

THE LIVING BUILDING CHALLENGE™ (LBC) V3.0 CERTIFICATION GUIDELINE

The Living Building Challenge™ (LBC) building certification program challenges design techniques with the most stringent sustainability characteristics in the building industry today. Using creativity to push design, LBC encompasses the social community in the built environment. To help better understand how Kawneer products can contribute to LBC projects, we created a LBC Certification Guide.

A few sections or petals as they are called for LBC that relate to Kawneer products include: Energy, Health & Happiness and Materials.

ENERGY PETAL	Requirements	Guidance	Kawneer Product + Service
<p>Net Positive Energy (Imperative 06) To have the built environment solely rely on renewable energy for pollutant-free operations.</p>	<p>Requires one hundred and five percent of the project's energy needs must be supplied by on-site renewable energy on a net annual basis.</p>	<p>To achieve such a high standard the first step is to reduce energy waste and increase efficiencies through design, then move on to technological solutions. Kawneer has a variety of thermal products that provide insulation to increase energy efficiency as well as products that can accommodate triple pane glass to provide even more energy efficiency. Additionally, Kawneer has shading systems to reduce solar heat gain through the glass and help to prevent glare. Kawneer has created the Solector™ which is an energy savings estimating tool to compare shading performance of different scenarios of avoided solar heat gain. When it comes to renewable energy, Kawneer has that covered too. We have a sun shade system with building integrated photovoltaics (BIPV) to generate energy while conserving it at the same time. Kawneer has also made modifications within our curtainwall and overhead glazing systems to integrate thin film photovoltaic technology within the glass. We are able to work with a variety of glass manufacturers to make sure integration into each system is smooth and reliable.</p>	<p>Sun Control Kawneer sun control products combined with framing systems can reduce the amount of solar radiation when installed over a glazed opening on the exterior of the building or reflect natural light deeper into occupied spaces when installed over a glazed opening on the interior of the building.</p> <p>Versoleil™ SunShade Designed to shade interiors and optimize energy performance by reducing solar heat gain, Versoleil™ SunShades work with Kawneer products to allow greater use of glazing while reducing demand on the HVAC. Cradle to Cradle Certified™ v3.1 Bronze and Silver level Material Health Certificate</p> <p>1600 PowerShade™ Sun Shade System Photovoltaic (PV) cells in the 1600 PowerShade™ Sun Shade System convert light energy from the sun into electricity, which can be fed into the building's system. On-site renewable energy reduces the environmental impact associated with the use of fossil fuels.</p> <p>High-Performance Thermal Products High-performance thermal systems provide optimum performance leading to greater energy conservation. Kawneer systems accommodate double pane and triple pane insulating glass to maximize thermal performance and reduce acoustic transmission.</p> <p>InLighten™ Light Shelf InLighten™ Light Shelf integrates with framing systems to reflect natural light deeper into occupied spaces. Light shelves direct available natural light to interior spaces and reduce requirements for artificial perimeter lighting, thereby conserving electrical energy costs.</p> <p>Thermal, Architectural-Grade Operable Windows Provide controllable natural ventilation with architectural grade windows to increase thermal comfort. Reduce waste on the construction site with pre-assembled and factory glazed operable windows.</p>

HEALTH & HAPPINESS PETAL	Requirements	Guidance	Kawneer Product + Service
<p>Civilized Environment (Imperative 07) To provide a healthy and productive built environment through healthy indoor air quality and a connection to nature.</p>	<p>Every regularly occupied space must have operable windows that provide access to fresh air and daylight.</p>	<p>The use of Kawneer products can contribute to each of the Health & Happiness petal imperatives by providing daylight, natural ventilation and views of the outside environment, all which help provide a healthy indoor environment and a connection to nature.</p>	<p>Thermal, Architectural-Grade Operable Windows Provide controllable natural ventilation with architectural grade windows to increase thermal comfort. Reduce waste on the construction site with pre-assembled and factory glazed operable windows.</p> <p>512 Ventrow Thermal Ventilator A modular insert ventilator adds natural, concealed air circulation in fixed frames.</p> <p>Sun Control Kawneer sun control products combined with framing systems can reduce the amount of solar radiation when installed over a glazed opening on the exterior of the building or reflect natural light deeper into occupied spaces when installed over a glazed opening on the interior of the building.</p> <p>All Kawneer Framing Systems From our core products like Framing Systems and Windows to specialty products like Overhead Glazing and InFrame™ Interior Framing, Kawneer offers strong and versatile solutions that maximize daylight autonomy and sunlight exposure.</p>
<p>Healthy Interior Environment (Imperative 08) To promote good indoor air quality.</p>	<p>Requires project teams to discuss how they will achieve a healthy indoor environment which can include compliance with the current version of AHSRAE 62 and indoor air quality test before and after occupancy. Natural ventilation can be used as one avenue toward compliance with the ASHRAE 62 standard.</p>	<p>The use of Kawneer products can contribute to each of the Health & Happiness petal imperatives by providing daylight, natural ventilation and views of the outside environment, all which help provide a healthy indoor environment and a connection to nature.</p>	<p>Thermal, Architectural-Grade Operable Windows Provide controllable natural ventilation with architectural grade windows to increase thermal comfort. Reduce waste on the construction site with pre-assembled and factory glazed operable windows.</p> <p>512 Ventrow Thermal Ventilator A modular insert ventilator adds natural, concealed air circulation in fixed frames.</p> <p>Sun Control Kawneer sun control products combined with framing systems can reduce the amount of solar radiation when installed over a glazed opening on the exterior of the building or reflect natural light deeper into occupied spaces when installed over a glazed opening on the interior of the building.</p> <p>All Kawneer Framing Systems From our core products like Framing Systems and Windows to specialty products like Overhead Glazing and InFrame™ Interior Framing, Kawneer offers strong and versatile solutions that maximize daylight autonomy and sunlight exposure.</p>

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<p>Biophilic Environment (Imperative 09) To nurture the human/nature connection.</p>	<p>Requires a biophilic framework and plan for the project. One way this can be done is by incorporating natural light into the space and/or incorporating views of the natural environment.</p>	<p>The use of Kawneer products can contribute to each of the Health & Happiness petal imperatives by providing daylight, natural ventilation and views of the outside environment, all which help provide a healthy indoor environment and a connection to nature.</p>	<p>Thermal, Architectural-Grade Operable Windows Provide controllable natural ventilation with architectural grade windows to increase thermal comfort. Reduce waste on the construction site with pre-assembled and factory glazed operable windows.</p> <p>512 Ventrow Thermal Ventilator A modular insert ventilator adds natural, concealed air circulation in fixed frames.</p> <p>Sun Control Kawneer sun control products combined with framing systems can reduce the amount of solar radiation when installed over a glazed opening on the exterior of the building or reflect natural light deeper into occupied spaces when installed over a glazed opening on the interior of the building.</p> <p>All Kawneer Framing Systems From our core products like Framing Systems and Windows to specialty products like Overhead Glazing and InFrame™ Interior Framing, Kawneer offers strong and versatile solutions that maximize daylight autonomy and sunlight exposure.</p>

MATERIALS PETAL	Requirements	Guidance	Kawneer Product + Service
<p>Red List (Imperative 10) To remove the worst-in-class chemicals within a product or project.</p>	<p>To illustrate compliance with the red list an ingredient inventory equalling 100% of the product ingredients is required. Some special notes regarding the red list include: miscellaneous hardware, such as nails, screws, bolts, etc. are not tracked for the red list and do not require an ingredients list; majority of brass hardware contains lead and should be avoided so steel hardware should be used when possible.</p>	<p>Kawneer has DECLARE labels for many products specifically for LBC projects. We have also created a Material Transparency Summary (MTS) documents for many of our products providing a full ingredient inventory to adhere with the LBC red list. DECLARE and MTSs for various products can be found on the Kawneer Product Transparency page.</p> <p>Some special notes regarding the red list include: miscellaneous hardware, such as nails, screws, bolts, etc. are not tracked for the red list and do not require an ingredients list; majority of brass hardware contains lead and should be avoided so steel hardware should be used when possible.</p>	<p>Kawneer Products DECLARE Labels Kawneer's most popular products have been vetted for the LBC Red List and have DECLARE labels that are Red List Free with disclosure down to 100 ppm.</p> <p>Kawneer Material Transparency Summary (MTS) Kawneer has created a complete manufacturer's material ingredient inventory known as the Material Transparency Summary (MTS). Kawneer MTSs provide a chemical inventory of all substances above 100ppm.</p>
<p>Responsibly Industry (Imperative 12) To advocate for the creation and adoption of third-party certified standards for sustainable resource extraction and fair labor practices. Applicable raw materials include stone and rock, metal, minerals, and timber.</p>	<p>All projects must use, at a minimum, one Declare product for every 500 square meters of gross building area, and must send Declare program information to at least ten manufacturers not currently using Declare.</p>	<p>Kawneer has DECLARE labels for many products specifically for LBC projects. We have also created a Material Transparency Summary (MTS) documents for many of our products providing a full ingredient inventory to adhere with the LBC red list. DECLARE and MTSs for various products can be found on the Kawneer Product Transparency page.</p> <p>Some special notes regarding the red list include: miscellaneous hardware, such as nails, screws, bolts, etc. are not tracked for the red list and do not require an ingredients list; majority of brass hardware contains lead and should be avoided so steel hardware should be used when possible.</p>	<p>Kawneer Products DECLARE Labels Kawneer's most popular products have been vetted for the LBC Red List and have DECLARE labels that are Red List Free with disclosure down to 100 ppm.</p>

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<p>Living Economy Sourcing (Imperative 13) To incorporate place-based solutions and contribute to the expansion of a regional economy rooted in sustainable practices.</p>	<p>Materials must be manufactured within a certain distance of the construction site. Manufacturer location for materials and services must adhere to the following restrictions:</p> <ul style="list-style-type: none"> – 20% or more of materials construction budget must come from within 500 km of construction site. – An additional 30% of materials construction budget must come from within 1000 km of the construction site or closer. – An additional 25% of materials construction budget must come from within 5000 km of the construction site. 	<p>Consider manufacturers and suppliers that have locations near by and contribute to the region economy. LBC allows products with Declare labels to be counted for double their value, so incorporating products with DECLARE labels is a particularly convenient way to quickly reach the required ratios for economy sourcing.</p>	<p>Facilities Located Throughout North America Kawneer has manufacturing facilities and service centers located across North America to contribute to the regional economy. Contact your Kawneer Sales Rep to discuss the location of your project, the products on the project and manufacturing locations for those products.</p> <p>Kawneer Products DECLARE Labels Kawneer's most popular products have been vetted for the LBC Red List and have DECLARE labels that are Red List Free with disclosure down to 100 ppm.</p>
<p>Net Positive Waste (Imperative 14) To reduce or eliminate the production of waste during design, construction, operation, and end of life in order to conserve natural resources and to find ways to integrate waste back into either an industrial loop or natural nutrient loop.</p>	<p>The project team must create a Material Conservation Management Plan that explains how the project optimizes materials in each of the following phases: Design, construction, operation and end of life.</p> <p>During construction, the project team must divert wasted material to the following levels:</p> <ul style="list-style-type: none"> – Material Minimum Diverted/Weight – Metal 99% – Paper & Cardboard 99% – Soil & Biomass 100% – Rigid foam, Carpet & Insulation 95% – All others – combined weighted average 90% 	<p>During the Design phase specifying pre-fabricated Kawneer products can help to reduce waste at the construction site. Aluminum is also one of the easiest materials to recycle, so during the Construction phase, any waste aluminum can be easily diverted.</p>	<p>Aluminum is 100% Recyclable Post-fabricated aluminum excess can be recycled into the metal waste stream.</p> <p>Unitized Curtain Walls Pre-fabricated aluminum minimizes excess waste on the construction site.</p> <p>Pre-Glazed Windows Provide controllable natural ventilation with architectural grade windows to increase thermal comfort. Reduce waste on the construction site with pre-assembled and factory glazed operable windows.</p>

EQUITY PETAL	Requirements	Guidance	Kawneer Product + Service
<p>Universal Access to Nature & Place (Imperative 16) All primary transportation, roads and non-building infrastructure that are considered externally focused must be equally accessible to all members of the public regardless of background, age and socioeconomic class—including the homeless—with reasonable steps taken to ensure that all people can benefit from the project's creation.</p>	<p>Access for those with physical disabilities must be safeguarded through designs meeting the Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines.</p> <p>The project may not block access to, nor diminish the quality of, fresh air, sunlight and natural waterways for any member of society or adjacent developments. The project must also appropriately address any noise audible to the public.</p>	<p>From entrances to windows, Kawneer provides solutions to satisfy the guidelines of the Americans with Disabilities Act (ADA). Kawneer's products can be configured to include features such as hardware, door controls, and dimensions that meet ADA standards. Contact the Architectural Services team to discuss these options for ADA compliance.</p>	<p>Architectural Services Team (AST) When planning projects for certification, Kawneer's Architectural Services Team (AST) is available to assist with the selection of products that can help.</p>