有限公司，生產製造各式汽車用前擋風膠合玻璃、天窗、車門窗及後擋風強化玻璃。為台灣主要汽車玻璃供應商，市場佔有率40%；產品通過世界各國汽車零件品質安全認證: 台灣車輛安全審驗中心、歐盟ECE、日本JIS、美國AS及中國CCC，並供應 TOYOTA、FORD、MAZDA、HONDA、NISSAN、HYUNDAI、SUZUKI等國內、外各大汽車製造廠生產線組裝及售後服務零件使用。

玻璃纖維增強絲

玻璃纖維的製造係將熔融狀的玻璃絲急冷固化而得之纖維狀材料。

用途: F.R.P(Fiber Reinforced Plastic)產業，利用玻璃纖維來強化塑膠材料，應用層面包括: 船體類、管建類、耐腐蝕工程類、工程塑膠類、運動器材類、電子電器類、運輸工具類、航太軍事類等。台玻目前玻璃纖維增強絲產品有切股氈(CSM)、併股紗束(CR)、直捲紗束(DR)、編紗束(WR)、切股(CS/O-CS)。玻璃纖維的優異性為耐衝擊強度高、電氣絕緣性佳，是FRP產業中最廣泛使用之材料。

玻璃纖維紗、布

玻璃纖維紗

係由慎選合格的原料精密混合，嚴格的生產條件控管，經由高溫熔解抽取而成；生產單纖直徑G(9 μ m)、E(7 μ m)、D(5 μ m)及BC(4 μ m)全系列玻璃纖維紗，品質精良，台玻集團生產的玻璃纖維紗除大量用於織造電子級玻璃纖維布供作印刷電路板(PCB)原材料外，亦被廣泛使用作為補強材及其他用途。

玻璃纖維布

使用台玻自製優質玻璃纖維紗織造不同厚度之玻纖布如#7628(170 μ m)、#2116(90 μ m)、#1080(46 μ m)、#1037(27 μ m)、#1027(19 μ m)、#1017(14 μ m)等，生產規模位居全球前二大廠之列。主要供應國內外銅箔基板大廠生產黏結片及高壓成型板材用於印刷電路板，品質符合嚴格標準，並廣為國內外知名大廠指定使用。

玻璃器皿

容器

玻璃容器具有絕佳之透明度，且易封蓋及長時間保存內容物風味等優點。此外，玻璃容器亦能漸進加熱至高溫而不變形。且可百分之百的回收再使用之特性，不會破壞地球環境生態，勢必是未來政府環保政策與社會環保意識最為支持的一種包裝材料。為因應市場需求與考量環保因素，台玻致力於輕量瓶(NNPB)吹製技術，製造厚度輕薄均勻、外型美觀的瓶形，年產量超過2億支以上，不僅可減輕客戶的採購成本，並可節省原料與能源，進而促進對環境的保護。容器種類可分為: 狹口瓶、廣口瓶、輕量瓶(NNPB)，色澤可分為透明、茶色、綠色(翡翠綠、古典綠、香檳綠)等色。為提供嬰兒奶瓶市場多樣性的選擇，台玻新開發生產耐熱玻璃奶瓶，瞬間耐熱溫差可達150 $^{\circ}$ C，符合國家CNS標準，提供消費者更具安全保障的高品質奶瓶。

食器

產品分為杯身較薄的吹製杯及杯身較厚、有手把的壓製杯，色澤及白度優並可提供客戶不同顏色的選擇(如: 黑色、鐵灰色、藍色、綠色、紫色等)，品質符合CNS、美國FDA、歐盟REACH及SVHC等多項國際標準。產品種類有水杯、啤酒杯、威士忌杯、馬克杯、密封罐、碗盤等，可搭配印刷、貼花、咬霧、噴砂、噴色等加工處理，讓產品更豐富。

廚器

為膨脹係數 α -33之硼矽酸耐熱玻璃，瞬間溫差可達150 $^{\circ}$ C，且耐酸鹼性與強度均較鈉鈣玻璃佳，大幅提升使用安全性及用途多樣化。產品主要為咖啡壺、沖茶器、泡茶壺、儲物罐等，並陸續開發接柄杯及雙層杯等加工產品，提高附加價值。

產品介紹 Products

自有品牌

為朝向生產具有高附加價值的品牌市場，台玻創立自有品牌「TG」，以年輕世代為對象，聘請國際設計大師深澤直人，將對生活的看法融入設計，製作兼具美感與實用性的當代玻璃系列器皿，從台灣出發，行銷全球。

實聯化工江蘇有限公司

純鹼

純鹼 (Na_2CO_3) 是重要的化工基本原料之一，廣泛應用於化工、玻璃、冶金、造紙、印染、合成洗滌劑、石油化工、食品、醫藥衛生等工業，使用量大，在國民經濟中佔有重要的地位。

氯化銨

氯化銨 (NH_4Cl) 是一種優良的氮肥，廣泛應用於複合肥行業。特別適用於水稻、小麥、棉花、麻類、蔬菜等作物，肥效快、持續時間長、能加速作物光合作用，促進新陳代謝，增根壯莖茂葉，提高作物的抗病蟲害和抗倒狀能力，增加產量。

生技鹽

鹽（氯化鈉）是化學工業的基本原料，廣泛應用於化工、醫藥、食品、飼料、洗劑、日化品、水處理、材料、紡織、染整、特用化學品等方面。鹽是人類和動物生存健康所必需，在生命健康產業中亦有寬廣發展空間。



實聯化工江蘇有限公司
SHIHLIEN CHEMICAL INDUSTRIAL JIANGSU CO., LTD.

產品介紹 Products

Flat Glass

Flat glass is one of the core products of TG. With production plants based in Taiwan and China, TG's major markets reach Taiwan, China, Japan, Korea, South-East Asia, North America, Middle East, Australia, Europe, South Africa, Russia, and so forth.

For ARCHITECTURE

Clear Float Glass / Tinted Float Glass

Clear float glass features smooth and flat surfaces, low distortion, and high transparency. With a prescribed quantity of tint agent, it can be turned into tinted float glass, which reduces solar heat transmission to save energy and offers diverse exterior colors for buildings to create higher added-value.

Rolled Glass

Rolled Glass not only provides the function of visual screen but also enables shifts between light and shade.

Low-E Glass

Low-E glass has the best performance of thermal insulation and offers high transparency and energy-saving properties that is required for green buildings and construction materials. The Low-E Glass supplied in developed countries is all made into insulating glass (which offers better insulation and soundproof performance and prevents misting by using dry air in the unit). All TG's Low-E glass can achieve an emissivity coefficient between 0.02 and 0.12.

Low-E Vacuum Glass

Consists of one pane of float glass and one pane of Low-E glass, with a 0.2mm vacuum in between. This is a new-generation energy saving glass with advantages of Low-E coating and vacuum spacing. It presents excellent thermal, acoustic and anti-mist performance, its insulative ability is 2 to 3 times better than normal insulating glass and 4 to 6 times than single glass, creating wonderful living environment.

Reflective Glass

Reflective glass can deflect incident sunlight and provide high thermal performance for indoor comfort. It can save the energy, and meanwhile improve the aesthetic appeal of the building.

Tempered Glass

Tempered glass is 3-5 times stronger than annealed glass and improves the safety of glass application. Once broken, the glass crumbles into small granular chunks, which are less likely to cause injury. It can also withstand sudden changes in temperature. To avoid the spontaneous breakage, tempered glass should undergo heat soak test to improve safety in use.

Heat Strengthened Glass

Heat strengthened glass is 2 times stronger than annealed glass with less distortion, and less likely to occur spontaneous breakage.

Laminated Glass /

Sound Control Laminated Glass

Laminated glass has features of enhanced safety, security, protection from ultraviolet rays, control over transparency levels and shatter-prevention. The color laminated glass can raise the aesthetic appeal of the building, reduce the solar heat transmission to save energy and improve the comfort of living areas. In addition to the features above, sound control laminated glass, developed by TG, also provides an excellent sound insulation properties, ranging from medium to high frequency.

Ceramic Spandrel Glass /

Ceramic Silkscreen Glass

Ceramic spandrel and ceramic silkscreen glass provide a variety of stable and durable colors. They can also reduce air-conditioning cost by insulating solar heat. After being tempered to improve safety, spandrel and silkscreen glass can be a substitute for stone and tile to reduce the structural load on the external wall. The printing of the glass can also reduce glare. Various colors and graphics can be custom-made to meet designing needs as well as create particularity of space design.

Bent Glass / Bent Tempered Glass

Buildings glazed with bent glass can improve spectacular and aesthetic appeal and have the advantages of diversified facade and interior partition. After tempering process, bent tempered glass, which is 3-5 times stronger than ordinary bent glass, can meet the requirements for larger sizes and exceptional optical quality.

產品介紹 Products

Silver Mirror

Mirror glass provides clear and exact reflections. Its back paint resists acid and humidity. Environmentally-friendly silver mirror is produced by copper/lead free process to prevent metal contamination, meeting environmental requirements around the world.

For SOLAR PANEL Super Clear Glass

Super clear glass has better optical performance with higher visible light and infrared transmittance than ordinary clear glass and greatly enhances solar heat transmittance. Super clear glass can be used for any applications and products that require high transmittance and transparency, i.e. the application of BIPV solar module and advanced construction materials, to respond to the issues of oil resource depletion and the requirements of clean and renewable energy.

Low Iron Photovoltaic Cover Glass

Mainly used as the cover of crystalline silicon solar modules with the advantageous features of low iron content, high transmission, low reflecting rate, high flatness, high mechanical strength, low probability of spontaneous breakage, anti-weathering, high impact resistance and so forth.

Ultra-Thin Glass

The TF5 furnace in Taichung Factory is a newly established production line for electronic grade ultra-thin glass. Introducing the installations of Computerized Automated Production Management System, cleanroom and mechanical arms for collecting glass panes, this line started production in November 2014 with mass production for 1.1mm and 0.7mm glass and production of 0.33mm glass. All of the products undergo strict inspections before shipment. The high quality product is able to compete with Japanese manufacturers and provide for major electronic manufacturers at home and abroad to produce consumer electronic goods.

Automotive Glass

Taiwan Autoglass Ind. Corp., the main supplier of automotive glass in Taiwan with 40% market share, produces various laminated windshield glass, sunroof glass, side windows, and tempered rear windows. Its glass products not only are awarded the quality and safety certifications around the world, including VSCC in Taiwan, ECE in European Union, JIS in Japan, AS in the U.S., and CCC in China, but also are

supplied as Original Equipment and Automotive Glass Replacement for several international car makers, such as TOYOTA, FORD, MAZDA, HONDA, NISSAN, HYUNDAI, and SUZUKI.

Fiberglass Reinforced

Fiberglass reinforced is a fiber-like material manufactured by rapidly cooling melted glass filaments. FRP (fiber reinforced plastic) industry uses fiber glass to reinforce plastic composites, widely applied to the fields including: shipbuilding, construction, corrosion-resistant engineering, engineering plastics, sports/recreation, electronics, transportation, military and aerospace, etc. The products of TG fiberglass reinforced include Chopped Strand Mat (CSM), Conventional Roving (CR), Direct Roving (DR), Woven Roving (WR), and Chopped Strand (CS/O-CS). With outstanding characteristics of high impact strength and excellent electrical insulation properties, fiberglass reinforced is widely used in FRP industry.

Fiberglass Yarn & Fabric

Fiberglass Yarn

Fiberglass Yarn is the product of select materials mixed in a specific proportion, melted in high temperature furnaces and drawn into filament under strict control. TG produces single filament diameters in G (9 μ m), E (7 μ m), D(5 μ m) and BC (4 μ m). TG fiberglass yarn is not only woven in large volume into E-glass fiberglass fabric for the production of printed circuit boards (PCB), but also in an extensive range of applications requiring strengthening, reinforcement, and other related uses.

Fiberglass Fabric

TG utilizes homemade fiberglass yarn to weaves a complete series of E-glass fiberglass fabric from normal thickness such as #7628(170 μ m), #2116(90 μ m), #1080(46 μ m) to ultra-thin such as #1037(27 μ m),#1027(19 μ m), #1017(14 μ m),and etc, ranking it among the world's top two manufacturers by production scale. TG supplies to domestic and overseas Copper Clad Laminate (CCL) manufacturers to be reworked as prepreg and laminate, the preparatory status of PCBs. By adhering to the highest quality standards, TG has become an internationally renowned and trusted manufacturer.

產品介紹 Products

Container, Tableware & Kitchenware

Container

Glass containers possess the special advantages of excellent transparency, easy sealing and flavor preservation. Furthermore, glass containers can be heated up gradually without deforming. It is also 100% recyclable and, therefore, environmentally friendly, fully aligned with government's environment protection policy and supported by social environmental consciousness groups.

In light of market demand and environmental concerns, TGI has put emphasis on NNPB technique to produce lightweight glass bottles, consistent wall thickness and good appearance, with production capacity more than 200 million pieces each year. Besides saving cost for customers, lightweight bottles require less raw materials and energy, therefore are more environmentally friendly.

Glass containers are classified by shape: narrow neck bottles, wide mouth jars, lightweight bottles (NNPB) and by color: flint, amber, green (emerald, antique, champagne green), etc..

To provide more choices to the markets, TGI has developed and produced heat-resistant baby feeding bottles, capable of withstanding thermal shock up to 150°C, which meets the requirements of CNS and safety standards of high quality.

Tableware

Tableware glass includes blown-wares with thin walls and press-wares for thicker walls or glasses with handles. With its high transparency and clarity, various colors (ex. black, charcoal, blue, green, purple) are available for clients to choose from. The fine quality of our tableware products have been approved to meet CNS, FDA, ROHS, REACH and SVHC standards. A variety of products including tumblers,beer,glasses,whisky glasses,mugs,canisters,bowls/plates with diverse value-added process such as screen-printing,frosting,sand-blasting and color spraying meet market needs.

Kitchenware

Kitchenware glass is made of α -33 borosilicate material with thermal resistant to 150°C temperature difference with better alkali and acid-resistance than sodalime glass, enhancing the safety and diversity of products. Product range includes coffee / tea pots, pitchers,

jars, etc, and we continue to add value by developing handle-attaching and double-wall glassware.

Private Brand

Toward the brand market of producing high value added products, TGI established its private brand "TG". This brand is young-generation-oriented. TGI has commissioned Mr. Naoto Fukasawa, who is an international designer, to design products with his perspectives of life, and then TGI manufactures the containers of contemporary glass series, which contains esthetic sensibilities and practicability. Starting from Taiwan, TGI will market its private brand around the world.

Soda Ash & Ammonium Chloride

SHIHLIEN CHEMICAL INDUSTRIAL JIANGSU CO., LTD.

Soda Ash

Soda ash (Na_2CO_3) is one of the most important industrial chemicals with widespread applications. It is one of the basic raw materials for glass, for papermaking, dyeing and detergents, and can also be used as flux for metallurgy and softener for water purification.

Ammonium Chloride

Ammonium Chloride (NH_4Cl) is mainly used as nitrogenous fertilizer for the complex fertilizer industry. It accelerates photosynthesis and crop metabolism, contributing to plant health and thereby increases crop yield. It is highly suitable for rice, wheat, cotton, hemp and vegetables , with a quick and long-lasting fertilizing effect.

Biotech Salt

Common salt (sodium chloride) is a basic chemical used in many industries, including chemical,pharmaceutical, food, feeds, detergents, toiletries and water treatments materials, textile, dyeing, specialty chemical etc. As common salt is also critical to sustain human and animal life, there is plenty of room for growth in the life and health sectors.

產品介紹 Products

Low-E 玻璃

單銀低輻射玻璃

1. 紅外線反射率高，可直接反射遠紅外熱輻射；
2. 表面輻射率(ε)低，吸收外來能量的能力小，從而再輻射出的熱能少；
3. 遮陽係數(SC)可選擇範圍廣，可根據需要調節太陽直接輻射能透過量，以適應不同的設計需要。

雙銀低輻射玻璃

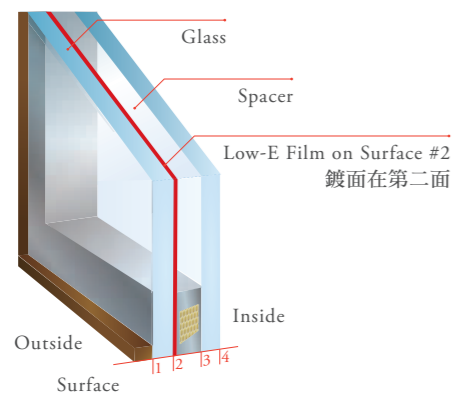
1. 較高的可見光透光率，室內可充分利用自然光采光。
2. 極低的太陽能透過率，有效限制太陽熱輻射的透過，尤其是近紅外熱輻射透過；遮陽係數(SC)較單銀Low-E玻璃更低。
3. 有效地限制夏季室外的熱輻射進入室內。和單銀Low-E玻璃比較，冬季保溫性能更好，傳熱係數(U值)更低。

三銀低輻射玻璃

高透光率、低反射率、低SC值並存，極低的輻射率與雙銀低輻射玻璃或單銀低輻射玻璃對比，具有同樣可見光透過率的三種玻璃：
 SC三銀玻璃 < SC雙銀玻璃 < SC單銀玻璃
 具有同樣SC值的三種玻璃，室外反射率下限RO：
 RO三銀玻璃 < RO雙銀玻璃 < RO單銀玻璃

低輻射中空玻璃構造圖

Construction of Low-E Insulating Glass



Low-E Glass

Single Low-E Glass

1. Because of the high infrared reflectance, the Low-E glass can reflect far infrared heat radiation directly.
2. Due to the low emissivity, the glass surface is less able to absorb external energy, and thus lower the reradiated thermal (heat) energy.
3. With wide range of shading coefficient (SC) options, customers can choose different levels of direct solar heat transmission based on needs and designs.

Double Low-E Glass

1. With higher visible light transmittance, it allows to make the most of indoor natural lighting.
2. The solar heat transmission through windows is extremely low. It effectively limits solar thermal radiation, especially the near-infrared. Its shading coefficient is also lower than Single Low-E Glass.
3. It effectively limits outdoor thermal radiation in summer. Compare with Single LOW-E Glass, it also has better insulation and lower U value in winter.

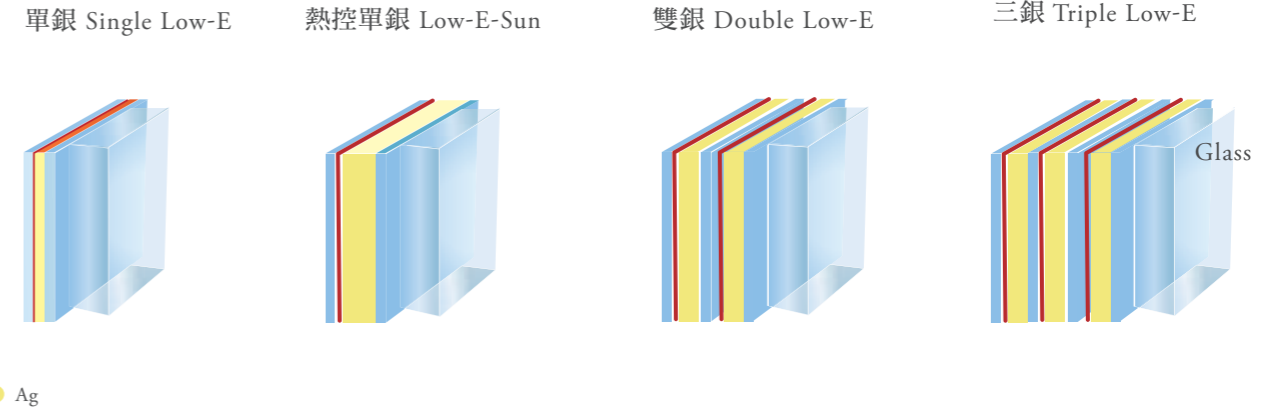
Triple Low-E Glass

With all the features of high transparency, low reflectivity, low SC values, and low emissivity. Compare Double Low-E glass or Single Low-E glass with the same visible light transparency:
 SC Triple Low-E glass < SC Double Low-E glass < SC Single Low-E glass
 With the same SC value, the outdoor reflective rate lower limit RO:
 RO Triple Low-E glass < RO Double Low-E glass < RO Single Low-E glass

產品介紹 Products

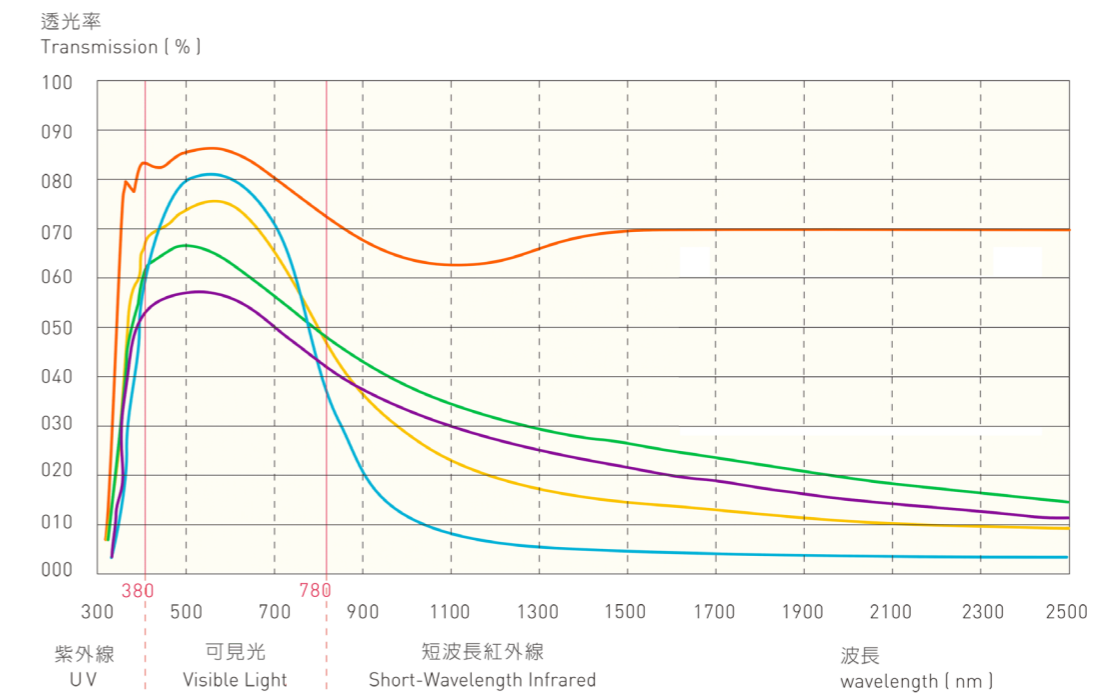
鍍膜層構造

Low-E Coating Structures



不同鍍膜在太陽光譜中透射率的比較

Spectrum for Different Coating Glass Transmission



空調耗電比率

透明玻璃	用電比率：1.00
三銀Low-E玻璃	用電比率：0.57
雙銀Low-E玻璃	用電比率：0.62
單銀Low-E玻璃	用電比率：0.66
熱控單銀Low-E玻璃	用電比率：0.64

產品介紹 Products

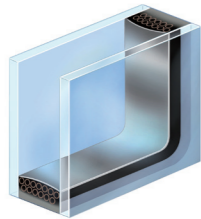
TPS玻璃

新一代中空系統

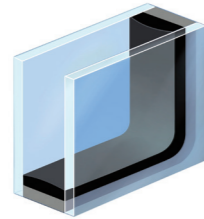
TPS是一種新型的中空玻璃暖邊系統，它是以特殊丁基膠為輔材，填入分子篩的熱塑性隔條。

特性

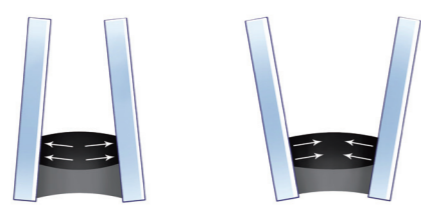
1. TPS: Thermo Plastic Spacer / 熱塑性隔條
2. TPS熱塑性隔條不含金屬嵌入物
3. 提高玻璃邊緣的熱阻隔性
4. 溫度均勻分布在整個玻璃表面
5. 有效降低凝露的產生
6. 彈性邊緣密封
7. 使玻璃設計變得更為靈活和方便
8. 完美的匹配玻璃裝配行業
9. 高的質量控制=更長的使用壽命



普通型 Conventional IGU
分三部分：剛性間隔填充分子篩塗布丁基膠
Three parts: fixed spacer filled with desiccant and a special butyl.



TPS
一個整體：熱塑性隔條填充分子篩
One single unit: Thermo Plastic Spacer filled with desiccant.

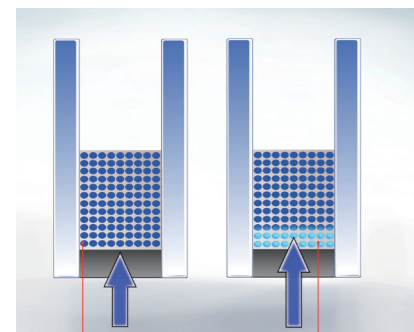


良好的力學性能
Better mechanical performance

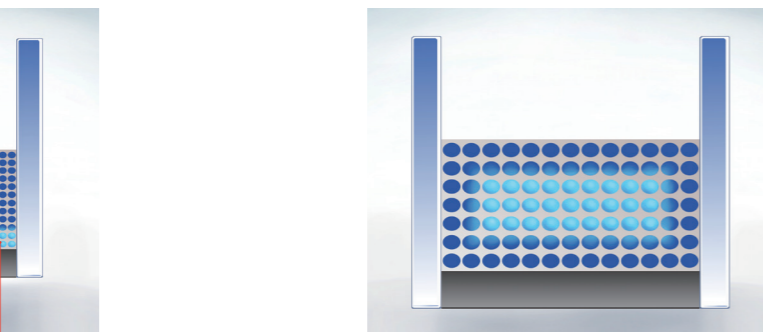
TPS濕氣屏障的原理 The Principles of TPS Moisture Barrier

長久的使用壽命源自最終的水氣屏障

The durability is ultimately determined by the barrier of moisture.



初期水分滲入
Humidity penetration in early stage.



水分滲入後期形成自然屏障
After the penetration, the moist develops a natural barrier.

- 乾燥的分子篩 Dry desiccant
- 半飽和分子篩 Half-saturated desiccant
- 飽和分子篩 Saturated desiccant

產品介紹 Products

應用領域

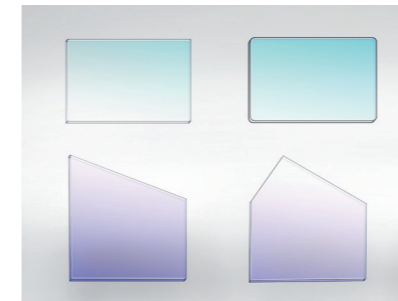
1. 住宅建築
2. 商用建築
3. 結構幕牆
4. 高速鐵路
5. 汽車、大型巴士

Applications

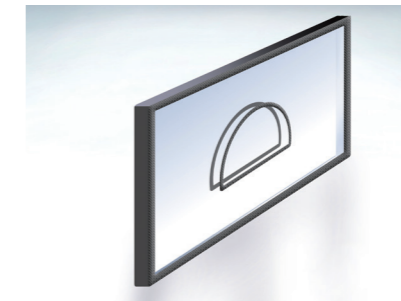
1. Residential building
2. Commercial buildings
3. Structural curtain wall
4. High speed rail
5. Vehicles and buses

設計師擁有選擇權

Designers have the options



1. 生產形狀靈活多樣
Dynamic and various shapes



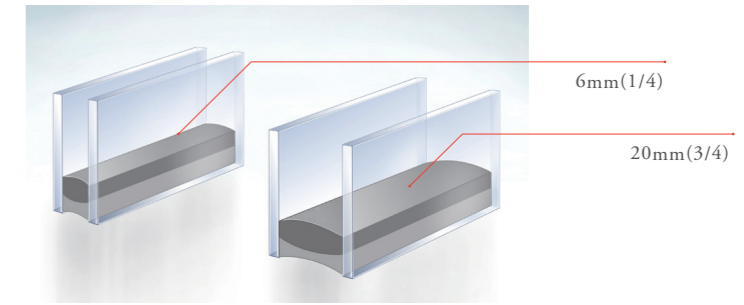
2. 鏤空的中空玻璃系統
Hollow-out insulating glass system



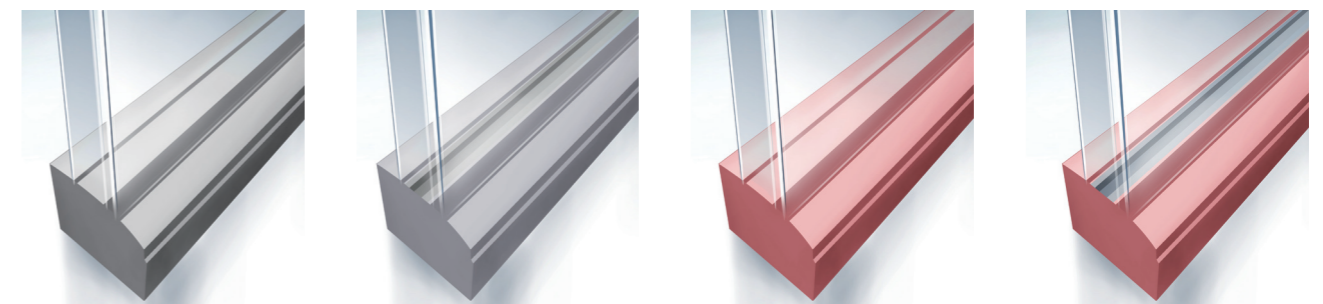
3. 內飾條協調地裝在熱塑性隔條上
Moulding / decoration strip works perfectly with Thermo Plastic Spacer



4. 有邊或無邊的中空玻璃
Insulating glass with or without edge



5. 隔條寬度通常可以在6到20mm的範圍內任意調節
The width of spacer normally can be freely adjusted between 6 and 20mm



6. 在窗框和玻璃之間獲得更好的視覺感官
Better visual effects for the frame and glass

產品介紹 Products

Low-E 真空玻璃

將一片平板玻璃及一片Low-E玻璃，以真空用封裝材料封合，形成一封閉空間，中間以不影響透光性的極小支撐點隔開，利用側邊處的抽氣管，將內部空氣抽出後封口，即形成Low-E真空玻璃。

產品規格

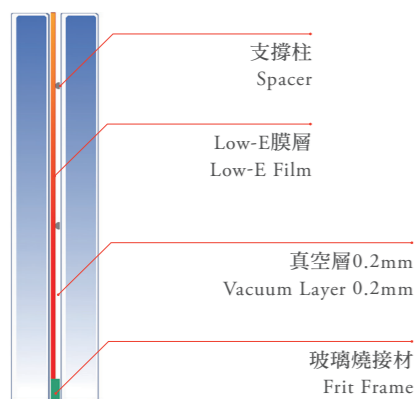
玻璃厚度: 4+4-8+8 mm
 最大尺寸: 3600*1800 mm
 最小尺寸: 500*500 mm

優點

1. 傳熱係數U值低: 可大幅降低空調耗電量，降低污染和溫室氣體排放，減少環境污染，達到節能減碳。
2. 隔熱保溫: 炎熱的夏季，能有效阻隔太陽光熱源，保持室內涼爽；寒冷的冬季，能有高效能隔絕熱耗，維持室內保暖舒適。
3. 隔音減噪: 真空層能有效阻隔聲音傳遞，隔音量可達39dB。
4. 防止結露: 最低結露溫度可達-40℃，不會產生窗戶霧化及內結露現象。
5. 使用壽命長: 放置吸氣劑材料可維持真空度穩定及保護Low-E鍍膜，延長節能壽命。

台玻東元所開發的真空玻璃，經「CTC中國建築材料檢驗認證中心」驗證，達到國家標準中建築門窗保溫性能分級的最高等級。另經由德國IFT (Institut für Talententwicklung) 測試機構檢測，U值可達到0.5W/M²·K，擁有優異的節能數據。

真空玻璃結構圖 VIG Structure



Low-E VIG

Consists of one piece of float glass and one piece of Low-E Glass, there are tiny spacers to form a gap between two glass plates with a vacuum layer 0.2mm. Using the frit on glass edges to enclose the space. Insert a tube connected to this space for degassing. Seal the tube after degassed, and this panel is formed as a VIG.

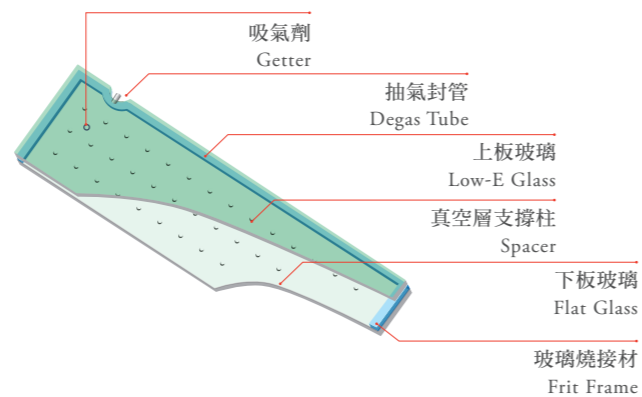
Specification

Glass Thickness: 4+4-8+8 mm
 Max. size: 3600*1800 mm
 Min. size: 500*500 mm

Advantages

1. Low thermal transmittance U value: can significantly reduce the air conditioning electricity consumption, decrease pollutants and greenhouse gas emissions, reduce environmental pollution, to meet the energy saving and carbon reduction requirements.
2. Heat Insulation: in hot summers, it can effectively block sunlight heat, keeping interiors cool; in cold winters, it has high performance of heat loss insulation, keeping interiors warm and comfortable.
3. Soundproofing: vacuum layer can effectively block noise transmission and reduce sound transmission class by 39dB.
4. Anti-dew-forming: minimum condensation temperature about -40 °C without windows fogging and inner condensation.
5. Long usage life: place getter material inside to maintain vacuum level stable and protect Low-E coating to prolong the usage life.

Vacuum glass developed by TG TECO which was tested by "CTC China Building Material Test and Certification Center" has reached the highest level of national standards in insulation grade for building windows. Additionally, the U value of vacuum glass can reach 0.5W/M²·K after tested by German IFT (Institut für Talententwicklung). It has excellent data of energy-saving.



Low-E 玻璃應用 Applications

適用(亞)熱帶型氣候組合

Assembly Sequence Suitable for (Sub) Tropical Zone



室外 Outside
 Low-E glass (coating on surface #2)
 1 2 3 4
 室內 Inside
 Clear or tinted glass

鍍面在#2面: 阻斷大量輻射熱能的穿透，僅少數熱能進入使室內保持涼爽。

coating on surface #2: The heat is reradiated back outdoors, reducing the heat gain potential into the building interior.



高雄市立圖書館總館
 Kaohsiung Main Public Library
 Low-E (TDE60) IGU



東京小田原市江之浦觀候所
 The tip of the Summer Solstice Observation Gallery ©
 Odawara Art Foundation

適用(寒)溫帶型氣候組合

Assembly Sequence Suitable for (Frigid) Temperate Zone



室外 Outside
 Clear or tinted glass
 1 2 3 4
 室內 Inside
 Low-E glass (coating on surface #3)

鍍面在#3面: 室內的熱能因Low-E雙層玻璃的阻斷而不易輻射至室外而能保暖。

coating on surface #3: Low-E insulating glass will reflect IR heat from inside the room to help reduce the energy loss.



元利信義聯動
 One Park Taipei
 Low-E(TDE78)Laminated IGU



宜華國際觀光旅館
 Yihua International Tourist Hotel
 Low-E(TSE58) Laminated IGU

節能實例 Energy Saving Project Case Study



臺北南山廣場 Taipei Nan San Plaza

「臺北南山廣場」辦公大樓，總高272公尺，建物帷幕外牆由台玻協助三菱地所及瀚亞建築師事務所共同設計，外牆面積九成以上均為玻璃結構，並獲得內政部「建物外玻璃熱透過率(THT)值在0.3以下的綠建築節能(鑽石級)標章」及榮獲台灣優良智慧綠建築暨系統產品獎2017 TIBA AWARDS最高榮譽的「鉑金獎」。

1. 採用台玻Low-E節能複層玻璃，中間為12mm的空氣層有效阻隔熱能，相較一般玻璃，可減少45%的冷氣耗電費。
2. 安全性亞洲最強：以最高規格的結構設計，基樁打至岩盤，並裝置兩顆阻尼器，搭配亞洲最強可抗16級風壓的大樓帷幕，減少大樓受高空強風和颱風所造成的搖晃，提供最高等級的安全保障。

The building “Taipei Nan San Plaza” is built with a height of 272 meters. 90% of this building’s external wall is made of glass structure, designed cooperatively by TGI, Mitsubishi Estate and Archasia Design Group. It was awarded as a green building on the merit of external glazing with a coefficient of thermal transmittance (THT) smaller than 0.3 (Diamond Level) for its curtain wall, and was awarded Platinum Award of 2017 TIBA AWARDS – Taiwan Intelligent Green Building and System Product Awards.

1. It adopted TGI’s Low-E energy-saving insulating glass units with a 12mm space, effectively reducing heat and saving 45% of electricity cost for air conditioning compared with common glass.
2. The highest class safety in Asia: designed with the highest-profile structure, this building was piled to bedrock, installed two shock absorbers and the strongest curtain wall in Asia which can resist 16 Bft wind pressure to reduce building shake caused by strong gale and typhoon, providing the highest class safety.

股務記錄 Stock

年 Year	加權指數 Taibox		股價 Stock Price		股利 Dividend	
	High	Low	High	Low	Cash	Stock
1973	514	225	38.60	25.20	1.00	2.00
1974	498	188	35.20	11.30	0.70	1.80
1975	429	190	28.30	13.60	0.70	1.80
1976	417	257	26.95	17.00	2.00	0.84
1977	450	313	27.65	17.30	0.80	1.70
1978	688	447	36.00	24.80	1.24	1.96
1979	659	502	35.40	24.40	2.072	1.428
1980	599	480	32.20	23.30	1.889	1.111
1981	600	502	27.70	20.50	0.50	1.50
1982	546	421	23.00	15.40	0.20	1.10
1983	765	434	38.20	17.10	0.72	1.48
1984	969	764	37.00	30.20	0.60	1.60
1985	840	636	33.10	20.30	-	1.40
1986	1039	839	40.10	31.70	-	1.60
1987	4673	1063	95.00	38.70	-	1.80
1988	8789	2341	125.00	58.50	-	1.80
1989	10773	4873	188.00	78.00	-	2.00
1990	12495	2560	144.00	36.90	-	1.80
1991	6305	3316	71.00	39.70	0.458	1.042
1992	5391	3327	47.50	28.00	0.35	1.00
1993	6070	3135	53.00	29.70	0.35	1.00
1994	7183	5194	65.00	41.70	0.35	1.50
1995	7051	4503	63.50	46.00	0.35	1.50
1996	6982	4690	67.50	47.50	-	1.903
1997	10116	6802	66.50	36.30	0.76	1.09
1998	9277	6251	44.90	30.30	1.35	-
1999	8608	5474	34.80	20.10	1.25	-
2000	10393	4555	39.80	22.00	0.80	0.81
2001	6104	3411	33.20	17.80	1.00	-
2002	6484	3846	29.10	17.60	0.30	0.70
2003	6182	4044	28.60	20.30	0.40	0.80
2004	7135	5255	33.00	24.30	0.50	1.00
2005	6600	5565	31.50	23.70	0.40	0.80
2006	7823	6232	30.40	21.60	0.24	0.96
2007	9859	7306	46.30	25.55	0.40	0.80
2008	9309	3955	41.55	13.30	0.20	0.30
2009	8188	4165	27.70	15.40	0.20	0.30
2010	8990	7072	38.50	24.60	0.60	1.00
2011	9220	6609	53.70	27.10	0.45	0.45
2012	8144	6895	37.30	23.75	0.10	-
2013	8647	7603	35.20	25.70	0.10	-
2014	9569	8264	33.50	21.00	-	-
2015	9973	7410	24.60	10.65	-	-
2016	9430	7627	16.05	11.15	-	-
2017	10854	9273	22.90	12.60	0.5	-
Total	-	-	-	-	23.83	45.67

主要股東(2018-04) Major Shareholders		(%)
台豐投資股份有限公司 Tai Hong Investment Corp.		14.45
合和投資股份有限公司 Ho Ho Investment Corp.		13.85
台建投資股份有限公司 Tai Chien Investment Corp.		8.56
台玉投資股份有限公司 Tai Yu Investment Corp.		8.44
台成投資股份有限公司 Tai Cheng Investment Corp.		7.85
台嘉投資股份有限公司 Tai Chia Investment Corp.		5.43
富邦人壽保險股份有限公司 Fubon Life Insurance Corp.		4.89
林建成嘉記股份有限公司 Lim Kien Seng Kah Kih Co. Ltd		4.71
南山人壽保險股份有限公司 Nan Shan Life Insurance Corp.		1.69
台玻職工退休基金管委會 TGI Retirement Fund.		1.35
Total		71.22
股東總人數 Total Shareholders		43,747 人
成交量 Transaction Volume		1,176,973,598 股
員工總人數(2018-04) Employees	台灣 5,000 人 大陸 9,790 人 合計 14,790 人	

決算日期: 2017年12月31日
Fiscal Year Ends on December 31, 2017
股東常會: 2018年06月13日
General Shareholders' Meeting: June 13, 2018
公告: 公開資訊觀測站
Public Notice: mops.twse.com.tw/index.htm
辦理過戶: 台灣玻璃工業公司 股務課
Stock Transfer Registration: TGI Stock Affairs Div.
會計師: 安永聯合會計師事務所
C.P.A.: Ernst & Young

集團沿革 Taiwan Glass Group History

1964

1964 公司創立，資本額一億五千萬元
Company established, capital NT\$150 million



1965 日本旭硝子株式會社平板玻璃技術合作
Asahi, Japan for Sheet Glass TAA.



新竹廠破土典禮
Hsinchu Factory Groundbreaking



1967 新竹平板廠投產
TS Factory Sheet Glass Plant Production



1970

1970 美國WHEATON GLASS 容器玻璃技術合作
Wheaton Glass PLC. USA for Container Glass TAA.



1972 台玻大樓落成
TGI Building inaugurated



1973 台玻股票上市
TGI Stock listed on Taiwan Stock Exchange

1974 英國PILKINGTON PLC. 色板玻璃技術合作
Pilkington PLC. UK for Tinted Glass TAA.



1977 德國VEBA GLASS AG. 食器玻璃技術合作
Veba Glass Ag. Germany for Tableware Glass TAA.

1980

1980 英國PILKINGTON PLC. 平板浮法玻璃技術合作
Pilkington PLC. UK for Float Glass TAA.

1983 台中平板浮法廠投產
TF Factory Float Glass Plant Production

1987 美國OWENS CORNING FIBERGLASS CORP. 玻璃纖維技術合作
Owens Corning Fiberglass Corp. USA for Fiberglass Reinforced TAA.



日本柴田株式會社耐熱玻璃技術合作
Sibata Hario, Ltd. Japan for Heat-Resistant Glass TAA.



1988 日本鐘紡株式會社玻璃纖維布技術合作
Kanebo, Ltd. Japan for Fiberglass Fabric Glass TAA.



1989 二十五週年慶 25th Anniversary



1990

1990 桃園玻璃纖維布及玻璃纖維廠投產
TT Factory Fiberglass Fabric & Fiberglass Reinforced Plant Production

1992 創辦人大陸考察
Founder Lin, business visit to China

1993 台灣玻璃中國控股公司創立
Taiwan Glass China Holding Ltd. Established

1994 德國HERMANN HEYE 容器玻璃技術合作
Hermann Heye, Germany for Container Glass TAA.

三十週年慶 30th Anniversary



青島廠建廠 QFG Construction



集團沿革 Taiwan Glass Group History

1995

1995 日本石塚硝子株式會社食器玻璃技術合作
Ishizuka Glass Co., Ltd. Japan for Tableware TAA.

台中、桃園、新竹三廠ISO-9002認證通過
TF, TT, TS, Factory ISO-9002 Certification

青島浮法玻璃有限公司投產
Qingdao Float Glass Co., Ltd. Plant Production



創辦人訪問北京 Founder Lin, Beijing visit



1997 台玻長江玻璃有限公司投產
TG Changjiang Glass Co., Ltd. Plant Production

1998 鹿港玻璃纖維布廠投產
TL Factory Fiberglass Fabric Plant Production

2000 台中廠引進雙銀輻射玻璃技術
Taichung Factory Double Low - E Glass Coating Technology

2001

2001 桃園、新竹、台中、鹿港四廠ISO-14001認證通過
TT, TS, TF, TL, Factory ISO-14001 Certification

2002 創辦人榮獲第32屆全球玻璃工業鳳凰獎(美國)
Founder Lin, Awarded with the Phoenix Award (USA)



台玻長江玻璃有限公司CFG-2投產
TG Changjiang Glass Co., Ltd. CFG-2 Plant Production

2004 台嘉玻璃纖維有限公司投產
Taichia Glass Fiber Co., Ltd. Plant Production

台玻東海玻璃有限公司投產
TG Donghai Glass Co., Ltd. Plant Production

台玻成都玻璃有限公司投產
TG Chengdu Glass Co., Ltd. Plant Production

四十週年慶 40th Anniversary



2005

2005 台玻華南玻璃有限公司投產
TG Huanan Glass Co., Ltd. Plant Production



台嘉玻璃纖維有限公司TGF-2投產
Taichia Glass Fiber Co., Ltd. TGF-2 Plant Production

2006 台玻昆山玻璃有限公司CFG-3投產
TG Kunshan Glass Co., Ltd. CFG-3 Plant Production

台玻天津玻璃有限公司投產
TG Tianjin Glass Co., Ltd. Plant Production

鹿港平板廠TF-4投產
TL Factory TF-4 Flat Glass Plant Production

2007 台嘉玻璃纖維有限公司TGF-3投產
Taichia Glass Fiber Co., Ltd. TGF-3 Plant Production

2008

2008 台玻成都玻璃有限公司CDG-2投產
TG Chengdu Glass Co., Ltd. CDG-2 Plant Production

台玻華南玻璃有限公司HNG-2投產
TG Huanan Glass Co., Ltd. HNG-2 Plant Production



台嘉玻璃纖維有限公司TGF-4投產
Taichia Glass Fiber Co., Ltd. TGF-4 Plant Production



新竹廠TS-7壓花窯改建容器窯
Hsinchu Factory TS-7 Rolled Glass Furnace Rebuilding to Container Glass Furnace

2009 桃園廠TT-1擴建FRP
Taoyuan Factory TT-1 Fiberglass Reinforced Furnace Rebuilding & Expansion

彰濱廠引進最新低輻射玻璃鍍膜技術
Changpin Factory New Low-E Glass Coating Technology

台玻福建光伏玻璃有限公司動土
TG Fujian Photovoltaic Glass Co., Ltd. Established & Groundbreaking

集團沿革 Taiwan Glass Group History

2010

2010 台玻悅達汽車玻璃有限公司創立
TG Yueda Autoglass Co., Ltd. Established



台玻太倉工程玻璃有限公司創立及動土
TG Taicang Architectural Glass Co., Ltd.
Established & Groundbreaking

台玻咸陽玻璃有限公司創立
TG Xianyang Glass Co., Ltd. Established

台玻安徽玻璃有限公司創立
TG Anhui Glass Co., Ltd. Established

台玻武漢工程玻璃有限公司創立
TG Wuhan Architectural Glass Co., Ltd. Established

台玻福建光伏玻璃有限公司投產
TG Fujian Photovoltaic Glass Co., Ltd.
Plant Production



2011

2011 彰濱廠投產
Changpin Factory Plant Production

新竹廠ISO-22000認證通過
TS Factory ISO-22000 Certification

台玻悅達太陽能鏡板有限公司創立
TG Yueda Solar Mirror Co., Ltd Established

台嘉成都玻纖有限公司動土
Taichia Chengdu Glass Fiber Co., Ltd.
Groundbreaking



台玻安徽玻璃有限公司動土
TG Anhui Glass Co., Ltd. Groundbreaking

台玻武漢工程玻璃有限公司動土
TG Wuhan Architectural Glass Co., Ltd.
Groundbreaking

台玻東元真空節能玻璃股份有限公司創立
TG Teco Vacuum Insulated Glass Corp.
Established



2013

2013 台玻咸陽玻璃有限公司烘窯投產
TG Xianyang Glass Co., Ltd. Plant Production



台玻安徽玻璃有限公司烘窯投產
TG Anhui Glass Co., Ltd. Plant Production



新竹廠TS-10耐熱容器窯 / TS-11耐熱食器窯投產
Hsinchu Factory TS-10 / TS-11 Production

台玻東海玻璃有限公司DHG-2投產
TG Donghai Glass Co., Ltd. DHG-2
Plant Production

實聯化工江蘇有限公司投產
Shihlien Chemical Industrial Jiangsu Co., Ltd.
Plant Production



2012 台玻悅達汽車玻璃有限公司投產
TG Yueda Autoglass Co., Ltd. Plant
Production



2012 台玻華南玻璃有限公司
低輻射鍍膜玻璃生產線投產
TG Huanan Glass Co., Ltd.
Low-E Glass Production

台玻太倉工程玻璃有限公司
低輻射鍍膜玻璃生產線投產
TG Taicang Architectural Glass Co., Ltd.
Low-E Glass Production

台玻武漢工程玻璃有限公司
低輻射鍍膜玻璃生產線投產
TG Wuhan Architectural Glass Co., Ltd.
Low-E Glass Production

台玻哈利歐股份有限公司創立
Hario TG Glass Corp. Established

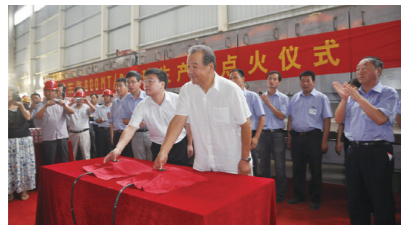


集團沿革 Taiwan Glass Group History

2014

2014

台玻東海玻璃有限公司DHG-3投產
TG Donghai Glass Co., Ltd. DHG-3
Plant Production



台玻集團創業五十週年
50th Anniversary of TG



台玻東元真空節能玻璃股份有限公司投產
TG Teco Vacuum Insulated Glass Corp.
Plant Production

台中廠TF-5微薄玻璃投產
Taichung Factory TF-5 Ultra-Thin Glass
Production

2015

2015

新竹廠TS-3容器窯投產
Hsinchu Factory TS-3 Production

台玻悅達太陽能鏡板有限公司投產
TG Yueda Solar Mirror Co., Ltd Established.
Plant Production

台嘉成都玻纖有限公司投產
Taichia Chengdu Glass Fiber Co., Ltd.
Production

2018

