

Standard Charcoal versus Energy Star Charcoal

The reported information below is done in accordance with ASTM E 1980-01. The comparative data is based upon an ambient air temperature of 37° C. The highlighted numbers represent the Solar Reflectance Index and product surface temperatures.

ASTM E1980-01 Solar Reflectance Index Calculator for Low-Slope Roofing			
Product Colour	STANDARD CHARCOAL		
Thermal emittance=	0.850		
TSR=	0.056		
Solar Absorbance=	0.944		
Convective coefficient=	Wind Condition		
	Low	Medium	High
	5	12	30
X=	0.969	0.952	0.936
SRI=	-3.92	-1.80	0.08
Standard solar conditions Solar Flux=1000 W/m ² Ambient Air Temp=310K (37C) Ambient Sky Temp=300K (27C) No conductive heat transfer			
Low Slope Roofing Temperatures for above standard solar conditions			
Surface Temperature (K)=	378	356	334
Surface Temperature (C)=	105	83	61
Surface Temperature (F)=	221	182	143

ASTM E1980-01 Solar Reflectance Index Calculator for Low-Slope Roofing			
Product Colour	ENERGY STAR CHARCOAL		
Thermal emittance=	0.900		
TSR=	0.328		
Solar Absorbance=	0.672		
Convective coefficient=	Wind Condition		
	Low	Medium	High
	5	12	30
X=	0.657	0.653	0.650
SRI=	35.30	35.77	36.20
Standard solar conditions Solar Flux=1000 W/m ² Ambient Air Temp=310K (37C) Ambient Sky Temp=300K (27C) No conductive heat transfer			
Low Slope Roofing Temperatures for above standard solar conditions			
Surface Temperature (K)=	357	342	327
Surface Temperature (C)=	84	69	54
Surface Temperature (F)=	184	156	129