



March 8, 2014

To Whom It May Concern,

Please accept this letter as our verification of Kingspan Insulated Panel's potential contributions to LEEDv4 – Applicable to: New Construction; Core 7 Shell; Schools; Retail; Data Centers; Warehouses & Distribution Centers; Hospitality; Healthcare

Integrated Process

When using an integrative process, the project team has the greatest chance of performance success. Kingspan's "**energiservices**", when brought in early in the preliminary design stage, can provide the project team predictive energy modeling analysis of envelope and thermal solutions to assist in making more informed solutions for an optimized high performance envelope first strategy.

Sustainable Sites:

Heat Island Reduction

Option 1.

Nonroof and Roof (2 points except Healthcare, 1 point Healthcare)

Benchmark by Kingspan architectural sunscreens, grills and louvers, and products provide shade including structures covered by solar panels that have a three-year aged solar reflectance (SR) value of at least 0.28

High-Reflectance Roof

KingZip Insulated roof panels have an SRI equal to or greater than the values in Table 1.

Kingspan uses paints from Valspar® Cool Color Pallet. Twenty-eight of Valspar's colors meet LEED standards for steep slope roofs, while three colors meet low slope requirements. By using Valspar, Kingspan also meets standards for the ENERGY STAR qualified roof products for reflectivity.

TABLE 1. Minimum solar reflectance index value, by roof slope			
	Slope	Initial SRI	3-year aged SRI
Low-sloped roof	≤ 2:12	82	64
Steep-sloped roof	> 2:12	39	32

Energy and Atmosphere - EA

Kingspan's "**energiservices**" is a predictive energy modeling service designed to help design teams understand scenarios contributing to optimization of the energy efficiency of insulated metal panel envelope assemblies based on ASHRAE 90.1

Prerequisite Minimum Energy Performance

Option 1. Whole-Building Energy Simulation

Kingspan's insulated metal panels potentially contribute to all envelope required energy efficiency prerequisites and minimum energy requirements as well as optimized energy efficiency. Performance energy modeling services by Kingspan's in-house Certified Energy Manager (CEM) are available on select projects to help design teams understand scenarios contributing to optimizing the energy efficiency of

insulated metal panel envelop assemblies envelope based on meeting or exceeding ASHRAE 90.1 requirements that contribute to Whole Building Energy Simulation.

Enhanced Commissioning

Option 2. Envelope Commissioning (2 points)

Kingspan insulated metal panels are ideal for Enclosure Commissioning including functional mockups, field assembly testing to ensure an optimized high performance envelope following ASHRAE Guideline 0–2005 and the National Institute of Building Sciences (NIBS) Guideline 3–2012, Exterior Enclosure Technical Requirements for the Commissioning Process, as they relate to energy, water, indoor environmental quality, and durability.

Optimize Energy Performance

Option 1. Whole-Building Energy Simulation (1–18 points except Schools and Healthcare, 1–16 points Schools, 1–20 points Healthcare)

Kingspan insulated panels, in a given whole building design, and depending on climate zone, may contribute significant points to this credit

Materials and Resources (mr)

Materials and Resources credit

Building Life-Cycle - Impact Reduction

Option 1. Historic Building Reuse (5 points BD+C, 6 points Core and Shell)

Kingspan's Insulated metal panels have been designed in historical preservation projects as the interior insulation and weather tight wall system while maintaining the original exterior

Option 2. Renovation of Abandoned or Blighted Building (5 points BD+C, 6 points Core and Shell)

Kingspan insulated metal panels are ideal for recladding projects when the existing building exterior is beyond cost effective repair and performance but the structure still has good "bones"

Option 4. Whole-Building Life-Cycle Assessment (3 points)

Kingspan contributes to this credit by posting their Environmental Product Declaration – LCA product information to databases such as the NREL LCI, Athena EcoCalculator and Talley that are used in conjunction for Whole –Building Life Cycle Assessment

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**Building Product Disclosure and Optimization—
Environmental Product Declarations**

Option 1. Environmental Product Declaration (EPD) (1 point)

Kingspan’ **Product Specific** EPD (Environmental Product Declaration) conforms to ISO 14025, 14040, 14044, and EN 15804 and ISO 21930 with a Cradle to Grave scope

**Building Product Disclosure and Optimization—
Sourcing of Raw Materials**

Option 1. Raw Material Source and Extraction Reporting (1 point)

Kingspan at this time can report where the steel coils are manufactured

Kingspan is also in the process of developing **Sustainability Reporting** based on **Global Reporting Initiative** (GRI). It is anticipated to be completed late 2014

Recycled content

Below is an example of how Kingspan reports recycled content based on the Steel Recycling Institute’s guidelines - <http://www.recycle-steel.org/en/Recycling%20Resources/LEED%20Documentation.aspx>.

Data needed to run calculation include:

- Thickness of panel
- Gage of exterior skin
- Gage of interior skin
- Total panel cost
- Where the steel was produced*

Specific recycled content of the steel can be verified with a letter from the steel supplier upon request

Note: for most accurate reporting specific coil information is required and typically not available until job is “run”. Any information prior to the “run” is a best estimate.

<i>Assembly Components:</i>	<i>Weight (lbs / sq.ft.)</i>	<i>% PC</i>	<i>% PI</i>
Steel Facings	2.475	17%	14%
Polyisocyanurate Core	0.525	0%	0%
Totals:	3.00	17%	14%

Assembly Recycled Content = (Component Wt. x Recycled Content / Total Wt.) x 100 %

Percentages are based on 1 sq.ft. of material at a weight of 3 lbs

Kingspan also uses the Steel Recycling Institutes defaults for recycling when specific coil data is not available

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Building Product Disclosure and Optimization— Material Ingredients

Option 1. Material Ingredient Reporting (1 point)

Health Product Declaration.

Kingspan has conducted a HPD – Health Product Declaration with a third party consultant PE International. Currently the Kingspan EPD is under internal review before being sent the HPD Collaboration for their review. It is anticipated that the HPD will be publically available sometime in 2014.

NOTE: one interesting result of the HPD development was the transitioning away from Halogenated Flame Retardants. Halogenated FREE Kingspan IMPs are available – for more information contact: Paul Bertram – paul.bertram@kingspan.com

Materials and Resources credit Construction and Demolition Waste Management

Option 1. Diversion (1–2 points)

Kingspan IMPs are “Off-Site” prefabricated panels that eliminate related construction site waste with the exception of packaging materials that can be source separated on the job site. The prefabricated materials greatly reduce waste compared to construction site built systems.

Kingspan also has a zero landfill goal and is very close to that objective at the manufacturing operations.

Indoor Environmental Quality (eq)

Low-Emitting Materials

Interior adhesives and sealants applied on site (including flooring adhesive)	At least 90%, by volume, for emissions; 100% for VOC content	<ul style="list-style-type: none">• General Emissions Evaluation• VOC content requirements for wet applied products
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Kingspan will provide adhesives and gaskets LEED compliance sheets from suppliers upon request. Contact your sales or customer service representative.

Innovation (in)

If reducing construction waste, less environmental impacts on the construction site and the surrounding community, faster time to market, optimized quality control of high performance systems and assemblies, resource efficiency, less construction errors, improved scheduling, and building and material life cycle performance are critical to your project concepts; then the Environmental and Sustainability benefits of “Off-Site” Prefabrication of materials and systems should be a consideration.

Environmental Benefits of “Off-Site” Prefabricated Materials, should be a consideration for your “Integrative” Design Process a LEED prerequisite.

LEEDv4 more than previous versions provides an opportunity to expand material evaluation and specification of systems and assemblies earlier in the project as part of the integrative design process. “Off-Site” prefabrication potentially contributes to Site, Energy & Atmosphere, Water, Materials & Resources, Indoor Environmental Quality and Innovation LEED credits.

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Ideal approach for an Innovation credit

Regional Priority

IMPs are ideal for locations where the region presents a challenge in getting site built systems into a geographic location. The “Off-Site” factory prefabricated assemblies work for both remote sites far from resources as well as inner cite projects where material storage is a premium. IMPs install in about half the time of site built systems

Product Specific2 Declaration Products with a publically available, critically reviewed Life Cycle Assessment compliant with ISO 219303 are calculated at half of their cost. Products carrying a Third party certified Type III Environmental Product Declaration (EPD) including external verification are calculated at twice their cost.

Third-party Certified Type III EPD: Product Specific – An ISO 14025 voluntary, third party reviewed LCA-based Environmental Product Declaration based on a Product Category Rule document and program operator for specific products.

EPD Pathway	Weight
Third party certified Type III EPD	Product Specific

Beyond LEED

Kingspan’s insulated metal panels contribute to a sustainable building envelope beyond the LEED program. Because they are a single component assembly, Insulated metal panels can save time and money during installation compared to traditional site built systems with little to no construction waste at the job site.. Kingspan’s durable panels can be installed in any weather condition making them ideal for projects where winter enclosure deadlines are essential.

Kingspan Insulated Panels has three U.S. manufacturing locations- Deland, FL, Modesto, CA and Columbus OH as well as two Canadian locations in Langley, BC and Caledon, ON. Before delivery, our quality control team carefully inspects all orders to ensure customer satisfaction. Panels arrive to the job site perfectly trimmed ready to install, leaving little onsite construction waste. Kingspan is also striving for panel end of life programs, zero landfill impacts and chain of custody principles where possible.

Some tax credits, incentives and grants are available for sustainable buildings on Federal, State, and local levels including the Energy Efficient Commercial Business Deduction and the Energy Investment Tax Credit. A full list of incentives on a state-by-state breakdown can be found at www.dsireusa.org.

Kingspan Insulated Panels is committed to environmental responsibility and has instituted a corporate mandate to have all global facilities Net Zero Energy by 2020. Kingspan North America is also a BETA

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participant in the Health Product Declaration and has started sustainability reporting utilizing the GRI – Global Reporting Initiative reporting frame work.

To find even more environmental and financial benefits of building with Kingspan Insulated Panels, please see visit www.pathtonetzero.com.

If you have need of further information, please feel free to contact me.

Regards,

A handwritten signature in black ink that reads "Paul R. Bertram, Jr." in a cursive script.

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