

In LEED®, every point matters! How can aluminum extrusions help?

There are many applications where aluminum extrusions are used in buildings: Translucent skylights and vertical walls, windows, curtain walls, storefronts, canopies and walkway covers, sunshades, louvers. Aluminum products play a role in several LEED® categories:

1. Energy & Atmosphere
2. Materials & Resources
3. Indoor Environmental Quality
4. Innovation & Design Process

Applicable credits for LEED® 2009 - New Constructions & Major Renovations (Version 2.2)

	LEED® Credits	Possible points	How can aluminum contribute?
Energy & Atmosphere	EA Credit 1 - Optimize Energy Performance	1-19 points for reducing overall energy costs by 10-48% compared to ASHRAE 90.1 2007 baseline building.	Thermally improved and thermal barrier framing; sunshades for solar control; light shelves; extra windows and skylights for day lighting.
	EA Credit 2 - On-Site Renewable Energy	1-7 points for on-site renewable energy production which offsets 1 - 135% of building energy costs.	Aluminum framing on standard solar panels arrays; photovoltaic integrated into curtain wall (both spandrel and vision area); photovoltaic integrated into sunshades.
Materials & Resources	MR Credits 2.1 and 2.2 - Construction Waste Management	1 point for recycling and/or salvaging at least 50% of non-hazardous construction and demolition debris; 2 points if 75%.	Recycling of aluminum materials
	MR Credits 4.1 and 4.2 - Recycled Content	1 point if 10% of the total value of materials in the project is from recycled materials Note: percentage is calculated as post-consumer recycled material + only 1/2 pre-consumer recycled material. 2 points if 20%.	Recycled aluminum is known as secondary aluminum, but maintains the same physical properties as primary aluminum; the use of secondary aluminum by extruders has significantly increased in recent years, contributing to a higher percentage of recycled content; custom casts are also available.
	MR Credits 5.1 and 5.2 - Regional Materials	1 point if 10% of the total value of materials in the project is extracted or recovered, processed, as well as manufactured within 500 miles of project site; 2 points if 20%.	Only applies if the product's recycled content portion was recovered, re-processed, and manufactured, all within 500 miles of the project's site.
Indoor Environmental Quality	EQ Credit 2 - Increased Ventilation EQ Credit 6.2 - Controllability of Systems: Thermal Comfort	1 point if demonstrate increased mechanical or natural ventilation to occupied spaces; 1 point for providing operable windows and/or comfort controls to 50% of occupants.	Increased use of operable window products.
	EQ Credit 4.2 - Low-Emitting Materials: Paints & Coatings	1 point if all architectural paints, coatings, and primers applied to interior walls and ceilings do not exceed the VOC limits established in Green Seal Standard GS-11	Assuming window frames are included as part of the interior wall, anodized aluminum frames contain no VOC; in addition, there are certain coatings that may qualify.
	EQ Credits 8.1 and	1 point if provide a minimum	Increased use of windows, skylights,

	8.2 - Daylight & Views	daylight illumination to 75% of all regularly occupied areas; 1 point if provide direct line of sight to exterior glazing for 90% of all regularly occupied areas.	atriums, light shelves.
Innovation & Design	ID Credit 1 - Innovation in Design	Up to 5 points for exceptional performance or innovative approaches beyond basic LEED® credits; awarded on a project-by-project basis, but USGBC maintains a catalog of ID strategies that have been awarded or denied.	Innovation & design credits have been given for environmentally friendly furniture, including low VOC finishes. Use of Cradle-to-Cradle (C2C) certified products: 1 point if 2.5% of the total value of materials in the project is from C2C certified products.
Pilot Credits	LEED® Pilot Credit 1: Life Cycle Assessment of Building Assemblies and Materials	All LEED® 2009 projects that participate in the piloting of a credit or prerequisite will be awarded 1 point under the Innovation and Design credit 1 or Innovation in Operations credit 1 after completing the required documentation.	Use an USGBC approved Environmental Impact Calculator to identify and calculate environmental impact estimates for generic assemblies used in the project from the following assembly groups: columns and beams, floors, exterior walls, windows, interior walls, and roofs.
	LEED® Pilot Credit 2: PBT Source Reduction: Dioxins and Halogenated Organic Compounds	1 point if 75% of the total value of materials in the project is without added halogenated organic compounds in a minimum of three of the following four groups: exterior components (including windows), interior finishes, piping / conduit / electrical boxes, electrical cable / wire jacketing.	This pilot credit specifically lists aluminum with thermal breaks as a material that is free of added chlorine or other halogens.

Facts about the sustainability of aluminum and aluminum extrusions:

- In the Earth's crust, aluminum is the most abundant (8.3% by weight) metallic element and the third most abundant of all elements (after oxygen and silicon).
- It is estimated that around 75% of all aluminum produced since 1886 is still in use today. This is due to the fact that aluminum is 100% recyclable - and can be infinitely recycled without any loss of its unique properties.
- Recycling aluminum saves 95 percent of the energy and 95 percent of the greenhouse gas emissions associated with producing aluminum from ore.