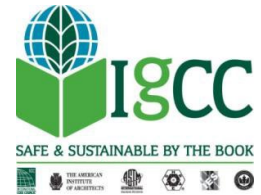


City of Scottsdale
2021 International Green Construction Code (IgCC)
Site Heat Island Mitigation Checklist



rev. 8-29-24

The intent of this checklist is to list the heat island mitigation options in Section 501.3.5.1 of the 2021 International Green Construction Code (IgCC). The section reads as follows:

501.3.5.1 Site hardscape. 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 following:

- Existing trees and vegetation or new *biodiverse plantings of native plants and adapted plants*, which shall be planted either prior to the final approval by the *AHJ* or in accordance with a contract established to require planting no later than 12 months after the final approval by the *AHJ* so as to provide the required shade no later than ten years after the final approval. The effective shade coverage on the *hardscape* shall be the arithmetic mean of the shade coverage calculated at 10 a.m., noon, and 3 p.m. on the summer solstice.
- Paving materials with a minimum initial *solar reflectance index (SRI)* of 29. A default *SRI* value of 35 for new concrete without added color pigment is allowed to be used instead of measurements.
- Open-graded (uniform-sized) aggregate, permeable pavement, permeable pavers, and porous pavers (open-grid pavers)*. *Permeable pavement* and *permeable pavers* shall have a percolation rate of not less than 2 gal/min • ft² (100 L/min • m²).
- Shading through the use of structures, provided that the top surface of the shading structure complies with the provisions of Section 501.3.5.3.
- Parking under a building, provided that the *roof* of the building complies with the provisions of Section 501.3.5.3.
- Buildings or structures that provide shade to the *site hardscape*. The effective shade coverage on the *hardscape* shall be the arithmetic mean of the shade coverage calculated at 10 a.m., noon, and 3 p.m. on the summer solstice.

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.

Sample Site Hardscape Worksheet

Site Hardscape Location	Site Mitigation Options (check <input type="checkbox"/> where applicable)				Hardscape Area (sq. ft.)	% of Total Site Hardscape Area
	Hardscape Areas with an initial Solar Reflectance Value (SRI) ≥ 29 <small>(see Table 1 next page)</small>	Parking Areas under buildings or shade structures	Hardscape Areas shaded by Trees	Permeable Paving (percolation rate ≥ 2 gal/min per sq. ft.) including porous and open-grid pavers		
1						
2						
3						
4						
5						
6						
Protected Site Hardscape areas (1 thru 6 above)						
Unprotected Site Area (areas not included above)						
Total Site Hardscape Area (Protected and Unprotected)						
Total Percentage of Protected Site Hardscape Area (Protected Hardscape Area ÷ Total Hardscape Area)						