# Strictly Thermal

## High Definition Thermal Imaging

18 May 2010

Initial Report on Roof Project

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This report is an initial examination of the roofing materials being applied to a large office building in Lakewood, CO

This is an initial report with no controlled samples or environment. We would ask to complete that in a controlled environment to ascertain more accurate numbers.

However, we are certain of a large percentage decrease in thermal heating due to the application of the product. It also appears it has been applied in a consistent and accurate manner as the images reveal.

The images were obtained 12 May 2010 from 1:05 to 1:25 pm MST
Ambient air temp: 62 degrees F
Humidity: 27%
Wind speed: Avg 11 MPH, Max 16.9 MPH from the NNW.

STRICTLY THERMAL LLC

FLIR

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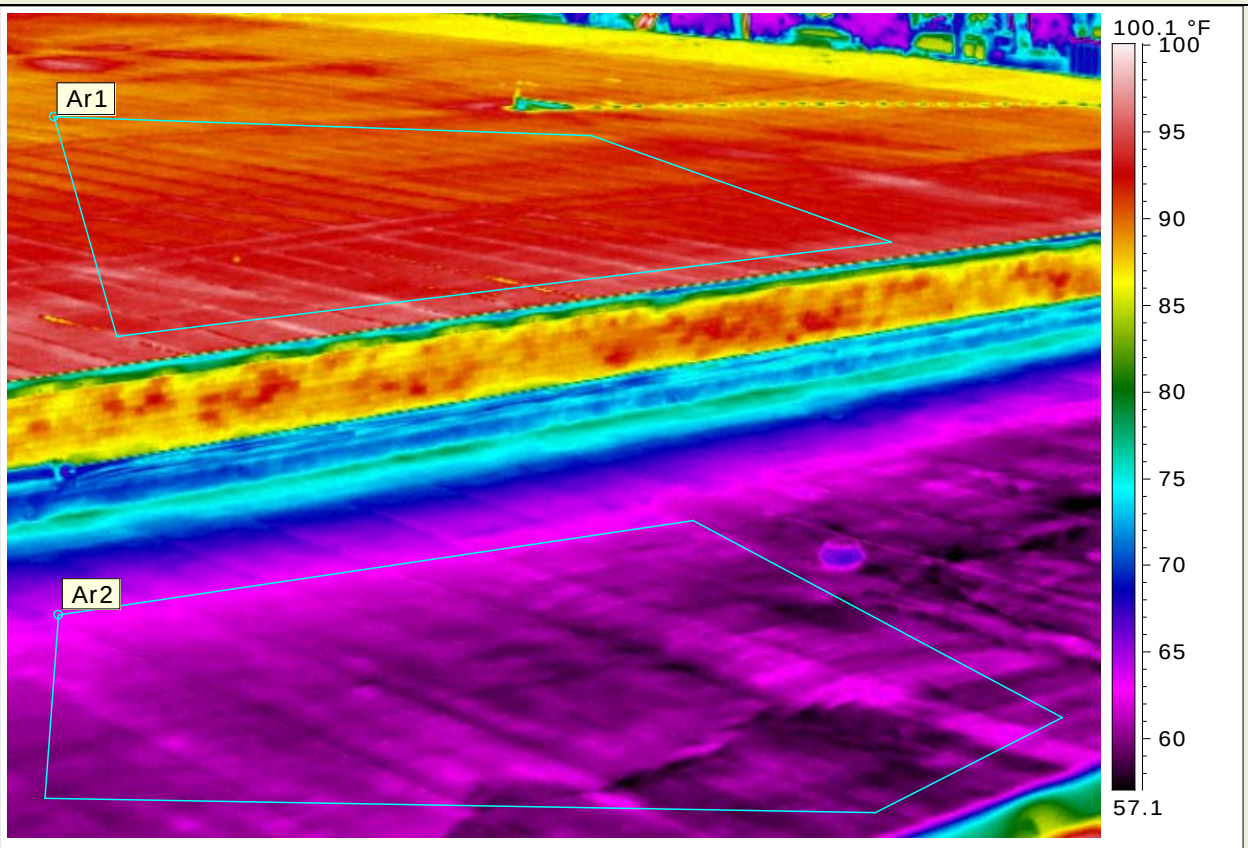
# IR-image

**Image file name: Flir 001.jpg** **Image date: 5/10/2010**



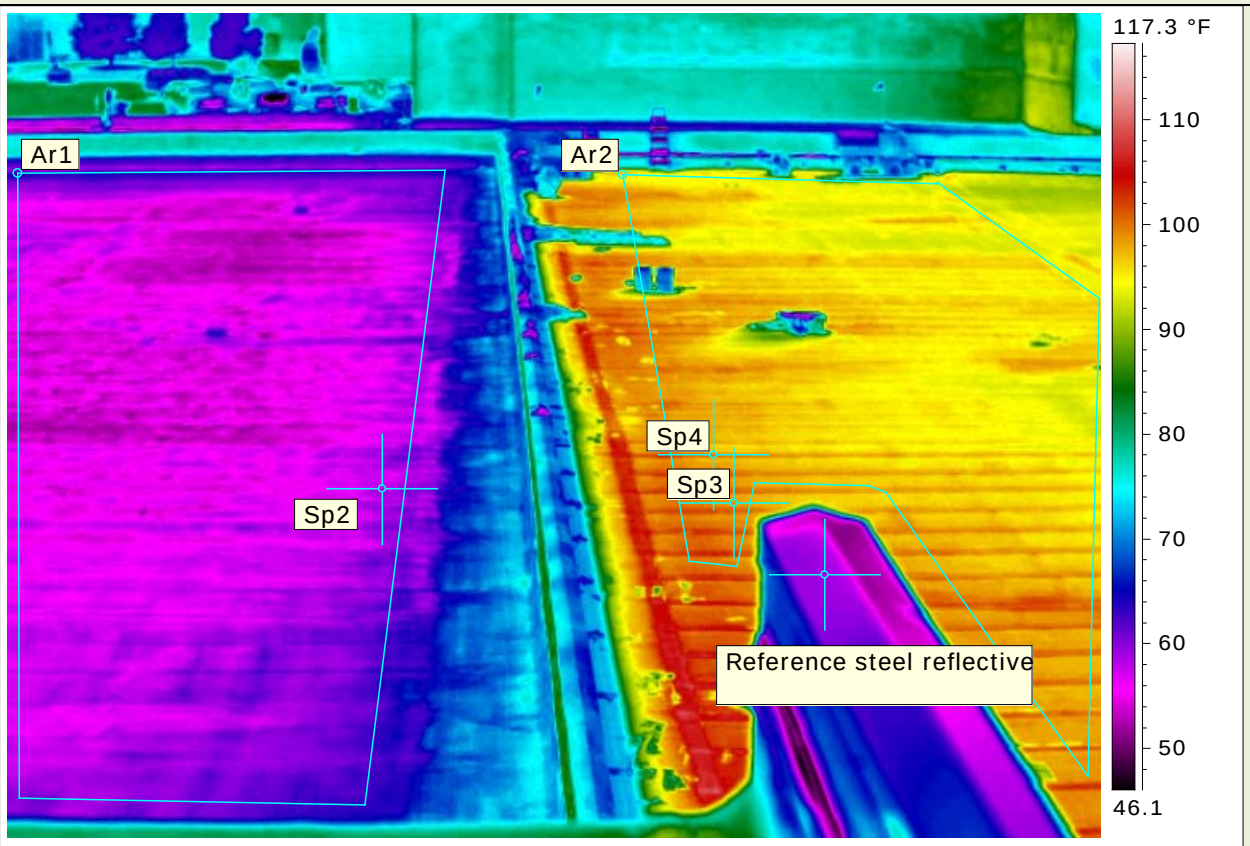

| | |
|---|---|
| Reflected Apparent Temperature | 68.0 °F |
| Image Time | 1:10:46 PM |
| Ar1 Min. Temperature | 86.4 °F |
| Ar2 Min. Temperature | 56.6 °F |
| Ar1 Max - Min Temperature | 13.4 °F |
| Ar2 Max - Min Temperature | 7.2 °F |
| Ar1 Average Temperature | 93.6 °F |
| Ar2 Average Temperature | 60.1 °F |

Looking north onto lower roof.
The diagonal yellow area is a raised firebreak wall.
Smoothness and consistency of the coating is apparent.

The apparent average temperature difference from Ar1 (old roof) to Ar2 (New Coating) is 33.3 degrees.
Also the Delta Temp (High to Low difference) Is 6.2 degrees narrower.

# IR-image

**Image file name: Flir 003.jpg** **Image date: 5/10/2010**



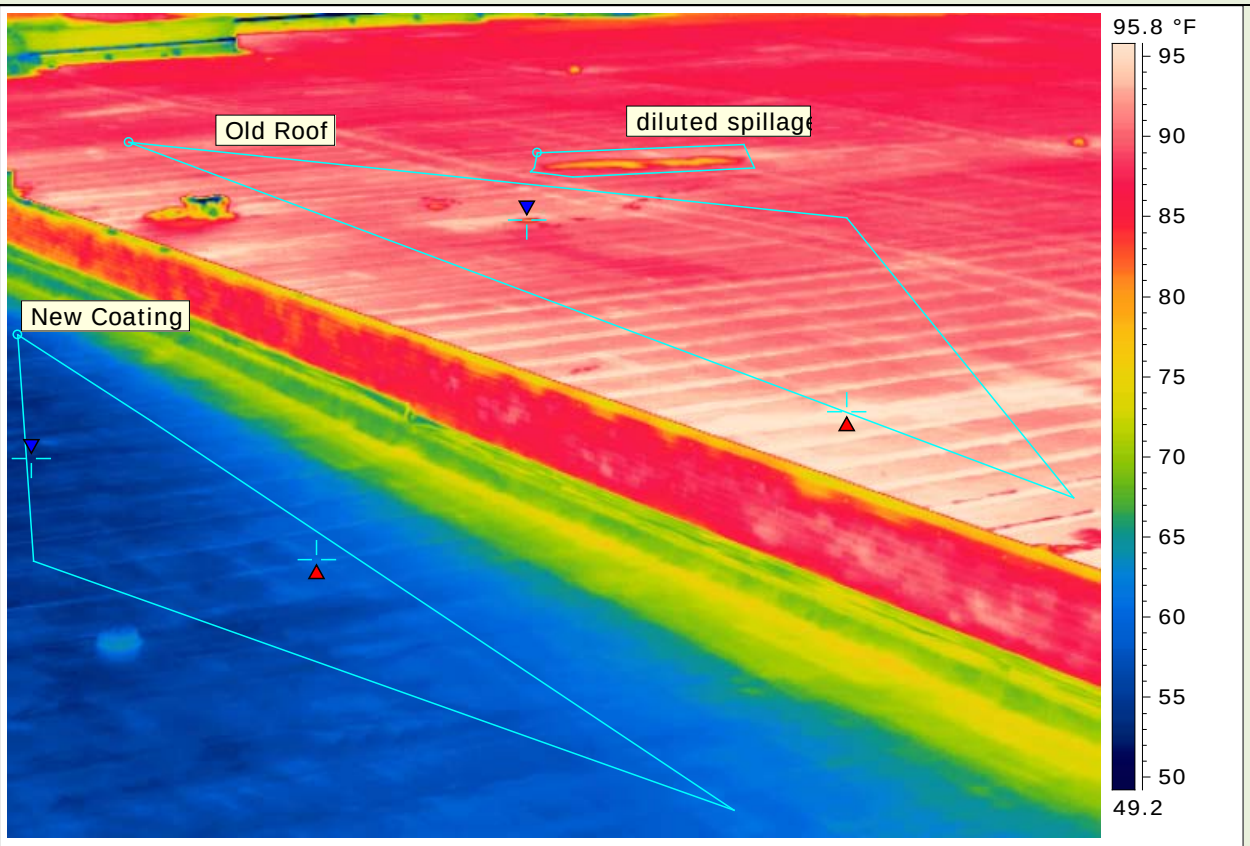

| | |
|---|---|
| Reflected Apparent Temperature | 78.0 °F |
| Emissivity | 0.91 |
| Relative Humidity | 27.0 % |
| Reference steel reflective Temperature | 61.4 °F |
| Sp2 Temperature | 61.3 °F |
| Sp3 Temperature | 98.2 °F |
| Sp4 Temperature | 99.9 °F |
| Ar1 Min. Temperature | 47.4 °F |
| Ar2 Min. Temperature | 48.8 °F |
| Ar1 Max - Min Temperature | 14.5 °F |
| Ar2 Max - Min Temperature | 50.9 °F |
| Ar1 Average Temperature | 53.8 °F |
| Ar2 Average Temperature | 91.5 °F |
| Ar1 Max. Temperature | 61.9 °F |
| Ar2 Max. Temperature | 99.6 °F |

No control sample. Suspected .91 emissivity
Distance approximated.
No measurements made under roof.
Need sample and angles for comparative measurement.
1 degree rise between laps on right side roof (Sp3 and Sp4)

That being said, a 37.7 difference (Delta) is impressive and in line with the other measurements indicated.

# IR-image

**Image file name: Flir 008.jpg** **Image date: 5/10/2010**

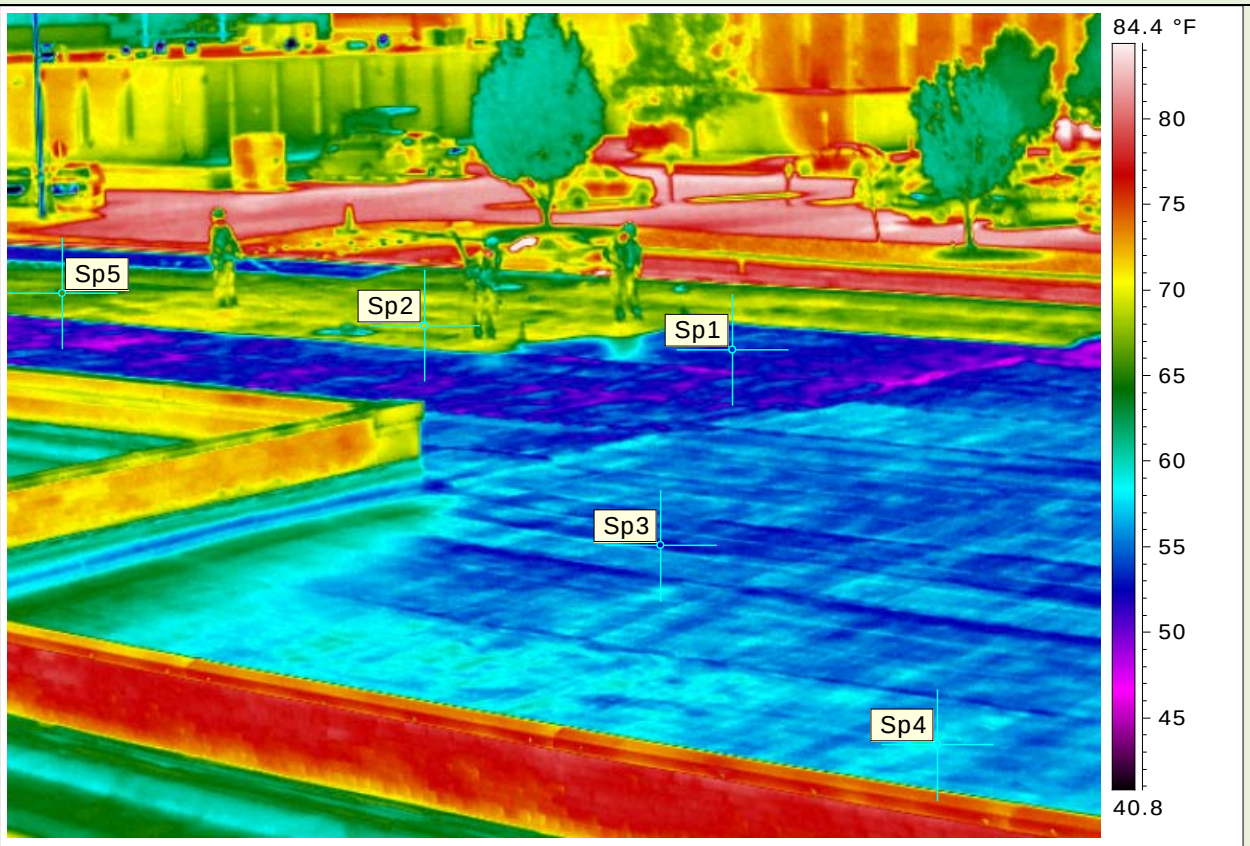



| | |
|---|---|
| Reflected Apparent Temperature | 78.0 °F |
| diluted spillage Max - Min Temperature | 18.4 °F |
| New Coating Max - Min Temperature | 9.0 °F |
| Old Roof Max - Min Temperature | 20.9 °F |
| diluted spillage Average Temperature | 87.9 °F |
| New Coating Average Temperature | 59.0 °F |
| Old Roof Average Temperature | 91.1 °F |
| Diluted spillage Max. Temperature | 93.9 °F |
| New Coating Max. Temperature | 63.5 °F |
| Old Roof Max. Temperature | 99.0 °F |

Notice Ar3 is spilled rinse product. Still a 6 degree difference.

# IR-image

**Image file name: Flir 011.jpg** **Image date: 5/10/2010**

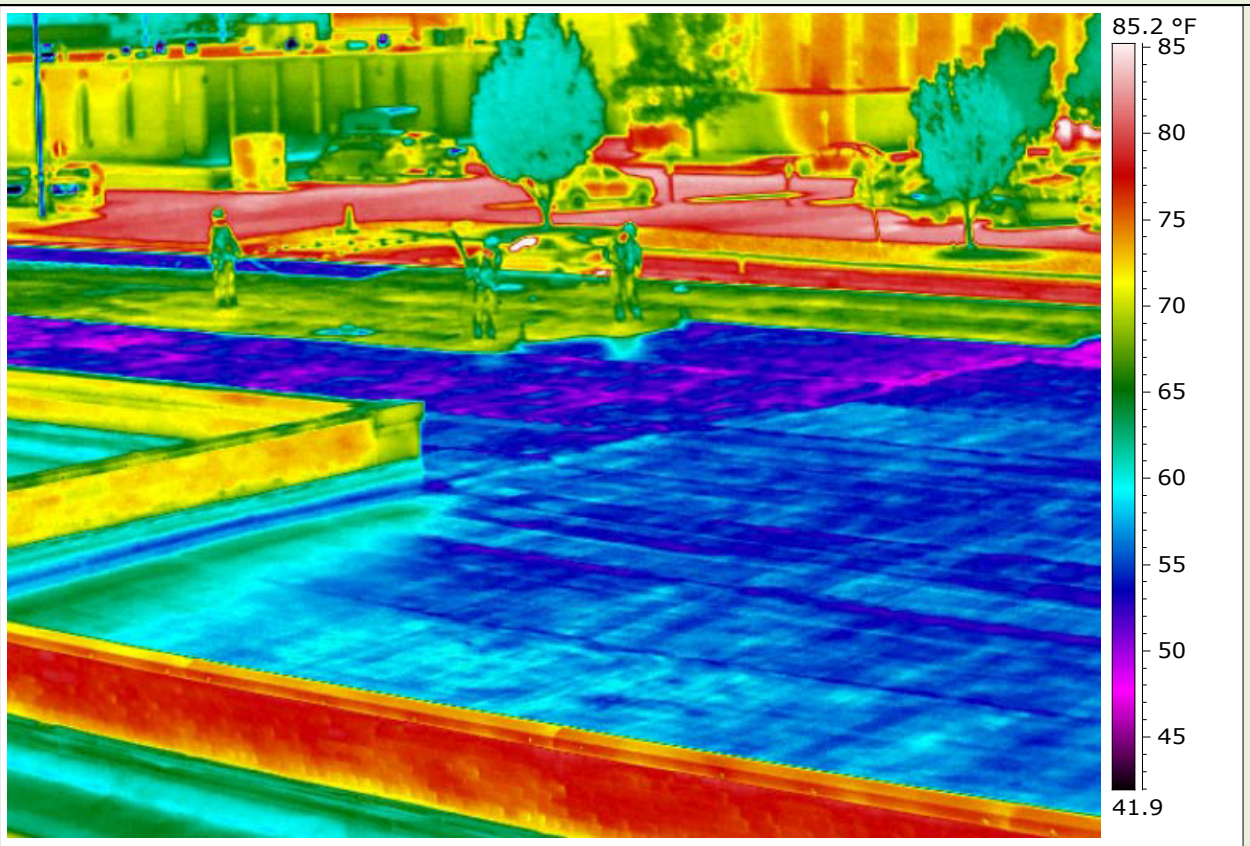



| | |
|---|---|
| Reflected Apparent Temperature | 68.0 °F |
| Sp1 Temperature | 54.0 °F |
| Sp2 Temperature | 69.0 °F |
| Sp3 Temperature | 53.5 °F |
| Sp4 Temperature | 58.4 °F |
| Sp5 Temperature | 65.8 °F |

Employees applying material, west side of building.
Notice temperature reading just before and after application Sp1 & Sp2.
Temperature readings appear consistent as the material cures.

# IR-image

**Image file name: Flir 011.jpg** **Image date: 5/10/2010**




| | |
|---|---|
| Reflected Apparent Temperature | 68.0 °F |

Sample image to use without annotations.

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