

IGCC Worksheet – Mitigation of Heat Island Effect

International Green Construction Code (IgCC)

Planning & Development Services
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Project Name: _____

Project Address: _____

Completed By: _____

Firm Name: _____

Site Hardscape. In accordance with Section 501.3.5.1 of the IgCC, as amended, at least 50% of the site hardscape that is not covered by solar energy systems shall be provided with one or any combination of the options noted in the Table below. Where trees are used to provide shade, shade coverage shall include only those hardscape areas directly beneath the trees based on a ten-year growth canopy after final approval. Shade coverage can also be determined by using the arithmetic mean of the shade coverage calculated at 10 am, noon, and 3 pm on summer solstice. Shaded areas shall be shown on the construction documents demonstrating compliance with this section. **Exception** – The code official may approve a percentage less than 50% on a case-by-case basis for portions of industrial type sites with limitations and/or having expansive amounts of paving needed for the intended use, (i.e., next to airport, aircraft affiliated, large truck or vehicle loading and/or maneuvering areas).

Site Hardscape Location	Site Mitigation Options (Check ✓ where applicable)				Hardscape Area (sq. ft.)	% of Total Site Hardscape Area
	Paving material with a minimum initial Solar Reflectance Index (SRI) of 29. New concrete with no color can be 35. (See Table 1 next page)	Paved areas shaded by structures, buildings, or parking under a building	Paved areas shaded by existing or new trees and/or vegetation	Open graded (uniform sized) aggregate, permeable pavement or pavers, or porous pavers		
1.						
2.						
3.						
4.						
5.						
6.						
Qualifying Site Hardscape area (1 thru 6 above)						
Non-Qualifying Site Area (Other areas not included above)						
Total Site Hardscape Area (Qualifying and Non-Qualifying)						
Total Percentage of Qualifying Site Hardscape Area (Qualifying Area ÷ Total Area)						

Table 1 – Solar Reflectance for Standard Paving Materials

Paving Material	SRI	Reflectance	Emissivity
Typical new gray concrete	35	0.35	0.9
Typical weathered* gray concrete	19	0.20	0.9
Typical new white concrete	86	0.7	0.9
Typical weathered* white concrete	45	0.4	0.9
New asphalt	0	0.05	0.9
Weathered asphalt	6	0.10	0.9
<p>*Reflectance of surfaces can be maintained with cleaning. Typical pressure washing of cementitious materials can restore reflectance close to original value. Weathered values are based on no cleaning.</p> <p>Note: A default SRI Value of 35 for new concrete without added color pigment is allowed to be used instead of measurements.</p>			