

INFLOOR RADIANT HEATING

November 2004

(see NOTES)

8,000 square foot house located in Kitsilano, overlooking English Bay, will be heated on all 3 floors with [infloor radiant heat](#)

Because of inclement weather, the local ambient temperature and relative humidity, a tarp was used to cover the house during the [SUNSHIELD](#)® coating process.



[SUNSHIELD](#)® as a Thermal Break Top Floor with 16 mils WFT = 8 mils DFT



Second Floor Entrance



Second Floor Complete



Bottom Floor with Electric Heater (DRY HEAT) to speed up the cure down. Bottom Floor clean, dry and sound ready to accept a coating of SUNSHIELD ®



All 3 floors where completed in 1 day by sealing all openings and applying Electric heat. Installation of the radiant heating system was started the next day on schedule.



On a horizontal substrate 16 mils WFT can be applied in a single coat cross hatched.



Bottom Floor Finished



Poly to protect Architectural Concrete 2nd coat cross hatched @ 8 mils WFT to Insulate the vertical Chimney Chase



NOTE : In this particular application the **SUNSHIELD**® is completely buried in concrete and consequently only 2 of the 4 ceramics will come into play. The 2 reflective ceramics are ineffective in this type of application because the coating is facing direct contact, low temperature, front side conduction. This will reduce the thermal barrier for **SUNSHIELD**® and **SUPERTHERM**® as demonstrated by the **ASTM C236 - " Steady State Thermal Performance of Building Assemblies by means of a Guarded Hot Box "**. A Reflective Paint on the other hand wouldn't work at all in this application and is a further demonstration of the difference between a Reflective Paint and an *Insulating Coating*. Additional insulation effectiveness can be achieved by adding more thickness. This is amply demonstrated with our new **HPC**® **COATING** when the surface temperature can be reduced from 1000°F to only 163°F with a mere 1" DFT as certified by the **TEMPERATURE REDUCTION CHART - VTEC LABORATORIES**.

In an independent test conducted by **JSA Sales** a 10°F difference was recorded using **SUNSHIELD**®.

The following is courtesy of Don Pasternak of **PRAGMATEK BUILDING SYSTEMS, INC.** the distributor for New Jersey. Don is working with Bill Barbera the Vice President of **HVAC Alternatives, Inc.** Bill recently (October 2005) applied **SUPERTHERM**® Multi ~ Ceramic Insulation Coating as the thermal break under newly installed in floor radiant heating. His results match the results achieved on our projects.

*"I have performed some additional tests on **SUPERTHERM**®. Recently I installed radiant on the 2nd floor of my own home.*

*One room I coated the sub-floor with 2 coats **SUPERTHERM**® Installed 9" wide sleepers & heat transfer plates with 1/2" pex then Pergo for finished floor.*

*The rest of the rooms was installed using 3/4" Dow Polystyrene with heat transfer plates and pex, simulating the Roth products system for radiant retrofit systems in lieu of the **SUPERTHERM**® and plywood.*

*The **SUPERTHERM**® room responds twice as fast, with virtually no heat loss*

My Conclusion:

1 - I had to reduce the flow to that room to prevent fly wheeling and overheating

2 - I wish I used **SUPERTHERM® throughout.**

3 - **SUPERTHERM® is far superior than conventional insulation.**

***SUPERTHERM**® is truly an amazing product. I intend on specifying it in all future energy conservation projects. "*

**Regards,
Bill Barbera**