



LEED ND: Built Project | v4 - LEED v4

Heat island reduction

Possible 1 point

Glossary

Intent

To minimize effects on microclimates and human and wildlife habitats by reducing heat islands.

Requirements

Option 1. Nonroof (1 point)

Use any combination of the following strategies for 50% of the nonroof site paving (including roads, sidewalks, courtyards, parking lots, parking structures, and driveways).

- Use the existing plant material or install plants that provide shade over the paving areas on the site within 10 years of plant material installation.
- Install and plant planters, either at grade or raised. Plant material cannot include artificial turf.
- Provide shade with structures covered by energy generation systems, such as solar thermal collectors, photovoltaics, and wind turbines, that produce energy used to offset some nonrenewable resource use.
- Provide shade with architectural devices or structures that have a three-year aged solar reflectance (SR) value of at least 0.28. If three-year aged value information is not available, use materials with an initial SR of at least 0.33 at installation.
- Provide shade with vegetated structures.
- Use paving materials with a three-year aged solar reflectance (SR) value of at least 0.28. If three-year aged value information is not available, use materials with an initial SR of at least 0.33 at installation.
- Use an open-grid pavement system (at least 50% unbound).

OR

Option 2. High-reflectance and vegetated roofs (1 point)

Use roofing materials that have an SRI equal to or greater than the values in Table 1. Meet the three-year aged SRI value (if three-year aged value information is not available, use materials that meet the initial SRI value) for a minimum of 75% of the roof area of all new buildings within the project, or install a vegetated (“green”) roof for at least 75% of the roof area of all new buildings within the project. Combinations of SRI-compliant and vegetated roofs can be used, provided they satisfy the equation in Option 3.

Table 1. Minimum solar reflectance index value, by roof slope

	Slope	Initial SRI	OR	3-year aged SRI
Low-sloped roof	≤ 2:12	82		64
Steep-sloped roof	> 2:12	39		32

OR

Option 3. Mixed nonroof and roof measures (1 point)

Use any of the strategies listed under Options 1 and 2 that in combination meet the following criterion:

Area of Nonroof Measures	+	Area of High-Reflectance Roof	+	Area of Vegetated Roof	≥	Total Site Paving Area	+	Total Roof Area
0.5		0.75		0.75				

Alternatively, an SRI and SR weighted average approach may be used to calculate compliance.