



## **Cool Roof – Keep Your House Cooler From Above**

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A cool roof can be described as a roof utilizing reflection as a means to deflect sunrays, as well as having the ability to release a big proportion of any absorbed solar heat. As a general rule of thumb, most of these cool roofs today are either white or very light in color.

Although cool roofs are more of a concern in hotter climates, cooler climates can also benefit from them as well, as over the long run they help the buildings cut down on their carbon footprints. The actual cooling benefits of one of these roof surfaces by far overshadows any potential cold month or winter heating benefits of dark colored roofs that are much less reflective.

The majority of roofs globally at this moment in time are dark colored and therefore less reflective. An obvious off-shoot to this are the higher temperatures these roofs reach and all the problems associated with such an increase. It is well known that a dark colored roof can increase in temperature by almost 50 degrees centigrade in full sunshine in the warmer months and some of the obvious disadvantages of this are described in the following passage.

First and foremost, it can lead to a quicker deterioration of the materials used to construct the roof, meaning increased maintenance costs over the roofs lifetime. Also, there is going to be an increased usage of energy due to attempts at cooling the building through use of air conditioning and fans. This not only increases the discomfort of the people in the structure, it also puts a strain on the utility system increasing CO<sub>2</sub> emissions and therefore impacting negatively on the environment. Not to mention higher energy bills.

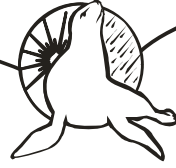
Having a cool roof fitted in the place of a dark colored roof has many benefits and can impact dramatically on immediate as well as long term savings in terms of energy costs. Some of the benefits of these cool roofs, which can include green roofs (plant or grass covered), reflective membrane roofs or coated roofs, are listed below.

The most obvious benefit is the energy savings it affords. Even countries in colder climates can take advantage of this. Because roof temperature gain on a white reflective roof, for example, is only about eight degrees centigrade above the surrounding air temperature, the buildings heat gain as a whole is greatly reduced. Therefore demand for power to run air conditioning units or fans in the summer months can be reduced by up to 10%.

Another important benefit is the fact that the actual material used to create the cool roof, has its life expectancy increased dramatically. This also means that any equipment that was used for cooling the building down will also gain from this.

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Lastly, but by no means least, the beneficial effects on the environment are increased as there is less lower emissions from greenhouse gases and less air pollution.