



**Honza Group
Incorporated**
Roofing & Waterproofing Consultants

9662 Golden Rod Path, Columbia, MD 21046-2001. (V) 301.953.7210. (F) 301.953.2104
<http://www.honzagroupinc.com/>

Green Roof Facts

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European Technology

- Over 30 years of in-place installations. (2001 Data)
- One German company that deals in ecological roof systems, installs 3,000,000 SF per year.
- 10,000,000 SF of vegetated roof covers installed in 1989 alone.

Storm Water Run-off Benefits

- Reduces needed to develop extensive storm water retention at the (a) Building Site
- (b) Reduced run-off
 - Summer run-off reduced 70-100%
 - Winter run-off reduced 40-50%
- Decreases need to expand or rebuild storm water infrastructure.
- (c)– delays run-off which reduces peak flow on storm water piping.

Reduces Heat Island Effect

- Green Roof – offers up to 50% better resistance to heat build-up than reflective surfaces.
- Study at Berkley indicates:
 - 2 degrees F temperature drop will reduce Ozone levels 5-10%
 - 2 degrees F temperature drop in urban areas reduces energy costs \$3-4 billion.

Thermal Benefits

- It is difficult to define a thermal resistance number due to numerous variables.
- However, studies completed in Ottawa, Canada by the National Research Council on a Green Roof with 6" soil media shaved the average daily energy demand for air conditioning to be 75% lower than the control roof.

Airborne particulates are filtered and removed from the air

- This improves building air quality when in-takes are located at the roof.
- 1 square meter of grass removes .2 KG of airbourne particulates per year.

Photosynthesis converts carbon dioxide to oxygen

- This improves building air quality when in-takes are located at the roof.
- 1 square meter of grass will supply enough oxygen to fully support one person.

Reduces non-point source pollutants

- Removes heavy metal particulates
- Studies show
 - Copper, lead and cadmium levels reduced 95%
 - Zinc levels reduced 16%

Longer roof life: UV & thermal protection of waterproof membrane.