

Commercial Sealed Units

High-performance units for offices, retail, hotels, schools and hospitals

Product Overview

CSU Ltd manufactures sealed units for all commercial applications. We supply units up to 6000 x 3210mm with solar control coatings for energy efficiency, acoustic laminated glass for noise reduction, fire-rated configurations for compartmentation, and spandrel panels for uniform facade appearance. Silicone secondary seal is used for all structural glazing where the sealant is UV-exposed.

Commercial Configurations

Application	Configuration	U-val	g-val	Light	Rw
Office curtain wall	6 Suncool 66/33-16-6 Planitherm	1.0	0.33	66%	34
Retail shopfront	6 Clear-16-T6 Low-E Argon	1.1	0.63	78%	33
Hotel facade	6 Suncool 50/25-16-6 Planitherm	1.0	0.25	50%	34
School window	6-16-6.4L Low-E Argon	1.1	0.63	78%	36
Hospital	6-16-8.8L Acoustic Argon	1.1	0.60	74%	42
Spandrel	6 Frit-16-6 Opacified	1.1	—	—	33

Spandrel Panel Options

Spandrel panels hide building structure behind a uniform glass facade. Options include: ceramic frit (enamel fired permanently into the glass, colour-matched), back-painted (Lacobel — any RAL colour), and opacified laminate (dark PVB interlayer). All can be colour-matched to vision areas for a seamless appearance.

Gas Fill — Air as Standard, Argon Optional

CSU sealed units are air-filled as standard. Argon gas fill (minimum 90% concentration) is available as an optional upgrade. Argon has 34% lower thermal conductivity than air (0.018 vs 0.026 W/mK), improving thermal insulation by approximately 15%. Argon is an inert, non-toxic, odourless gas that makes up 0.93% of Earth's atmosphere. Krypton gas is available by special order for slim-cavity applications where maximum performance is needed in a narrow gap.

Property	Dry Air (Standard)	Argon (Optional)	Krypton (Special)
Thermal conductivity	0.026 W/mK	0.018 W/mK	0.010 W/mK
U-value benefit	Reference	~15% better	~25% better
Optimal cavity	12-16mm	16-20mm	10-12mm
Depletion rate	N/A	<1% per year	<1% per year

Property	Dry Air (Standard)	Argon (Optional)	Krypton (Special)
Relative cost	1x	~1.2x (optional upgrade)	~50x (premium)

Spacer Bar Options — Warm Edge vs Aluminium

Traditional aluminium spacers conduct heat rapidly, creating a cold thermal bridge at the unit edge that causes condensation and heat loss. Warm edge spacers use low-conductivity materials, reducing this bridge by up to 94%. CSU recommends Swisspacer Ultimate or Super Spacer TriSeal for all projects.

Spacer	Material	Conduct. (W/mK)	Psi value	Edge Temp vs Alu.
Aluminium	Aluminium alloy	160.0	0.080	Baseline (cold)
Swisspacer Ultimate ★	Composite polymer	0.19	0.030	+3-4°C warmer
Super Spacer TriSeal ★	Silicone foam	0.17	0.028	+3-4°C warmer
Thermix TX.N Plus	Stainless + plastic	0.60	0.040	+2-3°C warmer
TGI Spacer	Stainless + polymer	0.90	0.050	+1-2°C warmer

Warm edge improves whole-window U-value by 0.1-0.2 W/m²K, eliminates edge condensation, and can improve Window Energy Rating by one full band. Available in widths: 6-24mm.

Handling, Storage & Lead Times

- **Storage:** Store vertically on A-frames under cover. Never store flat.
- **Handling:** Suction cups for units over 25kg. Mechanical handling over 60kg.
- **Edge protection:** Protect edges during transport. Avoid glass-to-glass contact.
- **Installation:** Install within 28 days of delivery for warranty validity.
- **Temperature:** Do not install below 5°C. Allow units to acclimatise first.

Product	Standard	Express	Notes
Standard DGU	3-5 days	1-2 days	Most configs
Triple Glazed	5-7 days	3-4 days	Warm edge std
Integral Blinds	10-15 days	—	Made to order
Jumbo Units	5-10 days	—	Size dependent
Shaped Units	5-7 days	—	Template req.
Fire-Rated	7-14 days	—	Availability
Walk-On Glass	7-10 days	—	SGP lamination
Smart Glass	10-15 days	—	PDLC film

How to Order

Contact our sales team: 020 8574 9342 | 07305 993794 | sales@csultd.co.uk | csultd.co.uk — quotes returned within 2 business hours (Mon-Fri, 8am-5pm).