

## Sustainable Building Practices Information for Additionally Awarded Points

Recommendations of Sustainable Building Practices from Department of Environmental Quality (DEQ))

**1. Require low-VOC, low-emitting materials with third-party labels/certification in wet applied products** (shown in the table below). VOCs are members of a large group of organic chemicals that can evaporate into the indoor air under normal temperature conditions and into the outdoor air, causing environmental impacts such as photochemical smog. Their health effects vary widely, from respiratory irritants to human carcinogens (such as formaldehyde), which is of concern since they are ingredients in many products in the built environment. On-site wet applied products (paints, adhesives, and sealants) are of particular concern because they can directly impact the health of installers who may not be using breathing or dermal protection.

For the last 20 years, the US Green Building Council’s LEED rating systems have included standards for “low-emitting materials,” and manufacturers have generally responded by providing qualifying low-emitting products/materials. Below is a—non-exhaustive—list of commonly used materials and associated standards or third-party labels confirming products’ low-emitting characteristics. Products with these third-party labels are typically readily available at no cost premium.

	<b>Common consumer labels/third-party certifications</b>
insulation	UL Greenguard Gold or SCS Indoor Advantage Gold
sheetrock & joint compound	UL Greenguard Gold or SCS Indoor Advantage Gold
composite wood	NAF (no-added urea formaldehyde) or ULEF (ultra-low emitting formaldehyde)
flooring - hard surface flooring & adhesives	FloorScore certified UL Greenguard Gold or SCS Indoor Advantage Gold
flooring – carpet, pads & adhesives	Green Label Plus
adhesives & sealants	Multi-purpose construction adhesive: VOC content <70 g/L Architectural sealants: VOC content <250 g/L
paints & primers	Green Seal GS-11, and Paints (flats and non-flats): VOC content <50 g/L Primers and Sealers: VOC content < 100 g/L Waterproofing sealers: VOC <100 g/L

**2. Require low-GWP concrete.** Concrete is responsible for 8-11 percent of global greenhouse gas emissions, posing a significant health risk due to climate change risks. Low-GWP concrete is

widely available on the market at no cost-premium. An Environmental Product Declaration (EPD) can be used to confirm the Global Warming Potential (GWP) of concrete. National Ready Mix Concrete Association (NRMCA) has set regional baselines and the City of Portland now requires that concrete have a GWP below that of the NRMCA regional baseline. This same requirement could be used for projects receiving HHGP funds and demonstrated easily using EPDs.

**3. Avoid Expanded Polystyrene (EPS) and Extruded Polystyrene (XPS) insulation.** EPS and XPS both have GWPs that are significantly higher than other insulation products. HHGP could require that projects do not use EPS and XPS insulation. There are many cost-neutral alternatives on the market such as cellulose and mineral wool.

**4. Avoid vinyl.** PVC's vinyl chloride monomer building block is a known human carcinogen, according to the US Department of Health and Human Services. In addition, PVC is a Persistent Organic Pollutant Source Material. Due to its chlorine content, PVC often contains other Red List ingredients, such as cadmium, lead, and phthalates. The manufacture and disposal of chlorinated polymers can result in the production of dioxins and disposal phases. Dioxins are some of the most potent toxins known to humans, with no known safe limit for exposure and a strong propensity for bioaccumulation. In addition, dioxins are highly persistent in the environment.

This may be most practical in flooring with several cost-neutral alternatives on the market (e.g., marmoleum). It would also be preferred in windows as well. Alternatives include wood and fiberglass.