

City of Scottsdale
 Planning, Neighborhoods and Transportation
IGCC Worksheet - Site Heat Island Mitigation
 International Green Construction Code (IgCC)

Project Name _____

Date _____

Completed by _____ Firm Name _____

1. Site Hardscape. In accordance with Section 408.2 of the IgCC, not less than 50 percent of site hardscape shall be provided with one or any combination of options 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. 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.

Site Hardscape Location	Site Mitigation Options (check V where applicable)				Hardscape Area (sq. ft.)	% of Total Site Hardscape Area
	Paving Material with an initial Solar Reflectance Value of not less than 0.30 (see Table 1 next page)	Paving Areas shaded by Structures	Paving Areas shaded by Trees	Pervious Paving including open-grid pavers and stabilized decomposed granite		
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

* 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.

2. Roof Coverings. In accordance with Section 408.3 of the IgCC, not less than 75 percent of roof surfaces of buildings shall be provided with one or any combination of the following options in the table below.

Exception: Portions of roof surfaces where solar thermal collectors, solar photovoltaic systems, roof penetrations and associated equipment, roof-top decks and walkways are provided shall be permitted to be deducted from the roof surface required to comply with this section.

Roof Location	Roof Mitigation Options		Roof Area (sq.ft.)	% of Total Roof Area
	Roof surface with min. aged solar reflectance, thermal emittance or SRI per Table 2 below (indicate value)	Vegetated Roof and/or Terraces		
1				
2				
3				
4				
Qualifying Roof Area (1 thru 4 above)				
Non-Qualifying Roof Area (Other areas not included above)				
Total Roof Area (Qualifying and Non-Qualifying)				
Total Percentage of Qualifying Roof Area (Qualifying Area ÷ Total Area)				

Table 2 - Reflectance and Emittance for Roof Surfaces

Roof Slope	Minimum Aged Solar Reflectance	Minimum Aged Thermal Emittance	Minimum Aged SRI
Less than 2:12	0.55	0.75	60
2:12 or greater	0.30	0.75	25