

**U.S. General Services Administration
Inflation Reduction Act
Low Embodied Carbon Glass Requirements**

December 12, 2023

Preface

The Inflation Reduction Act of 2022 (IRA), Pub. L. No. 117-169, was enacted in August 2022. The IRA made the single largest investment in climate and energy in American history. The IRA will help the United States tackle the climate crisis, advance environmental justice, and secure our Nation's position as a world leader in domestic clean energy manufacturing. This law puts the United States on a pathway to achieving the Administration's climate goals, including a net zero operational emissions federal building portfolio by 2045, and net zero emissions procurement by 2050. IRA Section 60503 provides the U.S. General Services Administration (GSA) with \$2.15 billion for acquisition and installation of construction materials and products with substantially lower levels of embodied greenhouse gas emissions as compared to estimated industry averages, as determined by the Administrator of the U.S. Environmental Protection Agency (EPA). EPA issued its [Interim Determination](#) in December 2022.

In line with the Interim Determination, and consistent with standard GSA and Federal Acquisition Regulation processes for defining agency requirements, GSA has developed these IRA Low Embodied Carbon Glass Requirements to specify some material attributes that are necessary to satisfy the agency's glass needs when contracting for construction services that are funded in whole or in part by GSA's IRA Low Embodied Carbon appropriation. These IRA Low Embodied Carbon Glass Requirements apply to Section 60503-funded purchases of glass; construction product assemblies (such as window assemblies) qualify for IRA funding if at least 80% of the assembly's total cost or total weight comprises glass materials that meet these Requirements. These IRA Low Embodied Carbon Glass Requirements do not apply to all procurements and only apply after a contracting officer exercises their discretion to incorporate IRA Section 60503-qualifying glass into a procurement contract. Additionally, these IRA LEC Glass Requirements do not supersede existing laws such as the Buy American Act of 1933 or the Trade Agreements Act of 1979. All glass procured for GSA projects must meet these laws. For IRA Section 60503-funded procurements, existing trade-related laws will be applied first, then GSA's IRA LEC Glass Requirements will be applied.

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Glass

● **Material Type**

- Flat glass is made from molten material consisting of a combination of silica sand, limestone, soda ash, dolomite and glass cullet spread onto sheets on a plane to produce flat, float, rolled, plate or sheet glass. Flat glass is sometimes bent after production of the plane sheet. The general term “flat glass” describes all glass produced in a flat form, such as float glass, sheet glass, plate glass and rolled glass.
 - Flat glass can be heat- or surface-treated to make processed glass, or built into assemblies such as insulating glass units (IGUs), laminated glazing units, and vacuum insulating glazing. Flat glass assemblies are often part of curtain walls, storefronts, transparent walls, window units, skylights, canopies, doors, and solar panels.
- Construction product assemblies (such as processed glass fabricated from flat glass, or insulating glass units containing flat glass) qualify for IRA funding if at least 80% of the assembly’s total cost or total weight is comprised of materials that meet these Requirements.
 - For purposes of the calculation, the glazing assembly on curtain wall, storefront, or punch window conditions includes only the assembly components of the glazing unit (e.g., an IGU or laminated glazing unit). Glazing assembly components include flat glass lites, any laminate interlayers (e.g., PVB), any fritting or internal IGU shading components, spacer and created airspace, desiccant, and perimeter edge seals.
 - Assembly components exclude adjacent materials from the glazing unit assembly calculation, such as window sashes & framing, gaskets, sealants, seals, air vapor barrier, and structural connections. Those adjacent materials may be covered as expenses necessary to acquire and install approved products, materials, and assemblies.

● **GSA IRA LEC Material Requirements**

	GSA IRA Limits for Low Embodied Carbon Glass (EPD-Reported GWPs, in kilograms of carbon dioxide equivalent per metric ton - kgCO _{2e} kg/ t)		
Glass Product Category¹	Top 20% Limit	Top 40% Limit	Better Than Average Limit
Flat Glass (per metric ton)	1,331	1,370	1,401

● **Compliance Documentation**

- A product-specific Type III (third-party verified) EPD that: (i) is based on the PCR used to develop these limits: the [NSF International/ National Glass Association Flat Glass PCR](#) (9/2020, version 2.0; or 3/2013, version 1.0); and (ii) conforms with ISO 14025 and ISO 21930.
 - Where feasible, EPDs must also be based on supply chain-specific data for associated unit processes, such as facility-specific data for processed glass’s upstream glass plants, rather than industry or manufacturer average data. If an EPD containing facility-specific data for the material’s most greenhouse-gas intensive processes is unavailable,

¹ Based on input from the glass industry about inconsistent data from the limited set of processed glass and insulating glazing unit EPDs, GSA is only issuing GWP limits for unfabricated flat glass at this time.

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an EPD without such data that meets Compliance Documentation criteria (i) and (ii) is sufficient.

- ENERGY STAR [Energy Performance Score for supplying flat/float glass plant](#), the manufacturing plant name(s) and location(s), and the data period of the Energy Performance Score(s) at the time of purchase. Please see “ENERGY STAR Energy Performance Score Explained” at bottom for more information.

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ENERGY STAR Energy Performance Score Explained

ENERGY STAR Energy Performance Scores (EPS) show how efficiently a manufacturing plant uses energy on a 100-point scale. A score of 50 reflects average performance, 1 shows poor performance, and 100 reflects highest performance.

Contractors obtain Energy Performance Scores by requesting producers of flat glass to provide the score. Or, contractors may request it from material suppliers.

Manufacturers of flat glass produce a plant's score by inputting 12 months of energy and production data in the industry-specific Energy Performance Indicator (EPI) tool available at www.energystar.gov/epis. The score will show on the Statement of Energy Performance section of the EPI.