WattsRadiant™
Floor Heating & Snow Melting

LEED-NC
Green Building Rating System For New Construction & Major Renovations

Manufacturing and specifying products to promote the conservation of water and energy in residential, commercial, and light-industrial applications.

Version 2.2

The following pages are where Watts Radiant (A division of Watts Water Technologies, Inc.) products have the potential to help Engineers acquire LEED credits in the design of "GREEN" Sustainable Buildings.

Sustainable Sites - 1 Possible Point

SS Credit 5.2 :

Site Development > Maximize Open Space

1 Point

Intent:
Provide a high ratio of open space to development footprint to promote biodiversity.

Potential Product Application:
Hydronic and Electric floor heating saves space in the development footprint (defined as the total area of the building footprint, hardscape, access roads and parking) and/or provide vegetated open space within the project boundary to exceed the local zoning's open space requirement for the site by 25%. This is achieved by reducing the space required for mechanical equipment and eliminating space-conditioning equipment at outdoor exposed walls, simplifying wall, floor, and structural systems.

*** For additional product information refer to Watts Radiant catalog: Lit#RADCAT07 or online at http://www.wattsradiant.com*

Energy and Atmosphere - 17 possible points

EA Credit 1 :

Optimize Energy Performance

Up to 10 Points

Intent:
Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

Potential Product Application:
Hydronic radiant heating can significantly reduce energy consumption for heating. This is achieved because "dry-bulb air temperature may be lower (in heating) or higher (in cooling), which reduces sensible heating or cooling loads." Also, "Hydronic panel systems may be connected in series, following other hydronic heating or cooling systems (i.e., their return water may be used), increasing exergetic efficiency." (See ASHRAE chapter 6, 04 handbook)

EA Credit 2 :

On-Site Renewable Energy

Up to 3 Points

Intent:
Encourage and recognize increasing levels of on-site renewable energy self-supply in order to reduce environmental and economic impacts associated with fossil fuel energy use.

Potential Product Application:
HydroNex geothermal and solar engineered mechanical control panels are designed to promote the use of on-site renewable energies such as solar thermal and geothermal to tie directly into radiant heating and/or domestic hot water production.
Also see ASHRAE Ch 6: "Waste and low-enthalpy energy sources and heat pumps may be directly coupled to panel systems without penalty on equipment sizing and operation. Being able to select from a wide range of moderate operation temperatures ensures optimum design for minimum cost and maximum thermal and exergetic efficiency."

Materials & Resources - 7 Possible Points

MR Credit 2.1 :
Construction Waste Management: Divert 50% From Disposal
1 Point
MR Credit 2.2 :
Construction Waste Management: Divert 75% From Disposal
1 Point in addition to MR Credit 2.1

Intent:
Divert construction, demolition and land-clearing debris from disposal in landfills and incinerators. Redirect recyclable recovered resources back to the manufacturing process. Redirect reusable materials to appropriate sites.

Potential Product Application:
Watts Radiant offers custom cut lengths on all sizes of PEX pipe, thus significantly reducing job-site waste.

** For additional product information call 1 800 276 2419.

MR Credit 4.1 :
Recycled Content > 10% (post-consumer + ½ pre-consumer)
1 Point
MR Credit 4.2 :
Recycled Content > 20% (post-consumer + ½ pre-consumer)
1 Point in addition to MR Credit 4.1

Intent:
Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extracting and processing of virgin materials.

Potential Product Application:
Watts Radiant uses material with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (Based on cost) of the total value of the materials in the project.

Watts Radiant products:

- Stainless Steel Manifolds – 86% recycled material
- Brass PEX Fittings – 45% Post Consumer/5% Post Industrial

** Post-consumer material – defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose.*

** Pre-consumer material – defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it*

MR Credit 5.1 :
Regional Materials > 10% Extracted, Processed & Manufactured Regionally
1 Point
MR Credit 5.2 :
Regional Materials > 20% Extracted, Processed & Manufactured Regionally
1 Point in addition to MR Credit 5.1

Intent:
Increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

Potential Product Application:
Watts Radiant has manufacturing facilities in the United States thus allowing the product to be within 500 miles of a project site.

Watts Manufacturing facilities:

- Springfield, MO

MR Credit 6:

Rapidly Renewable Materials

1 Point

Intent:
Reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

Potential Product Application:
Subray (an easy way to install radiant floor heating on top of existing frame or slab floors) utilizes Birch wood (harvested within a ten-year cycle).

*** For additional product information refer to Watts Radiant catalog: Lit#RADCAT07 or online at http://www.wattsradiant.com*

EQ Credit 4.4 :

Low-Emitting Materials: Composite Wood & Agrifiber Products

1 Point

Intent:
Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

Potential Product Application:
Subray (an easy way to install radiant floor heating on top of existing frame or slab floors) utilizes plywood for the sleepers that contain no added formaldehyde resins. Sleepers screw into the subfloor.

*** For additional product information refer to Watts Radiant catalog: Lit#RADCAT07 or online at http://www.wattsradiant.com*

EQ Credit 5 :

Indoor Chemical & Pollutant Source Control

1 Point

Intent:
Minimize exposure of building occupants to potentially hazardous particulates and chemical pollutants.

Potential Product Application:
Hydronic and Electric floor heating reduces potential hazardous pollutants from spreading to occupants by removing the central air system. In addition, reduced airflow requirements help mitigate bioterrorism risk, especially in large buildings. Hydronic and Electric snow melting also reduce potential contamination from snow melting compounds by eliminating their use.

*** For additional product information refer to Watts Radiant catalog: Lit#RADCAT07 or online at http://www.wattsradiant.com*

EQ Credit 6.2 :

Controllability of Systems: Thermal Comfort

1 Point

Intent:
Provide a high level of thermal comfort system control by individual occupants or by specific groups in multi-occupant spaces (i.e. classrooms or conference areas) to promote the productivity, comfort and well-being of building occupants.

Potential Product Application:
Because not only indoor air temperature but also mean radiant temperature can be controlled, total human thermal comfort may be better satisfied by using Hydronic and Electric radiant heating. Hydronic and Electric radiant systems are also easily zoned, allowing controllability by individual occupants or by specific groups in multi-occupant spaces.

*** For additional product information refer to Watts Radiant catalog: Lit#RADCAT07 or online at http://www.wattsradiant.com*

EQ Credit 7.1 :

Thermal Comfort: Design

1 Point

Intent:
Provide a comfortable thermal environment that supports the productivity and well-being of building occupants.

Potential Product Application:
Because not only indoor air temperature but also mean radiant temperature can be controlled, total human thermal comfort may be better satisfied by using Hydronic and Electric radiant heating.

*** For additional product information refer to Watts Radiant catalog: Lit#RADCAT07 or online at http://www.wattsradiant.com*

Any questions can be directed to the following:

Alex Green

417 447 8036
greenag@watts.com

** Information obtained from (LEED-NC Version 2.2 Reference Guide October 2005)*

*** Watts Water Technologies, Inc. is a member of the USGBC*