This document highlights the sustainability of Seves Glass Block products, including energy efficiency, durability, recyclability, self-cleaning, solar reflectivity, fire resistance, and soundproofing, in alignment with LEED v4 and other sustainability standards. It serves as a proprietary guide, offering recommendations for specification language applicable to Seves Glass Block products.

While not a pre-written master specification, this guide provides sustainability language and information that can be reviewed and adapted to meet specific project requirements.

About Us

Seves Glass Block Inc. is the North American division of the world's leading manufacturer of glass block and glass brick for architectural and interior design. We offer the most comprehensive collection of glass block in the industry. With the goal of maximizing the potential of glass block by transforming them from a marginal traditional construction component to an artistic expression of light and space, we work closely with architects and designers to create unique glass block that meets specific aesthetic requirements. Put your signature on your glass block and give shape to your creativity with Seves Glass Block.

SECTION 04 23 00 – GLASS UNIT MASONRY
PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Requirements and information for Seves Glass Block products for interior and exterior applications, emphasizing sustainability features and contributions to (**LEED) (Sustainability)** certification.

1.2 REFERENCE STANDARDS

A. ASTM C1036 – Standard Specification for Flat Glass

B. ASTM C1172 – Standard Specification for Laminated Architectural Glass

C. USGBC LEED v4.1 – Leadership in Energy and Environmental Design: Reference for sustainability documentation, including recycled content verification, Environmental Product Declaration (EPD), and manufacturer's sustainability reports, to support applicable LEED credits.

D. ISO 14001 – Environmental Management System: Reference for manufacturer's environmental management practices aligned with the standard's principles.

E. Cradle to Cradle (C2C) – Product Design Framework: Reference for manufacturer's sustainability practices aligned with C2C principles for material health, circularity, and environmental responsibility.

1.3 SUBMITTALS

A. Product Data: Provide Manufacturer's literature highlighting sustainability features and **(LEED) (Sustainability)** contributions.

B. Shop Drawings: Detailed installation drawings and dimensions.

C. Samples: Representative samples of Seves Glass Block units.

D. Sustainability Documentation:

1. Recycled content verification.
2. Environmental Product Declaration (EPD).
3. Manufacturer's sustainability reports.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Products meeting sustainability criteria.

B. Installer Qualifications: Contractor with at least 5 years documented installation experience.

C. Mock-Up: Construct mock-up of at least 10 square feet to demonstrate aesthetics and workmanship.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original recyclable packaging.

B. Store materials in a dry, protected area.

C. Handle materials to prevent damage to edges and surfaces.

1.6 WARRANTY

A. Manufacturer's standard warranty covering defects in materials, workmanship, and sustainability for a period of five years.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Acceptable Manufacturer: Seves Glass Block; www.sevesglassblockinc.com; (877) 738-3711.

2.2 MATERIALS

A. Glass Block Types:

1. Composition: Made from sand and limestone; 100% recyclable.
2. Standard Clear Glass Blocks
3. Low-E Coated Glass Blocks
4. Recycled Glass Blocks (with up to 30percent post-industrial content)

B. Mortar and Sealants:

1. Low-VOC, non-toxic grout and adhesives
2. LEED-compliant mortar systems

2.3 PERFORMANCE REQUIREMENTS

A. Solar Heat Gain Coefficient (SHGC): ≤ 0.40 (for energy efficiency compliance)

B. Visible Light Transmittance (VLT): ≥ 70% (for daylighting optimization)

C. U-Value: ≤ 0.50 (to enhance thermal insulation)

D. Fire Resistance: Minimum one-hour fire-rated assemblies available.

E. Self-Cleaning: Hydrophilic surface treatment for reduced maintenance.

F. UV Protection: Solar-reflecting blocks available for enhanced thermal control.

2.4 SUSTAINABILITY CHARACTERISTICS

A. Environmental Certification:

1. Cradle to Cradle (C2C) Silver Certification: Reference for manufacturer's sustainability practices aligned with C2C principles for material health, circularity, and environmental responsibility.

2. LEED v4.1 Credits Contribution: MRc4 (Recycled Content), IEQc4.1 (Low-Emitting Materials), and EA Credit 1 (Optimized Energy Performance): Reference for sustainability documentation, including recycled content verification,

3. Environmental Product Declaration (EPD), and manufacturer's sustainability reports, to support applicable LEED credits.

4. ISO 14001: Environmental Management System: Reference for manufacturer's environmental management practices aligned with the standard's principles.

Glass blocks for construction produced by Seves Glass Block are made from raw materials for the production of soda-lime glass and recycled glass.

B. Recycled Content:

1. Pre-consumer Recycled Content: Glass block units shall contain a minimum of 20.3 percent pre-consumer recycled content by weight, consisting of cullet (reclaimed glass) generated during the manufacturing process, in accordance with the definitions provided in ISO 14021. Recycled content shall be documented by the manufacturer and may contribute to applicable sustainable design rating systems.

2. Post-consumer Recycled Content: Glass block units shall contain a minimum of 7.5 percent post-consumer recycled content by weight, consisting of cullet (reclaimed glass) sourced from materials that have been used by the end user and subsequently recovered through recycling. Recycled content shall comply with the definitions in ISO 14021 and be documented by the manufacturer for potential contribution to sustainable design rating systems.

C. Embodied Carbon Analysis:

Seves Glass Block products are manufactured using processes designed to reduce environmental impact, including the use of high-recycled content glass and energy recovery systems. These practices result in up to 58% lower embodied carbon compared to traditional glazing solutions. When specifying for sustainability goals or low-carbon building certifications, consider the embodied carbon contribution of glazing systems.

1. Provide glass block units manufactured with high-recycled content and produced using energy-efficient methods designed to reduce embodied carbon.

2. Product shall have documented environmental impact data available in the form of an Environmental Product Declaration (EPD) or equivalent demonstrating reduced global warming potential (GWP) relative to conventional glazing systems.

D. Required Product Characteristics:

Seves Glass Block's proprietary "Energy Saving" technology features the use of low-emissivity glass and argon gas to enhance thermal performance. This system is designed to support energy conservation efforts and environmental performance goals.

1. Energy Efficiency: Provide glass block units incorporating low-emissivity (low-E) glass plates and hermetically sealed cavities filled with pressure-regulated argon gas. Assemblies shall achieve a maximum thermal transmittal (U-value) of .19BTU/hr·ft²·°F in accordance with applicable performance standards.

Assemblies require minimal maintenance and provide long-term durability under typical interior and exterior environmental conditions.

2. Durability and Maintenance: Glass block units shall be nonporous and inherently resistant to moisture intrusion, fungal growth, and ultraviolet (UV) degradation.

Seves glass block products are available with self-cleaning surface treatments that utilize hydrophilic properties to reduce the accumulation of organic dirt. This feature can help minimize routine maintenance and support long-term aesthetic performance.

3. Self-Cleaning: Provide Seves glass block units with factory-applied self-cleaning coating incorporating hydrophilic properties. Coating shall promote the breakdown of organic contaminants and facilitate removal through natural rainfall, contributing to reduced cleaning frequency and sustained visual clarity.

4. Solar Reflectance: Provide Seves glass block units manufactured with integrated solar-reflective films or coatings designed to reduce solar heat gain and limit ultraviolet (UV) radiation transmission. Assemblies shall contribute to improved indoor thermal comfort and reduced cooling energy demand by mitigating solar overheating.

Seves Glass Block offers fire-rated glass block solutions engineered for both performance and aesthetics. Designed to resist flame, smoke, and heat transmission, Seves products are available with 45-, 60-, and 90-minute fire-resistance ratings, providing architects and designers with code-compliant options that do not compromise daylighting or design intent. ***Select the appropriate fire-resistance rating based on project requirements and applicable codes.***

5. Fire Resistance: Provide Seves fire-rated glass block units tested in accordance with ASTM E119. Assemblies shall achieve fire-resistance ratings of **(45) (60) (90)** minutes, as specified, and shall restrict flame spread, smoke migration, and thermal transfer for the designated duration.

Seves Glass Block offers acoustically insulated glass block solutions designed to enhance occupant comfort by reducing background noise and isolating interior environments. With sound reduction capabilities up to 49 dB, these products are ideal for residential, commercial, and industrial applications where acoustic control is a design consideration.

6. Sound Proofing: Provide Seves sound-insulating glass block units tested in accordance with ASTM E90 and evaluated per ASTM E413. Assemblies shall achieve a Sound Transmission Class (STC) rating of up to 49, as specified, to limit airborne sound transmission between adjacent spaces.

2.3 MORTAR MATERIALS

A. Portland Cement: ASTM C 150, Type I or Type II, **(natural color) (white) (blend)** to produce mortar color indicated.

1. Where joints are indicated to be raked out and pointed, gray cement may be used for setting mortar.

B. Hydrated Lime: ASTM C 207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207, Type S.

D. Prepare portland cement lime mix according to ASTM C270 for Type S Mortar. Mortar to have 1 part Portland Cement (Type 1), 1/2 part lime and 2-1/2 to 3 parts of fine sand passing No. 20 sieve and free of iron compounds to avoid stains.

E. Use white Portland Cement and silica sand for white joints. Mix mortar drier than normal and only an amount that will be used in 1/2 to 1 hour. Glass block will not absorb water the same as brick. Do not use re-tempered mortar.

If a waterproof Portland Cement is used, the integral type waterproofing shall be omitted. (Masonry Cement is not recommended)

1. Portland Cement: Type I in accordance with ASTM C150. If a waterproof Portland Cement is used, the integral type water-proofer shall be omitted. (Masonry Cement is not recommended)

   a. Color: _____.

2. Lime: Shall be a dolomitic pressure-hydrated lime, special hydrate, Type S, in accordance with ASTM C207.

3. Sand: Clean, white quartzite or silica type, essentially free of iron compounds, in accordance with ASTM C144, not less than 100% passing a No. 8 sieve.

4. Integral Type Water-Repellent. Stearate type by Sonneborn Building Products (Hydrocide powder, 1-800-243-6739), or equivalent. Add hydrocide powder to dry mortar mix. Do not add powder to wet mortar mix.

   a. Lehigh Cement

   b. SPEC MIX

   c. Approved equivalent.

F. Water: Potable.

2.03 GLASS UNIT MASONRY ACCESSORIES

A. Panel Reinforcement: Ladder-type units, butt welded, not lapped and welded; complying with ASTM A 951 in straight lengths of not less than 10 feet, and as follows:

1. Stainless Steel wire.

2. Wire Size: W1.7 or 0.148-inch diameter.

3. Width: 1-5/8 inches.

4. Spacing of Cross Rods: Not more than 16 inches apart.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Verify conditions are suitable for glass block installation.

B. Confirm environmental conditions, including temperature and humidity, are suitable for installation.

3.2 INSTALLATION

A. Install in accordance with manufacturer’s written instructions and ASTM C1464.

B. Ensure proper expansion joints are maintained for thermal movement.

C. Use sustainable installation practices, including low-VOC adhesives and mortar.

3.3 CLEANING AND PROTECTION

A. Clean glass block surfaces per manufacturer's instructions with non-abrasive, environmentally friendly cleaning agents.

B. Protect installed materials from damage until completion of construction.

3.4 WASTE MANAGEMENT

A. Recycle packaging materials per project waste management plan.

END OF SECTION