



WORLD-CLASS ALUMINUM RAILING

HANSEN
ARCHITECTURAL
SYSTEMS, INC.

SEATTLE • PORTLAND • SAN DIEGO • KONA • MAUI

OR # 170925
WA # Hanseas944QG
CA # 887732
HI # CT-28126



HANSEN GREEN STATEMENT

Recycled Content

Our products are made from aluminum extrusions and stainless steel containing 25-35% recycled content.

Recyclability

Aluminum and stainless steel are among the most recycled materials within the building industry. Aluminum and stainless steel is 100% recyclable with no loss in quality, and can be recycled at numerous reclamation stations all over the world.

Prefabrication Considerations

Our systems are prefabricated to the greatest extent possible, minimizing onsite waste and improving the overall environmental performance of our product. Gases and liquids from production are captured and reused and any scrap is recycled.

Hansen Products are Low Maintenance

Aluminum and stainless steel products are virtually maintenance free, and can be wiped clean of dirt and stains without the need for bleach, solvents, varnishes or any other harsh chemicals which have a negative environmental impact.

Longevity of Hansen Products

Due to their inherent durability and corrosion resistant qualities, aluminum and stainless steel has a much longer life span than other materials, thereby requiring less maintenance and reducing replacement costs in the future. This increases the projects overall efficiency by extending the life cycle of a key architectural feature.

Hansen Solar Control Systems

Hansen produces a series of products that serve to directly reduce the thermal effects of solar radiation. Our trellis systems, sunshades, and louver panels all positively impact the efficiency of building projects.

LEED Compliance

Based on an analysis of the Project, on a job-to-job basis, Hansen products may contribute to the acquisition of a U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) rating. Credits that Hansen products apply to include, but are not necessarily limited to, the following:

- Energy and Atmosphere Credit EA 1 - Optimize Energy Performance.
- Materials and Resources Credit MR 3.1 or Credit MR 3.2 - Salvaged, Refurbished, or Reused Materials.
- Materials and Resources Credit MR 4.1 or Credit MR 4.2 - Recycled Content Materials.
- Materials and Resources Credit MR 5.1 or Credit MR 5.2 - Regional Materials.
- Indoor Environmental Quality Credit EQ 4.1 or Credit EQ 4.2 - Low-Emitting Materials.
- Indoor Environmental Quality Credit EQ 7.1 - Thermal Comfort Design

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A BETTER FINISH. FOR A BETTER WORLD.

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To Whom It May Concern:

Re: VOC Emissions of Powder Coatings

While powder coatings have many performance benefits, it should not be overlooked that it is also a very environmentally friendly technology and little to no volatile organic compounds are released during cure of most powder coatings.

PCI technical brief # 7 discusses the presence of moisture in powder coatings; typically that level is at 0.5% or less. Depending on the chemistry of the powder coating, various substances can be released during cure and emitted into the environment.

So called "non emissive systems" such as Polyester/TGIC and hybrids generally have very low levels of such volatile matter. Usually low molecular weight residue from the manufacturing process of the polymeric binder and possibly small concentrations of some additives that are added to the formulation such as Benzoin will evaporate.

Typical levels of weight loss during cure from organic substances are usually in the range of 0.1-0.5%.

So called "Polyester – Urethanes" or "Polyurethanes" frequently have a blocking agent "E - Caprolactam" evaporate during cure, depending on the formulation this alone may amount to several % of the weight of the coating, in addition to the other items mentioned above.

Karl Rijkse
VP of Technical Sales

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GREENGUARD Emission Criteria

For use with GREENGUARD Certification Program for Low Emitting Products

Paints and Coatings - Applicable to:

- Paint
- Decorative finishes
- High performance/industrial coatings
- Stains and transparent finishes

Individual VOCs ¹	≤ 0.1 TLV
Formaldehyde	≤ 0.05 ppm (≤ 0.06 mg/m ³)
Styrene	≤ 0.07 mg/m ³
Total VOCs ²	≤ 0.5 mg/m ³
Total Aldehydes ³	≤ 0.1 ppm
Listing of measured carcinogens and reproductive toxins as identified by California Proposition 65, the U.S. National Toxicology Program (NTP), and the International Agency on Research on Cancer (IARC) must be provided.	
Any pollutant regulated as a primary or secondary outdoor air pollutant must meet a concentration that will not generate an air concentration greater than that promulgated by the National Ambient Air Quality Standard (U.S. EPA, code of Federal Regulations, Title 40, Part 50.	

¹ Any VOC not listed must produce an air concentration level no greater than 1/10 the Threshold Limit Value (TLV) industrial work place standard (Reference: American Conference of Government Industrial Hygienists, 6500 Glenway, Building D-7, Cincinnati, Ohio 45211-4438).

² Defined to be the total response of measured VOCs falling within the C₆-C₁₆ range, with responses calibrated to a toluene surrogate.

³ Defined to be the total response of a specific target list of aldehydes (2-butanal; acetaldehyde; benzaldehyde; 2, 5-dimethylbenzaldehyde; 2-methylbenzaldehyde; 3-and/or 4-methylbenzaldehyde; butanal; 3-methylbutanal; formaldehyde; hexanal; pentanal; propanal), with each individually calibrated to a compound specific standard.

GREENGUARD Certification affirms that a product's emissions fall within the limits selected by GREENGUARD from reputable third party risk based criteria, as identified above. GREENGUARD program testing is conducted consistent with a defined protocol and does not measure emissions under usage conditions other than those defined in the protocol and does not address potential environmental impact other than chemical emissions.