

# 台湾玻璃工業公司

TAIWAN GLASS IND. CORP.

2023 ANNUAL BRIEF

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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

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

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 M<sup>2</sup> (375 畝)



TF-4, 260,343 M<sup>2</sup> (395 畝)



TC, 272,480 M<sup>2</sup> (408 畝)



QFG, 429,126 M<sup>2</sup> (643 畝)



CFG, 404,770 M<sup>2</sup> (607 畝)



TXY, 452,703 M<sup>2</sup> (679 畝)



CDG, 452,027 M<sup>2</sup> (678 畝)



HNG, 364,907 M<sup>2</sup> (547 畝)



DHG, 398,096 M<sup>2</sup> (597 畝)



TJG, 300,448 M<sup>2</sup> (450 畝)



TAH, 572,643 M<sup>2</sup> (858 畝)



TTAR, 199,525 M<sup>2</sup> (300 畝)



TWAR, 222,000 M<sup>2</sup> (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  
玻璃纖維布 / Fiberglass Fabric

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

生產基地 Production Facilities

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

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

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 / 生技鹽 / 超純氨  
Soda Ash / Ammonium Chloride / Biotech Salt /  
Ultra Pure Ammonia



TT, 181,181 M<sup>2</sup> (271 畝)



TL, 260,343 M<sup>2</sup> (395 畝)



TGF, 323,539 M<sup>2</sup> (485 畝)



TS, 129,090 M<sup>2</sup> (173 畝)



SCJ, 2,000,010 M<sup>2</sup> (3,000 畝)



TCD, 362,668 M<sup>2</sup> (544 畝)



TBF, 370,668m<sup>2</sup>(557畝)



集團一覽 Company List

截至2023-03-31

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	—	1,120,000	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	—	94,000	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
台玻天津玻璃有限公司 TG Tianjin Glass Co., Ltd.	TJG 2004	—	96,000	平板玻璃製造 Flat 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	—	73,805	Low-E 玻璃製造 Low-E Glass Mfg.	TGCH	100
台嘉成都玻纖有限公司 Taichia Chengdu Glass Fiber Co., Ltd.	TCD 2011	—	153,000	玻璃纖維布製造 Fiberglass Fabric Mfg.	TGCH	100
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		29,550,608	2,300,359			

2022 年度營運報告 2022 Operation Report

2022年度 營運報告	銷售量	3,187千公噸(-9.9%)	
	營業收入	43,859百萬元(-18.2%)	=U\$ 1,472 mil
	營業損失	(759)百萬元(-106.6%)	= U\$ (25) mil
	營業外收支	1,360百萬元(-38.3%)	= U\$ 46 mil
	稅前淨利	480百萬元(-96.6%)	= U\$ 16 mil
	稅後淨損	(823)百萬元(-106.7%)	= U\$ (28) mil
	稅後淨損歸屬於母公司業主	(721)百萬元(-106.3%)	= U\$ (24) mil
	母公司業主權益	48,438百萬元(-10.4%)	= U\$ 1,577 mil
	股票市值	61,796百萬元(-20.6%)	= U\$ 2,012 mil
	每股純益 (0.25)元，股東權益每股16.66元=U\$0.54， 考量次年度資本預算規劃，2022年度擬不配發股東股息。		

2022 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 310千公噸 ( -2.3%) 昆山、成都、天津、東莞、青島、東海、咸陽及安徽廠平板玻璃，計12座生產線，年產 2,648千公噸 (-3.8%)
玻布 / 玻纖	台灣	大陸	桃園廠玻纖1座及鹿港廠玻布1座，計2座生產線，年產 72千公噸 ( -7.1%) 昆山廠玻布3座、成都廠玻布1座、蚌埠廠玻布1座，計5座生產線，年產 49千公噸 ( -12.3%)
容食廚玻璃	台灣		新竹廠容食廚器玻璃6座生產線，年產 135千公噸 ( -10.2%)
汽車玻璃	台灣	大陸	台中廠汽車玻璃生產線，年產 6千公噸 ( -12.3%) 鹽城廠汽車玻璃生產線，年產 17千公噸 ( +29.4%)
合計			3,237千公噸 ( -4.1%)

2022 年銷售

平板玻璃	台灣	大陸 計	銷售量 299千公噸 ( -4.8%)，銷售額 4,681百萬元 (+10.2%) 銷售量 2,593千公噸 ( -9.9%)，銷售額 25,814百萬元 ( -26.7%) 計2,892千公噸，新台幣30,495百萬元 = U\$ 1,023mil ( -22.7%)，佔集團營業額 66.6%
玻布 / 玻纖	台灣	大陸 計	銷售量 63千公噸 ( -28.0%)，銷售額 4,455百萬元 (-17.2%) 銷售量 78千公噸 ( -13.0%)，銷售額 6,325百萬元 (-36.1%) 計 141千公噸，新台幣 10,780百萬元 = U\$362mil (-29.4%)，佔集團營業額 23.5%
容食廚玻璃	台灣		銷售量 131千公噸(-12.0%)，銷售額 3,280百萬元 = U\$110mil (-2.6%)，佔集團營業額 7.2%
汽車玻璃	台灣	大陸 計	銷售量 6千公噸(-9.8%)，銷售額538百萬元 (-9.3%) 銷售量 17千公噸(+28.3%)，銷售額700百萬元 (+24.9%) 計 23千公噸，新台幣 1,238百萬元 = U\$ 41mil (+7.3%)，佔集團營業額 2.7%
合計			銷售量3,187千公噸，銷售額新台幣 45,793百萬元 = U\$ 1,536mil ( -22.7%)，減合併沖銷後，銷售額新台幣43,859百萬元 = U\$ 1,472mil (-18.2%)，內銷佔85 %，外銷佔 15%

2022 Operation Report

2022

Consolidated Performance

Sales Volume		3,186,784MT	(-9.9%)
Operating Revenue	U\$	1,472 mil	(-18.2%)
Operating Loss	U\$	(25) mil	(-106.6%)
Non-operating Income and Expenses	U\$	46 mil	(-38.3%)
Income Before Tax	U\$	16 mil	(-96.6%)
Net Loss After Tax	U\$	(28) mil	(-106.7%)
Loss After Tax Attributable to Stockholders of the Parent	U\$	(24) mil	(-106.3%)
Total Equity Attributable to Stockholders of the Parent	U\$	1,577 mil	(-10.4%)
Stock Market Value	U\$	2,012 mil	(-20.6%)
Earnings per share : U\$(0.01), Equity per share: U\$0.54			
In consideration of planning capital budget for next year, it is proposed not to distribute dividend to stockholders for FY 2022.			

2022 Production

Flat Glass	Taiwan	3 float plants, annual production 309,973MT (-2.3%)
	China	12 float plants, annual production 2,648,009MT (-3.8%)
Fiberglass / Fiberglass Fabric	Taiwan	1 glass fiber plant, & 1 glass fabric plant, annual production 71,977MT (-7.1%)
	China	5 glass fabric plants, annual production 49,004MT (-12.3%)
Glass Container & Glassware	Taiwan	6 plants, annual production 135,376MT (-10.2%)
Automotive Glass	Taiwan	TAGC plant, annual production 6,069MT (-12.3%)
	China	TYAU plant, annual production 16,501MT (+29.4%)
Group Total		3,236,909MT (-4.1%)

2022 Sales

Flat Glass	Taiwan	Volume 299,328MT (-4.8%), sales revenue U\$157mil (+10.2%)
	China	Volume 2,592,987MT (-9.9%), sales revenue U\$866mil (-26.7%)
	Total	2,892,315MT, U\$1,023 mil (-22.7%), 66.6% of group sales
Fiberglass / Fiberglass Fabric	Taiwan	Volume 62,782 MT (-28.0%), sales revenue U\$150mil (-17.2%)
	China	Volume 78,187 MT (-13.0%), sales revenue U\$212mil (-36.1%)
	Total	140,969MT, U\$362 mil (-29.4%), 23.5% of group sales
Glass Container & Glassware	Taiwan	Volume 131,065MT(-12.0%), sales revenue U\$110mil (-2.6%), 7.2% of group sales
Automotive Glass	Taiwan	Volume 6,138MT(-9.8%), sales revenue U\$18mil (-9.3%)
	China	Volume 16,297MT(+28.3%), sales revenue U\$23mil (+24.9%)
	Total	22,435MT, U\$41 mil (+7.3%), 2.7% of group sales
Group Total		3,186,784MT, revenue U\$1,536mil (-22.7%)： Net Sales revenue U\$1,472mil (-18.2%) domestic market 85% and export 15%

合併財務一覽 Consolidated Financial Scan

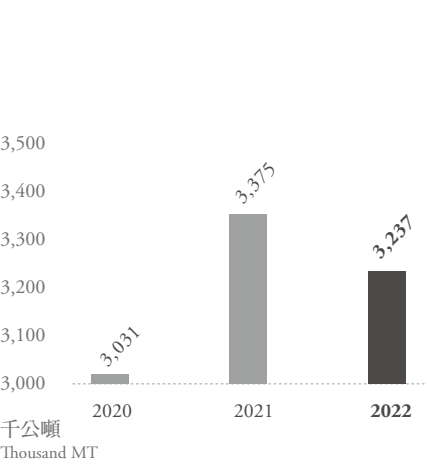
項目 Item	單位 Unit	2021	2022	＋%	－%
銷售量 Sales Volume	公噸 MT	3,537,757	3,186,784		9.9
營業收入 Operating Revenue	千元 U\$000	53,591,856 1,913,858	43,859,066 1,471,534		18.2
營業利益（損失） Operating Income (Loss)	千元 U\$000	11,461,943 409,326	(758,724) (25,456)		106.6
營業外收入及支出 Non-operating Income and Expenses	千元 U\$000	2,204,558 78,729	1,359,930 45,628		38.3
稅前淨利 Income Before Tax	千元 U\$000	13,931,097 497,504	479,990 16,104		96.6
稅後淨利（損） Net Income (Loss) After Tax	千元 U\$000	12,231,239 436,799	(822,874) (27,609)		106.7
稅後淨利（損）歸屬於母公司業主 Income (Loss)After Tax Attributable to Stockholders of the Parent	千元 U\$000	11,476,678 409,852	(720,576) (24,176)		106.3
每股純益 Earnings Per Share	元 U\$	3.95 0.14	(0.25) (0.01)		106.3
純益率 Earning Ratio	%	22.82	(1.88)		108.2
每股股利（現金+股票） Dividend Per Share (Cash+Stock)	元 U\$0.0650(0.0650+0)0	1.82(1.82+0)	0 0.0000		
資產總額 Total Assets	千元 U\$000	99,455,329 3,593,039	93,030,018 3,029,307		6.5
實收資本 Capital	千元 U\$000	29,080,608 1,050,600	29,080,608 946,943		
母公司業主權益 Total Equity Attributable to Stockholders of the Parent	千元 U\$000	54,044,112 1,952,461	48,438,174 1,577,277		10.4
每股淨值 Equity Per Share	元 U\$	18.58 0.67	16.66 0.54		10.3
自有資本率 Shareholders' Equity to Total Assets Ratio	%	54.3	52.1		4.1
合併權益報酬率 Return on Total Equity	%	23.4	(1.5)		106.4
股票市值 Stock Market Value	千元 U\$000	77,790,626 2,810,355	61,796,292 2,012,253		20.6
新投資金額 New Capital Expenditure	千元 U\$000	3,043,048 108,673	4,327,428 145,191	42.2	

合併資產負債表 Consolidated Balance Sheet

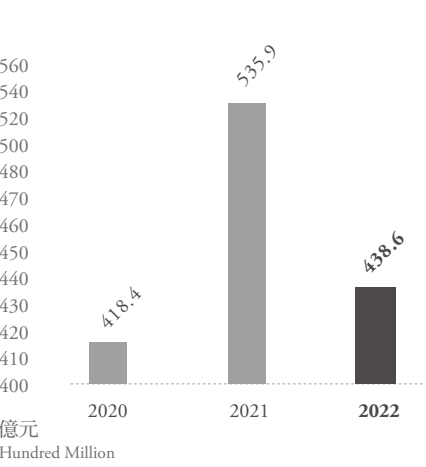
		2021			2022		
		千元	U\$000	%	千元	U\$000	%
資產 Assets	流動資產 Current Assets	45,657,837	1,649,488	45.9	39,881,845	1,298,660	42.9
	採用權益法之投資 Investments Accounted for Using the Equity Method	5,482,791	198,078	5.5	6,639,524	216,201	7.1
	不動產、廠房及設備 Property, Plant and Equipment	43,948,199	1,587,724	44.2	42,343,801	1,378,828	45.5
	其他非流動資產 Other Noncurrent Assets	4,366,502	157,749	4.4	4,164,848	135,618	4.5
	資產合計 Total Assets	99,455,329	3,593,039	100.0	93,030,018	3,029,307	100.0
負債 Liabilities	流動負債 Current Liabilities	26,975,232	974,539	27.1	31,285,228	1,018,731	33.6
	長期負債 Long-term Loan	12,581,798	454,544	12.7	8,070,172	262,786	8.7
	其他非流動負債 Other Noncurrent Liabilities	2,123,804	76,727	2.1	2,013,567	65,567	2.2
	負債合計 Total Liabilities	41,680,834	1,505,810	41.9	41,368,967	1,347,084	44.5
權益 Equity	母公司業主權益計 Total Equity Attributable to Stockholders of the Parent	54,044,112	1,952,461	54.3	48,438,174	1,577,277	52.1
	實收資本 Capital	29,080,608	1,050,600		29,080,608	946,943	
	非控制權益 Non-controlling Interests	3,730,383	134,768	3.8	3,222,877	104,946	3.4
	權益合計 Total Equity	57,774,495	2,087,229	58.1	51,661,051	1,682,223	55.5
負債及權益 Liabilities & Equity		99,455,329	3,593,039	100.0	93,030,018	3,029,307	100.0

歷年財務簡表 Financial Charts by Year

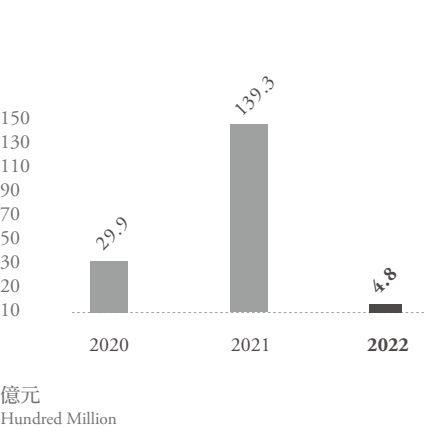
生產量 Capacity



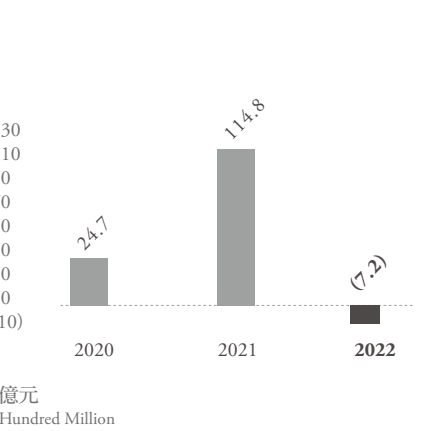
營業收入 Operating Revenue



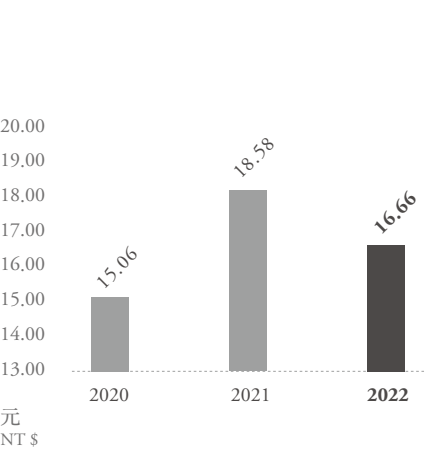
稅前淨利  
Income Before Tax



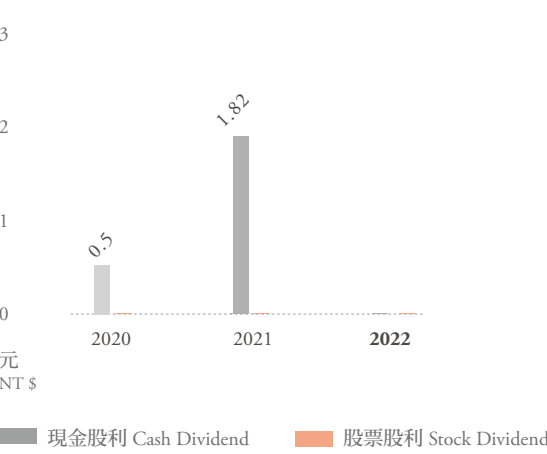
稅後淨利(損)歸屬於母公司業主Income (Loss) After Tax  
Attributable to Stockholders of the Parent



每股淨值 Equity Per Share



每股股利 Dividend Per Share





## 董事長致詞

### 2023 年 展望



各位董事、股東好

2022年受到俄烏軍事衝突持續及防疫措施等影響，全球供應鏈失衡，加上能源與原物料價格大漲引發通膨問題。今年新冠疫情風險降級，生活逐步恢復常軌，但為抑制通膨，以美國聯準會為首的全球央行積極調升利率，造成全球貨幣緊縮，不僅牽動非美元貨幣大幅貶值，高利率環境更抑制民眾消費需求，為今年經濟前景增添風險與挑戰。

近期，大陸商務部將就台灣對大陸貿易限制措施展開貿易壁壘調查，一旦調查結果確定，將對台灣出口產生影響。建議政府提出因應方案，包括提供電價及土地優惠，給予人才培育的補助，另應減免營所稅、營業稅以及貨物稅。

綜觀台玻2022年，上半年原物料需求持續增長，仍維持一定獲利，惟全年受制需求下滑、通膨及匯兌損失等因素，影響整體業績表現，集團2022年合併營收439億元，稅後淨損8.2億元，以下就各產品營業內容進行報告：

在平板玻璃方面，台灣成長趨緩，相關投資建設及商務交流因疫情轉為保守，隨著邊境管制鬆綁，相關措施逐步開放，內需消費及產業期待轉佳。台玻強化創新研發能力，優化產線及設備產能、效率，結合產學資源及國外技術合作。目前雙銀Low-E玻璃逐漸成為市場主流，持續開發可鋼化雙銀新鍍膜色系，增加鍍膜種類以符合市場需求。對於環保節能玻璃應用，致力研發三銀Low-E玻璃的可加工性，達到更嚴格建築外牆節能標準。

中國大陸市場2022年的動態清零政策，導致整體行業需求下降，新建案開工面積大幅減少。2023年開始，管理當局取消房地產行業限制措施，為消費者和房地產開發商提供更多支持，讓內需逐漸回溫，帶動經濟回復正軌，市場也看好開放後的各項商機，可望為大陸經濟注入強心針。

在纖維事業方面，台玻持續以降低成本，加速研發，增加產品價值為方針。電子級玻纖布面對未來市場需求，成功研發並開始供應超薄布#1010布種。同時對於高速高頻傳輸、遠距商機等需求，開發低介電(Low DK\_係數:4.58/10GHz)玻纖布，持續取得國際終端大廠認證採用。再度與美國歐文斯科寧公司合作FRP之新窯，產能提高效率增加，持續供應客戶更全面及高性能環保產品。待玻纖整體市場回溫後，將再評估擴建產線。

在容食廚品牌方面，受到客戶庫存、運費價格高漲，國外訂單出貨略受影響，台玻增加投標內銷市場各項標案，同時策略性調漲單價，維持既有利潤。

台玻轉投資實聯化工江蘇公司43.99%，2022年純鹼與氯化銨受惠供需吃緊，市場價格在年中達到歷史高位，全年業績創高。實聯中控合併營業收入6.1億美元，合併淨利1.05億美元，預估今年行業景氣可望維持獲利。

在ESG永續發展方面，台玻貫徹節能資源管理，實施節能、節水策略，藉由提升各項設備、製程的能源效率，裝設屋頂太陽能板、風車馬達，更換節能燈具等措施，全年節電量近520萬度，溫室氣體間接排放量下降5%。桃園玻纖廠榮獲經濟部工業局節能減碳績優廠商。台玻致力檢視產品價值鏈對於環境及社會所帶來之影響與衝擊，並與供應鏈夥伴共同邁向永續發展。

今年年初氣候變遷因應法通過，將2050淨零排放入法，展開碳費訂定作業，並預計2024年實施。台玻深知淨零、減碳是企業永續發展必經之路，碳盤查與揭露，也是未來台玻去碳轉型的首要策略，期以政府建置可與國際接軌之碳盤查標準、輔導措施、認證標準與管理機制，提供企業製程減碳、污染防治、綠色設施等環保投資的抵減租稅獎勵，以提高企業自願減量的誘因，協助企業積極低碳轉型，共創2050淨零碳排目標與願景。

感謝各位股東長期以來的支持，以及董事、經營團隊、全體同仁的努力。面對未來瞬息萬變的局勢，台玻創新研發，與時俱進，致力人才培育，朝穩健成長與ESG永續發展邁進。

林伯豐

2023.06.14

## Chairman's Message

### 2023 Operation Perspectives

In 2022, the continued military conflict between Russia and Ukraine, along with pandemic prevention measures, resulted in an unbalanced global supply chain and a sharp increase in the prices of energy and raw materials, leading to inflation problems. In 2023, the lower risk of COVID-19 severity contributed to a gradual return to normal life. However, as the Federal Reserve and other global central banks raise their interest rates actively to curb inflation, the global monetary policies have been tightened, further resulting in high depreciations of other currencies except for US dollars. Higher interest rate will dampen consumer spending, adding risks and challenges to the economic outlook of 2023.

Recently, the Ministry of Commerce of China announced its launch of a trade barrier investigation on Taiwan's trade restrictions against China. If the investigation confirms these restrictions, they may have an impact on Taiwan's exports and imports. It is recommended that the government respond to this by proposing a plan that includes providing electricity and land concessions, granting subsidies for talent cultivation, and reducing or exempting taxes such as profit-seeking enterprise income tax, business tax, and commodity tax.

Regarding the overall performance of Taiwan Glass in 2022, the demand for raw materials in the first half of the year contributed to a certain amount of profit. However, declining demand, inflation, and exchange losses throughout the year had a negative impact on the overall performance. The group's consolidated revenue for 2022 was NT\$43.9 billion, but unfortunately, the company experienced a net loss after tax of NT\$820 million. The following report provides a breakdown of the performance of each product.

In terms of flat glass, the growth of Taiwan market has slowed down, and related investment, construction and business exchanges have decreased compared to pre-pandemic levels. However, with COVID-19 border restrictions being lifted and related measures gradually opening up, it is expected that domestic demand, consumption, and industry expectations will improve. Taiwan Glass aims to strengthen its innovation and R&D capabilities, optimize the productivity and efficiency of its production lines and equipment, and utilize industry-university resources and foreign technical cooperation. Currently, double-silver Low-E glass has become the mainstream of the market. We are continuously developing new coating colors for tempered double-silver glass and expanding the types of coatings to meet market demand. As for eco-friendly and energy-saving glass, we are committed to researching and developing triple-silver Low-E glass to meet the higher energy-saving standards of exterior walls.

In 2022, China's dynamic zero-COVID policy had a significant impact on all industries, including a significant reduction in new construction projects. However, in 2023, the authorities have lifted restrictions on the real estate industry and are now providing more support to consumers and real estate developers. This is expected to boost domestic demand and help the economy recover. With post-pandemic business opportunities on the horizon, there is hope for a rebound in China's economy.

In fiberglass business, Taiwan Glass is dedicated to reducing costs and speeding up research & development to increase our product value. As for electronic-grade fiberglass fabric, we have successfully developed and supplied the ultra-thin fiberglass fabric #1010 in response to the market needs in the future. Also, we have successfully developed low-dielectric (Low DK, coefficient: 4.58/10GHz) fiberglass fabric for high-speed, high-frequency transmission and remote business, which has been certified and continuously adopted by international terminal manufacturers. For FRP, the new kiln in cooperation with Owens Corning of the United States has improved production capacity and increased efficiency, coupled with advanced fiberglass formulation and production technology to supply clients with more comprehensive, high-performance and eco-friendly products. We will re-evaluate the expansion of production lines once the fiberglass market recovers.

As for container, tableware, kitchenware glass and our private brand, we experienced a slight decrease in overseas shipments due to clients' inventory and high freight rates. To maintain profitability, we strategically increased unit prices and focused on increasing tenders in the domestic market.

In terms of Shihlien Chemical Industrial Jiangsu Co., Ltd. (SCJ, 43.99% of its shareholding held by Taiwan Glass) in 2022, the tight supply-demand balance in the market led to record-high prices of soda ash and ammonium chloride in the middle of the year, which had a positive impact on SCJ's annual operating performance. As a result, Shihlien China Holding Co., Ltd. reported a consolidated operating income of US\$610 million and a net profit of US\$105 million. The industry is expected to continue its boom and maintain its prosperity and profitability.

In terms of ESG, Taiwan Glass has implemented energy-saving resource management to save energy and water. Throughout the year, we have saved nearly 5.2 million kWh of electricity and reduced indirect greenhouse gas emissions by 5% by improving the energy efficiency of various equipment and processes, installing rooftop solar panels and windmill motors, and replacing inefficient lamps. Our fiberglass factory in Taoyuan was recognized as an "Excellent Manufacturer of Energy Conservation and Carbon Reduction" by the Bureau of Industry under the Ministry of Economic Affairs. Taiwan Glass is committed to examining the impacts and influences of our products' value chain on the environment and society and working with supply chain partners to move towards sustainability.

At the beginning of 2023, the Climate Change Response Act was passed, which includes a net-zero emissions target by 2050 and the implementation of a carbon pricing system expected in 2024. Taiwan Glass recognizes that achieving net zero and reducing carbon emissions are essential for enterprises to achieve sustainable development. Carbon inventory and disclosure are also key priorities for our decarbonization efforts in the future. We expect the government to establish carbon inventory standards, guidance, certification standards, and management mechanisms that align with international standards, and provide tax credits and incentives for environmental protection investments, such as carbon reduction in manufacturing processes, pollution prevention, and green facilities. These incentives can encourage companies to voluntarily reduce emissions and guide enterprises towards active low-carbon transformation, ultimately achieving the goal of net zero by 2050.

We would like to express our gratitude to all our stockholders for their long-term support, as well as to our directors, management team, and employees for their dedicated efforts. In the face of ever-changing circumstances, Taiwan Glass will continue to innovate in research and development, keeping pace with the times, and prioritize talent cultivation as we strive for steady growth and ESG development.

Lin, Por Fong

2023.06.14



台灣玻璃工業公司第 20 屆董事 / 第 3 屆審計委員 (2021-2024)  
TGI 20th Directors / 3rd 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		
董事 Directors	林瀚東 Lim, H T Since 2009	彭誠浩 Peng, C H Since 2018	徐莉玲 Hsu, L L Since 2015
	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	蔡增銘 Tsai, T M Since 2018	連勝武 Lien, S W Since 2021
獨立董事/審計委員 Independent Directors/ Audit Committe	林聖忠 Lin, S C Since 2021	林瑞岳 Lin, Z Y Since 2021	王瑜哲 Wang, Y C Since 2021

台灣玻璃工業公司第 20 屆董事 / 第 3 屆審計委員 (2021-2024)  
TGI 20th Directors / 3rd Audit Committee

			
林伯豐 Lin, P F	林伯實 Lin, P S	林伯淳 Lin, P C	
			
林瀚東 Lim, H T	彭誠浩 Peng, C H	徐莉玲 Hsu, L L	林嘉宏 Lin, C H
			
蘇育德 Su, Y T	林嘉佑 Lin, C Y	林嘉明 Lin, C M	蔡增銘 Tsai, T M
			
連勝武 Lien, S W	林聖忠 Lin, S C	林瑞岳 Lin, Z Y	王瑜哲 Wang, Y C

台灣經營團隊 Taiwan Management Team

董事長 Chairman	林伯豐 Lin, P F	大陸事業部 平板事業部 營運長 COO, China Prod./Flat	林嘉宏 Lin, C H
總經理 總裁 President & CEO	林伯實 Lin, P S	平板事業部營業副總 VGM, Flat Sales	陳紀澄 Chen, C Y
駐會董事 Executive Director	林伯淳 Lin, P C	彰濱廠副總 VGM,TC	周敬群 Chou, C C
纖維事業部營運長 COO, Fiber	蘇育德 Su, Y T	台中廠/平板研發部協理 AGM, TF/Flat Glass R&D	陳國明 Chen, K M
纖維事業部總經理 GM, Fiber	林嘉佑 Lin, C Y	鹿港平板廠協理 AGM, TF-4	石鎮界 Shih, C C
纖維事業部副總 VGM, Fiber	蔡維新 Tsai, W S	玻璃新材料部副總 VGM, New Glass Materials	趙宏榮 Chao, H J
鹿港廠副總 VGM, TL	劉敏雄 Liu, M H	容食事業部總經理 GM, Container & Glassware	謝進興 Hsieh, C H
鹿港廠廠長 Plant Dir., TL	紀錦水 Chi, C S	新竹廠副總 VGM, TS	吳蔚騰 Wu, W T
桃園廠副總 VGM, TT	陳慶良 Chen, C L	容器部內銷協理 AGM,Container Domestic Sales	曹志維 Tsao, C W
桃園廠廠長 Plant Dir., TT	余哲超 Yu, C C	容器部外銷協理 AGM,Container Export Sales	吳明德 Wu, M T
財務/管理本部總經理 GM, Finance/ Admin	林嘉明 Lin, C M	新竹廠生產協理 AGM, Prod., TS	沈賢輝 Shen, H H
管理本部副總 VGM, Admin.	洪有欽 Hung, Y C	車板本部總經理 GM, Autoglass	呂宗祥 Lu, T H
採購本部副總 VGM, Purchasing	蔡增銘 Tsai, T M	車板本部營業部協理 AGM, Autoglass Sales	林信宏 Lin, HH

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 總經理 GM	林嘉宏 Lin, C H 王鳳寶 Wang, F P		
台玻成都玻璃有限公司 CDG	董事長 Chairman 總經理 GM	林嘉宏 Lin, C H 姬文剛 Chi, W G	李廣玉 Li, K Y	
台玻咸陽玻璃有限公司 TXY	董事長 Chairman 總經理 GM	林嘉宏 Lin, C H 張政峰 Chang, C F		
台玻安徽玻璃有限公司 TAH	董事長 Chairman 總經理 GM	林嘉宏 Lin, C H 陳祺灝 Chen, C H		
台玻太倉工程玻璃有限公司 TTAR	董事長 Chairman	林嘉宏 Lin, C H		
台玻武漢工程玻璃有限公司 TWAR	董事長 Chairman	林嘉宏 Lin, C H		

大陸經營團隊 China Management Team

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	林伯豐 Lin, P F 蘇育德 Su, Y T 王明慶 Wang, M C	纖維事業部總經理 GM, Fiber 營業部副總 VGM, Sales	林嘉佑 Lin, C Y 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 副總 VGM	林伯豐 Lin, P F 蘇育德 Su, Y T 林雲炎 Lin, Y Y	纖維事業部總經理 GM, Fiber 營業部副總 VGM, Sales	林嘉佑 Lin, C Y 蔡維新 Tsai, W S
台嘉蚌埠玻璃纖維有限公司 TBF	董事長 Chairman 纖維事業部營運長 COO, Fiber 總經理 GM	林伯豐 Lin, P F 蘇育德 Su, Y T 蕭世欽 Hsiao, S C	纖維事業部總經理 GM, Fiber 營業部副總 VGM, 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 總經理 GM	林伯實 Lin, P S 宋成紅 Sung, C H		
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
台玻華南玻璃有限公司 HNG	董事長 Chairman 總經理 GM 節能玻璃部鍍膜副總 VGM, LE coating	林伯淳 Lin, P C 李天明 Li, T M 趙新臣 Chao, H C	鏡板部副總 VGM, Mirror glass	趙成家 Chao, C C
台玻天津玻璃有限公司 TJG	董事長 Chairman 節能玻璃部副總 VGM, LE glass	林伯淳 Lin, P C 趙新臣 Chao, H C	管理部/浮法玻璃部副總 VGM, Admin/Flat	侯琨玉 Hou, K Y

集團產能 Production Capacity

台玻集團各產品總產能  
Total Production Capacity of Each Product

產品 Products	台灣 Taiwan		大陸 China		合計 Total	
	窯爐座 Furnaces	噸 MT	窯爐座 Furnaces	噸 MT	窯爐座 Furnaces	噸 MT
浮式平板玻璃 Float Glass	2	340,000	11	2,670,580	13	3,010,580
玻璃纖維布 Fiberglass Fabric	1	20,000	5	104,000	6	124,000
玻璃纖維增強絲 Fiberglass Reinforced	1	80,000	-	-	1	80,000
容、廚器玻璃 Glass Container /Glassware	6	165,400	-	-	6	165,400
合 計 Total	10	605,400	16	2,774,580	26	3,379,980

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

產品 Products	台灣 Taiwan		大陸 China		合計 Total	
	生產線 Lines	千 M² Thousand M²	生產線 Lines	千 M² Thousand M²	生產線 Lines	千 M² Thousand M²
低輻射 Low-E 玻璃 Low-E Glass	1	4,000	8	38,000	9	42,000

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

產品 Products	台灣 Taiwan	
	產線 Lines	千台 Thousand Cars
汽車玻璃 Automotive Glass	1	300



## 產品介紹 Products

### 平板玻璃

平板玻璃為台玻核心產品，台灣及中國大陸為台玻平板玻璃生產製造的兩大區域。產品行銷台灣、中國、日本、韓國、東南亞、北美、中東、澳洲、歐洲、南非等世界各地區。

### 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；透過調拌適量高溫色料，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，創造更高價值感受。

#### 壓花玻璃

具有透光不透視之特性，亦可創造各種不同的模糊光影及陰影。

#### 低輻射玻璃 / 低輻射複層玻璃

低輻射玻璃具高可見光透過率及低紅外線透過，隔熱效果極佳，符合環保節能及綠建材、綠建築的需求。低輻射複層玻璃為目前隔熱性能最佳的玻璃，同時也提供良好的隔音性能。台玻生產的低輻射玻璃，輻射率可達最高級的0.02。

#### 反射玻璃

可降低太陽熱能直接穿透量，隔熱性能高，提供室內舒適感，亦能節省能源，並提供建築物多彩和諧的外觀。

#### 減反射玻璃

大幅降低玻璃可見光反射率並提升可見光透過率，可減少建築物外牆玻璃的光汙染，增加展覽空間玻璃的穿透影像清晰度並減少眩光造成的視覺干擾。

#### 強化玻璃

強度約為普通玻璃的3-5倍，當玻璃遭受外力破壞時會碎裂成豆粒大的顆粒，減少對人體的傷害，增加玻璃使用的安全性；強化玻璃有瞬間破裂的風險，應作熱浸處理(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，波紋較強化玻璃平整，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、阻隔紫外線、防止玻璃碎片飛散等特性，如使用有色膠合膜，可提升建築物外觀的美感，且可減輕熱能進入室內，節省空調能源，增加生活環境舒適度。台玻開發之高性能隔音膠合玻璃，除上述特點，提供更佳的中高頻的隔音效果，進一步提高隔音能力。

#### 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，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。顏色及圖案能提供客製化，創造建物獨特性及美感。

#### 彎曲玻璃 / 彎曲強化玻璃

增添建築物外觀的變化性，及室內隔間的多變性；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，更高的可見光及透過率，大量提升太陽熱能和用率，可使用在任何需要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、抗風化、抗沖擊等優異特點。

#### 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，鋁含量提升至

## 產品介紹 Products

4%，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44%；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、營建類、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强度高、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，經由高溫溶解抽取而成。生產單纖直徑G(9  $\mu$ m)、E(7  $\mu$ m)、D(5  $\mu$ m)及BC(4  $\mu$ m)全系列玻纖紗，品質精良。除可用於織造電子級玻纖布、低介電玻纖布作為印刷電路板(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

使用台玻自製的優質玻纖紗織造成不同厚度之電子級玻纖布和低介電玻纖布，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。應用範圍包含精密的行動裝置及5G高頻高速資料傳輸，品質符合嚴格標準，並已取得國際終端大廠認證並持續採用。

### 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℃，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 $\alpha$ -33之硼矽酸耐熱玻璃，瞬間溫差可達150℃，且耐酸鹼性與強度均較鈣玻璃佳，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。

#### 自有品牌

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，TG全系列產品以及TG包裝設計榮獲2021紅點設計大獎雙獎項，於60多國的眾多參賽者中脫穎而出，更於同年度參與日本Good Design設計獎，自5,835件作品中獲得BEST100殊榮。



## 產品介紹 Products

### 實聯化工江蘇有限公司

#### 純鹼

純鹼 ( $\text{Na}_2\text{CO}_3$ ) 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 ( $\text{NH}_4\text{Cl}$ ) 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。

#### 超純氮

超純氮( $\text{NH}_3$ )主要應用於新型光電子材料領域，是MOCVD技術製造GaN(氮化鎵)的重要材料，也是氮化矽( $\text{Si}_3\text{N}_4$ )的主要原材料，是生產超高級氮的原料氣。



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 the core product of TG. With production plants based in Taiwan and China, flat glass products are sold in Taiwan, China, Japan, Korea, South-East Asia, North America, Middle East, Australia, Europe, South Africa, and other regions of the world.

### 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 high-temperature 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 a sense of higher 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 Insulating Glass

Low-E glass offers high transparency, low infrared transmission and great thermal insulation that meet the demands of energy saving, green buildings and materials. Low-E insulating glass currently has the best thermal insulation performance, while also provides excellent sound insulation properties. The Low-E glass produced by Taiwan Glass has the highest class emissivity coefficient 0.02.

#### Reflective Glass

Reflective glass can reduce direct solar thermal penetration, provide high thermal insulation performance, offer indoor comfort, save energy, and create a colorful and harmonious building appearance.

#### Anti-Reflective Glass

Anti-Reflection Glass significantly reduces the visible light reflectivity of glass and increases the visible light transmittance, which can reduce the light pollution of building exterior glass, increase the glass clarity of penetrating images in exhibition room, and reduce visual interference caused by glare.

### Tempered Glass

Tempered glass is 3-5 times stronger than annealed glass. When broken, tempered glass would break into small fragments, which are less likely to cause injury and improves the safety of glass application. 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, provides better 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 have 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. Aluminum content increased to 4%, 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 44% 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 specific glass composition, melted in high temperature furnaces and drawn into filament under strict production control. TG produces good quality single filament with diameters ranging from G(9  $\mu$  m), E(7  $\mu$  m), D(5  $\mu$  m), to BC(4  $\mu$  m). Fiberglass yarn can be woven into E-glass fabric and Low Dk fabric for use in printed circuit boards (PCB). It is also widely used for strengthening and reinforcement of composites material.

#### Fiberglass Fabric

TG utilizes our own fiberglass yarn to weave a series of E-glass fabric and Low Dk fabric with different thickness, supplying domestic and overseas Copper Clad Laminate (CCL) manufacturers with materials for prepreg and laminate, for use in PCBs. Applications include sophisticated mobile devices, 5G high speed and high frequency data transfer, etc. Meeting high quality standards, TG's products have been certified and continuously adopted by worldwide end users.

## 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  $\alpha$ -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, TG will market its private brand around the world. TG Tableware series and TG Packaging had both been awarded the 2021 Red Dot Design Award, standing out among competitors from 60 plus countries around the world; in the same year, TG had also been awarded the Good Design Award, Receiving the Best 100 prize among 5,835 applications.

### Soda Ash & Ammonium Chloride

#### SHIHLIEN CHEMICAL INDUSTRIAL JIANGSU CO., LTD.

#### Soda Ash

Soda ash (Na<sub>2</sub>CO<sub>3</sub>) 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<sub>4</sub>Cl) 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.

#### Ultra Pure Ammonia

Ultra-pure ammonia (NH<sub>3</sub>) is mainly used in the field of novel optoelectronic materials and serves as an important material during GaN (gallium nitride) manufacturing by MOCVD technology. It is also the primary raw material for silicon nitride (Si<sub>3</sub>N<sub>4</sub>) and raw gas for the production of ultra-high purity nitrogen.



產品介紹 Products

低輻射玻璃 (Low-E玻璃)

台玻所生產的高性能低輻射(Low-E)玻璃，以真空澱鍍的方式於玻璃表面鍍上單銀、雙銀或三銀等多層不同材質鍍膜，藉以達到現代建築玻璃高透光率、高熱阻隔、低反射率等環保節能及綠建築設計需求。使用Low-E複層玻璃可有效的阻斷熱的三個傳遞路徑(輻射、傳導、對流)，為建築物提供最好的節能減碳效益及最佳的冬暖夏涼環境。

具有同樣可見光透過率的三種玻璃之總熱透過率：

三銀玻璃 < 雙銀玻璃 < 單銀玻璃

三銀低輻射玻璃 (PTE, TTE)

具有世界一流的光熱選擇性，

提供了自然光穿透與太陽熱能控制的最佳比率，節能玻璃的最佳選擇。

雙銀低輻射玻璃 (PDE, TDE)

適合高隔熱性能的需求，

卓越的自然光穿透、太陽熱能阻擋及室外熱能隔絕，為各種節能玻璃的理想選擇。

單銀低輻射玻璃 (PLE)

提供有效的陽光熱能阻擋，

適合各種建築靈活性設計且具有良好的隔熱水平。

"節能"低輻射玻璃 (JN)

擁有特殊的低輻射隔熱膜層，

暴露於空氣中有極佳的穩定性，可用於單片、複層、膠合等各式玻璃，進一步提升玻璃隔熱性能。

Low-Emissivity Glass (Low-E glass)

The high performance low-emissivity (Low-E) glass produced by Taiwan Glass is coated, by vacuum sputtering, with multi layers of different materials such as single silver double silver or triple silver on the glass surface. This product offers high transparency, good thermal insulating, and low light reflectance, the energy-saving properties required by modern architectural glass and green building design. Low-E insulating glass can effectively block three heat transfer paths (emission, conduction, convection), providing the best energy-saving and carbon-reduction benefits to buildings and indoor comfort all year round.

Total heat transmission comparison of three different Low-E coatings based on same visible light transmittance:  
Triple Silver Glass < Double Silver Glass < Single Silver Glass

Triple Silver Low Emissivity Glass (PTE, TTE)

World-class light to solar gain option  
Providing the best ratio of natural light transmittance and solar thermal control as the best choice for energy saving glass.

Double silver low-e glass (PDE, TDE)

Suitable for high thermal insulation requirements.  
Offering excellent natural light transmittance, solar heat blocking and outdoor thermal isolation as an ideal choice for various energy saving glass.

Single Silver Low Emissivity Glass (PLE)

Effective solar heat blocking.  
Suitable for various flexible building designs with good levels of thermal insulation.

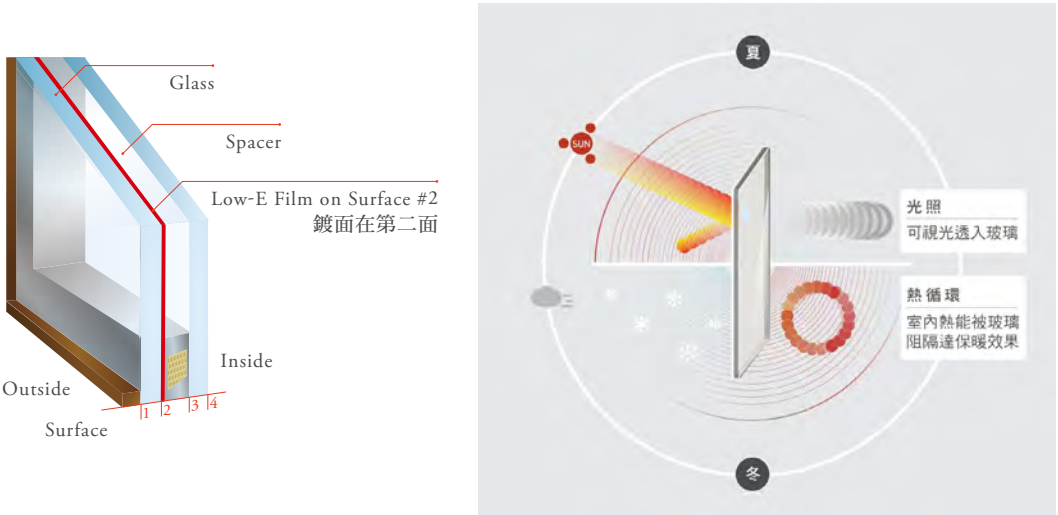
"Jie Neng" Low-E glass (JN)

With a special low-emissivity thermal insulation coating layer.  
Excellent stability, even exposed to air, to be used for various types of the glass such as single pane, insulating glass, and laminated glass to further improve glass thermal insulation performance.

產品介紹 Products

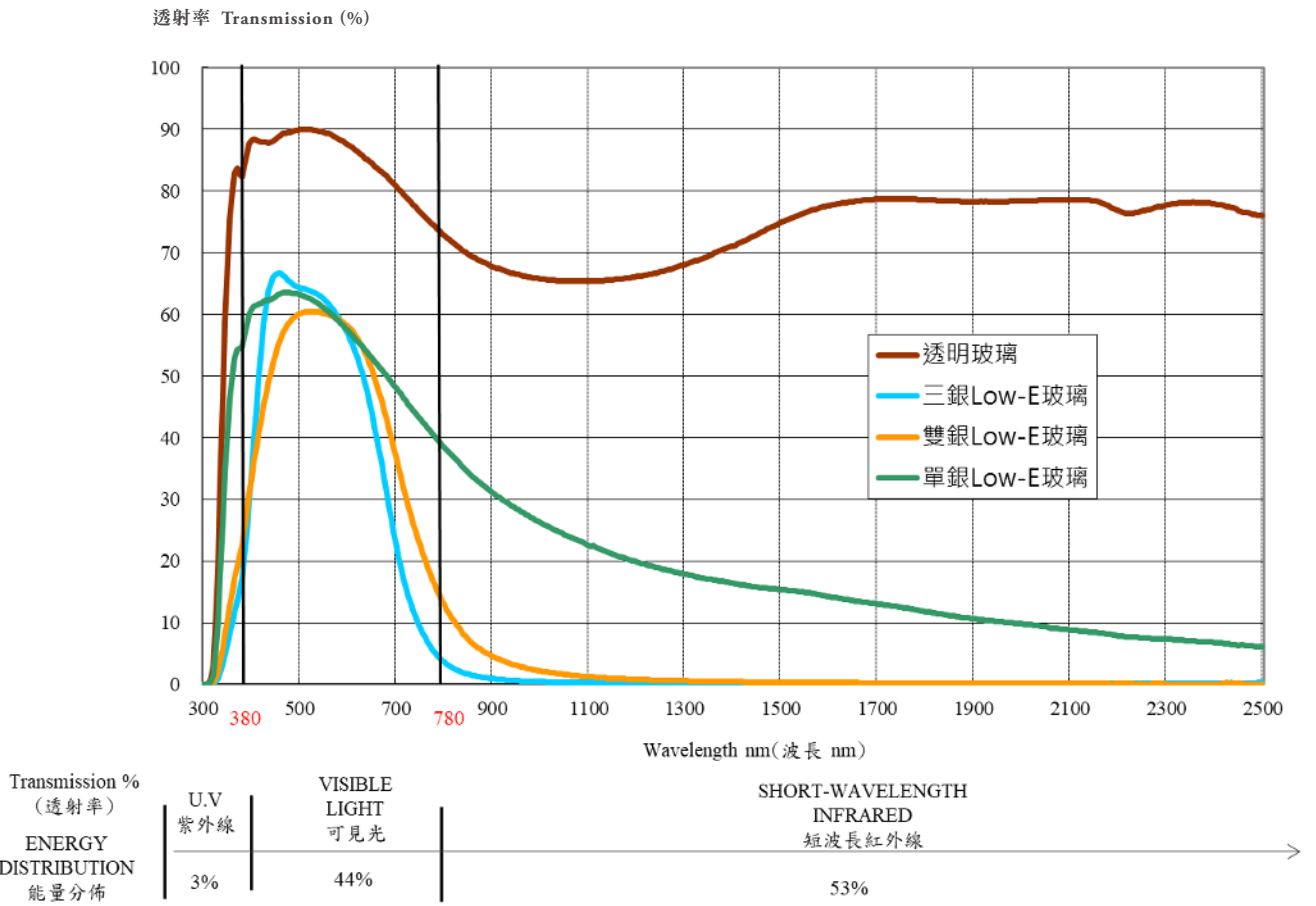
低輻射中空玻璃構造圖

Construction of Low-E Insulating Glass



不同鍍膜在太陽光譜中透射率的比較

Spectrum for Different Coating Glass Transmission



## 產品介紹 Products

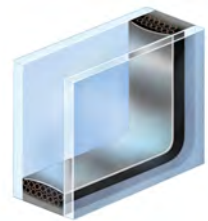
### TPS玻璃

#### 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

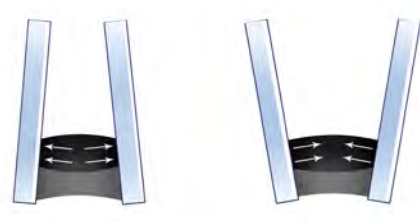
1. TPS: Thermo Plastic Spacer / 熱塑性隔條
2. TPS熱塑性隔條不含金屬嵌入物
3. 提高玻璃邊緣的熱阻隔性
4. 溫度均勻分布在整個玻璃表面
5. 有效降低凝露的產生
6. 彈性邊緣密封
7. 使玻璃設計變得更為靈活和方便
8. 完美的匹配玻璃裝配行業
9. 高的質量控制＝更長的使用壽命



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.

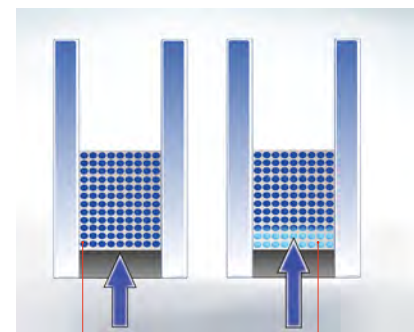


良好的力學性能  
Better mechanical performance

### 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

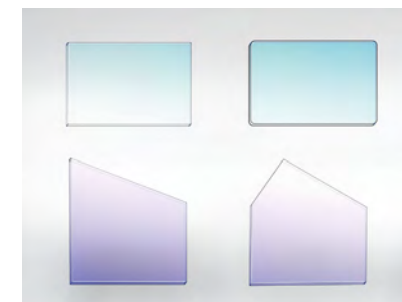
## 產品介紹 Products

### 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



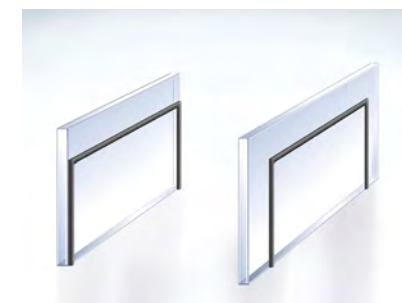
1. 生產形狀靈活多樣  
Dynamic and various shapes



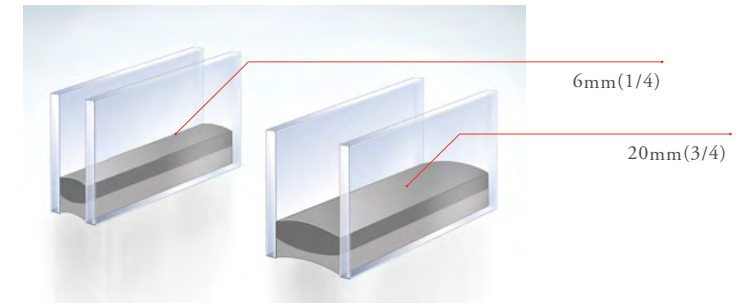
2. 鏤空的中空玻璃系統  
Hollow-out insulating glass system



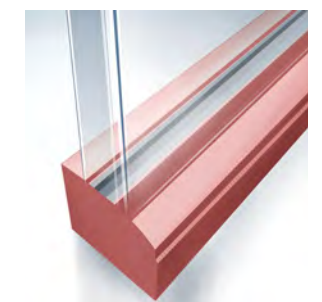
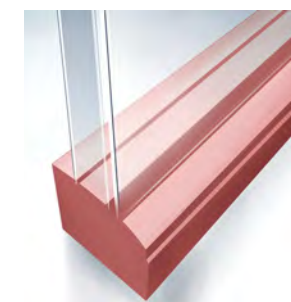
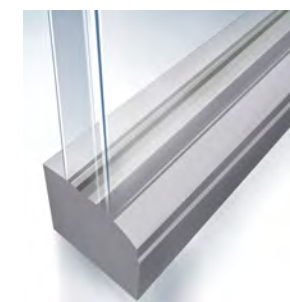
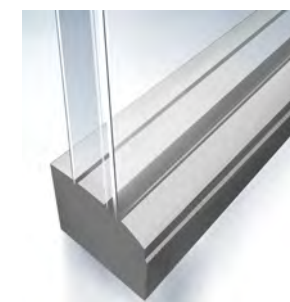
3. 內飾條協調地裝在熱塑性隔條上  
Moulding / decoration strip works perfectly with Thermo Plastic Spacer



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



## Low-E 玻璃應用 Applications



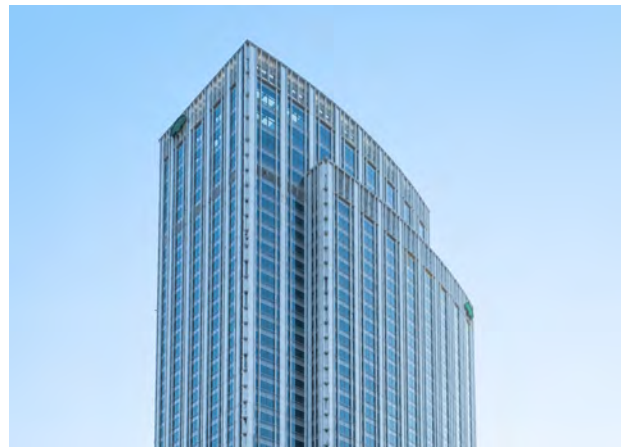
聯合大於大樓  
UDN Group Office and Residential Complex  
Low-E(TDE47)膠合複層玻璃



潤泰敦峰  
The Silk Court  
Low-E(PLE40)膠合複層玻璃



內科之心宏匯瑞光廣場  
Honhui Sparkle Square  
Low-E(TDE35)複層玻璃



國泰置地廣場  
Cathay Landmark  
Low-E (TDE44)複層玻璃

## Low-E 玻璃應用 Applications



高雄海洋文化及流行音樂中心  
Kaohsiung Music Center  
Low-E(TDE78)複層玻璃



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



台北南港國家會展中心  
Taipei Nangang Exhibition Center  
Low-E(TDE78)複層玻璃



中信金控台中金融大樓  
CTBC Taichung HQ  
Low-E(TTE60A/TSE45)網印複層玻璃



元利信義聯勤  
One Park Taipei  
Low-E(TDE78)膠合複層玻璃



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



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 Taixex		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	0.50	—
2018	11253	9478	23.60	12.75	0.30	—
2019	12122	10875	12.15	11.20	—	—
2020	14760	8523	19.70	6.46	0.50	—
2021	18291	14720	47.90	15.80	1.82	—
2022	18619	12629	27.00	16.45	—	—
TOTAL	—	—	—	—	26.45	45.67

主要股東(2023-04)	
Major Shareholders	(%)
台豐投資股份有限公司	14.44
Tai Hong Investment Corp.	
合和投資股份有限公司	13.84
Ho Ho Investment Corp.	
台建投資股份有限公司	8.56
Tai Chien Investment Corp.	
台玉投資股份有限公司	8.44
Tai Yu Investment Corp.	
台成投資股份有限公司	7.84
Tai Cheng Investment Corp.	
台嘉投資股份有限公司	5.42
Tai Chia Investment Corp.	
林建成嘉記股份有限公司	4.71
Lim Kien Seng Kah Kih Co. Ltd	
元大台灣高股息基金專戶	4.36
Yuanta Taiwan Dividend Plus ETF	
台玻職工退休基金管委會	1.35
TGI Retirement Fund.	
S.E.A	0.86
Total	69.82

股東總人數	82, 804人
Total Shareholders	
總成交量	1,836,568,816 股
Transaction Volume	
員工總人數(2023-04)	台灣 4,238人
Employees	大陸 7,640人
	合計 11,878人

決算日期：2022年12月31日  
Fiscal Year Ends on December 31,2022  
股東常會：2023年6月14日  
General Shareholders' Meeting: June 14,2023  
公 告：公開資訊觀測站  
Public Notice: <http://mops.twse.com.tw/mops/web/index>  
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.



新竹廠動土典禮  
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.



1988

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.

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 25<sup>th</sup> 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 30<sup>th</sup> Anniversary



青島廠建廠 QFG Construction



集團沿革 Taiwan Glass Group History

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



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

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

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

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

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

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 40<sup>th</sup> Anniversary



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

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

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

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

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

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



◆ 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

集團沿革 Taiwan Glass Group History

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  
50<sup>th</sup> Anniversary of TG



◆



◆

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

◆

2015

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

2019

台嘉蚌埠玻璃纖維公司投產  
Taichia Bengbu Glass Fiber Co., Ltd.  
Production



◆

林伯豐董事長榮獲日本政府頒贈  
「旭日重光章」  
Chairman Lin Por-Fong Conferred with  
The Order of the Rising Sun by the Japanese  
Government



◆

2020

TG 品牌旗艦店開幕  
TG Flagship store opening



2023

TAIWANGLASS

