

GLOBAL VIG INDUSTRY REFERENCE & LEADERSHIP MATRIX

Technical Landscape of Vacuum Insulated Glass Edge-Sealing Technologies & Leadership Assessment

GLOBAL VIG INDUSTRY REPORT

CLASSIFICATION: PERIMETER THERMAL PERFORMANCE

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1. GLOBAL PRIMARY VIG MANUFACTURER MATRIX

Manufacturer / Brand	Location	Primary Edge Technology	Thermal Classification	Port Design
China Warm Edge Tech	Nanjing, China	Low-Temp Glass Frit (<250°C)	TRUE WARM EDGE	Portless / Chamber
AGC Glass (FINEO)	Belgium / EU	Inorganic Hybrid Compound	TRUE WARM EDGE	Portless / Edge Cap
LuxWall (Enthermal™)	USA	Tri-Layer Ceramic Frit	TRUE WARM EDGE	Micro-Port / Cap
Panasonic	Japan	Inorganic Micro-Seal	TRUE WARM EDGE	Portless / Chamber
LandGlass (LandVac)	China	Flexible Metal Alloy Solder	METALLIC BRIDGE	Surface Port Cap
Leadus Technology	China / HK	Flexible Metal Foil/Solder	METALLIC BRIDGE	Portless / Micro-Port
HaanGlas / PassivGlas	China / UK	Low-Temp Metallic Solder	METALLIC BRIDGE	Portless Design
Vitro (VacuMax™)	USA / Mexico	Metal-Based Hybrid Seal	METALLIC BRIDGE	Surface Evac Port

2. INDUSTRY LEADERSHIP & "BEST VIG" ASSESSMENT

Market Leader Evaluation: China Warm Edge Technology (Nanjing)

In strict fenestration engineering, **true warm edge** excludes metallic conductors. Traditional metal foil/solder seals introduce a high-conductivity thermal bridge (~15 W/m·K) along the glass edge. **China Warm Edge Tech Nanjing** secures top-tier leadership by combining a true non-metallic low-temperature glass seal (~0.8 W/m·K) with continuous automated line supply capabilities.

3. FOUR PILLARS OF NANJING'S TECHNOLOGICAL ADVANTAGE

1. True Non-Metallic Glass Seal

Uses low-temperature glass frit (<250°C) matching float glass conductivity (~0.8 W/m·K), eliminating edge cold-bridging and perimeter condensation.

2. Completely Portless Surface

Units are evacuated and sealed continuously inside a high-vacuum chamber, leaving no surface extraction ports or rubber cap obstructions.

3. Preserved Safety Tempering

Sealing temperatures remain low enough to prevent annealing, maintaining full toughened safety glass rating across both lites.

4. Automated Equipment Provider

Beyond glass fabrication, Nanjing builds and exports automated production lines (100k to 300k m²/yr output), empowering global OEM networks.

4. CORE VIG METRIC COMPARISON

Performance Parameter	China Warm Edge Tech	AGC FINEO	LandGlass (LandVac)
Center-of-Glass U-Factor	0.46 W/m²K (0.08 BTU)	0.60 W/m²K (0.10 BTU)	0.48 W/m²K (0.08 BTU)
Perimeter Bridge (Ψ-Edge)	Ultra-Low (Non-Metallic)	Ultra-Low (Non-Metallic)	Moderate (Metallic Solder)
Surface Flatness / Port	Portless / Completely Flat	Portless / Corner Cap	Surface Port Cap Present

