Technical White Paper
KoolShade® and Compliance with

Gateway 2

Regulations:
Enabling Safer, More Efficient Construction

Koolshade® and Compliance with Gateway 2 Regulations: Enabling Safer, More Efficient Construction

1. Introduction

Gateway 2 regulations under the **UK Building Safety Act 2022** mark a critical checkpoint for developers of high-risk buildings (HRBs). These regulations impose stringent **fire safety, energy efficiency, and overheating mitigation** standards that must be met before construction begins.

Koolshade®, a high-performance **external solar shading system**, plays a pivotal role in ensuring compliance with Gateway 2 while offering additional architectural, thermal, and safety advantages. This white paper explores how KoolShade® facilitates regulatory adherence and enhances building performance, safety, and sustainability.

2. Understanding Gateway 2 Regulations

Gateway 2 is a fundamental stage in the **Building Safety Regulator's (BSR)** approval process. It ensures that:

- **Building designs meet safety standards before construction.**

- **Fire-resistant materials are specified for external elements** in buildings over **18 metres or with seven or more stories.**

- **Overheating risks are managed effectively** to prevent adverse health effects in occupants.

- **Comprehensive documentation is provided**, including fire risk assessments, material specifications, and compliance plans.

This means that all external façade elements, including **solar shading systems**, must align with:

- **Approved Document B (Fire Safety)** – which mandates **non-combustible** external wall materials.

- **Approved Document O (Overheating Mitigation)** – which requires **passive design** solutions to limit solar gains.

- **Energy Efficiency and Sustainability Targets** – which advocate for reduced **air conditioning reliance and carbon footprint.**

3. KoolShade®: A Compliant Solar Shading Solution

Koolshade is a **micro-louver** solar shading system engineered to provide **fire-safe, thermally efficient,** and **architecturally flexible** solutions. It enables full compliance with **Gateway 2** through its advanced material composition and thermal performance.

3.1 Fire Safety Compliance

The **UK Government's combustible material ban** in external facades necessitates shading systems to meet **strict fire classifications.** KoolShade® is designed to conform to:

✅ **Non-combustible Material Standards:** KoolShade® is manufactured using materials classified as **A2-s1, d0**, ensuring it meets the **highest fire safety ratings**.

✅ **Compliant with Approved Document B:** Unlike **polycarbonate or PVC shading systems,** which are restricted, KoolShade®'s construction satisfies regulatory demands, making it a safe choice for **high-rise developments.**

✅ **Minimal Fire Load Contribution:** KoolShade® acts as a **passive shading system** that does not exacerbate fire spread, making it ideal for compliance-driven construction.

3.2 Overheating Prevention

With **Approved Document O** prioritizing passive overheating mitigation strategies, KoolShade® significantly contributes by:

✅ **Reducing Solar Heat Gain:** KoolShade®'s micro-louver design limits direct solar exposure, preventing internal temperatures from exceeding regulatory limits.

✅ **Maintaining Adequate Daylight Levels:** Unlike traditional shading methods, KoolShade® **blocks excess solar heat while allowing natural light** to penetrate interior spaces.

✅ **Enhancing Ventilation Strategies:** KoolShade® can be integrated with **natural ventilation designs,** further reducing dependency on mechanical cooling.

3.3 Supporting Energy Efficiency & Sustainability Goals

Energy conservation is a **key pillar** of modern building regulations, and KoolShade® actively contributes to compliance through:

✅ **Reducing Air Conditioning Demand:** By **minimizing indoor heat build-up,** buildings require **less cooling**, leading to substantial **energy savings.**

✅ **Lowering Carbon Footprint:** Passive cooling **reduces CO_2 emissions** associated with mechanical ventilation and air conditioning systems.

✅ **Extending HVAC Equipment Lifespan:** With less demand on cooling units, wear-and-tear is minimized, leading to **long-term cost savings.**

4. Additional Benefits of KoolShade®

Beyond compliance, KoolShade® delivers a range of advantages that **enhance both the functionality and aesthetics** of a building.

4.1 Architectural Flexibility & Aesthetic Appeal

KKoolShade® is **versatile** and can be incorporated into various **architectural styles** without compromising design intent.

✅ **Customizable Finishes:** Available in a range of **colours, coatings, and mounting options**, it integrates seamlessly with **modern and traditional facades**.

✅ **Preserving External Views:** The micro-louver system provides **uninterrupted outdoor visibility,** making it an ideal shading solution for **commercial and residential buildings** alike.

✅ **Enhanced Privacy Features:** KoolShade® improves **daylight control** while preventing external visibility into private spaces.

4.2 Durability & Low Maintenance

KoolShade® is **engineered for longevity**, ensuring minimal operational costs for owners.

✅ **Weather-Resistant Materials:** The materials used are **corrosion-resistant**, making them ideal for **urban and coastal environments.**

✅ **Minimal Upkeep Requirements:** Unlike fabric-based shading systems, KoolShade® requires **no frequent cleaning or replacement**, reducing maintenance costs.

4.3 Improved Occupant Comfort & Wellbeing

✅ **Glare Reduction:** KoolShade® prevents **excessive glare,** improving indoor comfort, particularly in **office and residential environments.**

✅ **Health & Productivity Benefits:** By maintaining a stable indoor temperature, KoolShade® promotes **better sleep, work productivity, and overall well-being.**

✅ **Acoustic Benefits:** KoolShade® can contribute to **noise reduction** in **high-density urban areas,** improving **occupant satisfaction.**

5. Facilitating Construction Projects with KoolShade®

Developers and architects choosing KoolShade® benefit from a streamlined compliance process. Here's how KoolShade® facilitates construction approvals:

5.1 Documentation & Certification Support

KoolShade® provides all required **fire resistance certifications** and **thermal performance reports,** making Gateway 2 approval smoother.

✅ **Pre-certified Fire Testing Reports** for easy regulatory submission.

✅ **Thermal Performance Data** to satisfy overheating mitigation standards.

✅ **Material Composition Documentation** to ensure non-combustibility compliance.

5.2 Seamless Integration with Building Systems

✅ **Can be Retrofitted or Installed in New Builds** – allowing flexibility in **project timelines**.

✅ **Works with Various Cladding Systems** – ensuring compatibility with modern **modular and prefabricated designs.**

5.3 Cost-Effectiveness & Return on Investment

✅ **Lower Construction Costs** by reducing the need for **high-performance glazing.**

✅ I**mproved Long-Term Building Value** with **enhanced energy efficiency** and **compliance assurance.**

6. Conclusion

KoolShade® is not just a **high-performance solar shading system** – it is a **compliance enabler** that aligns seamlessly with **Gateway 2 regulations**, ensuring:

- **Fire Safety** through **non-combustible materials.**

- **Overheating Mitigation** via **passive solar shading.**

- **Energy Efficiency** with **lower cooling demands.**

- **Enhanced Architectural Appeal** and **long-term durability.**

For developers navigating **Gateway 2 approvals,** KoolShade® provides a **certified, compliant, and highly efficient shading solution** that enhances both **safety and sustainability.**

 Get in touch today to learn how KoolShade® can streamline your Gateway 2 compliance journey!

Koolshade® 0239 245 6333

From outside the UK, call +44 (0)239 245 6333

info@smartlouvre.com

18 The Tanneries
Brockhampton Lane
Havant
Hampshire
PO9 1JB
United Kingdom