

INFRARED INSPECTION OF ROOF SYSTEMS

**VANGUARD ENGINEERING, INC.
P.O. Box 519
EAST LYME, CT 06333**

SUBMITTED TO:
Your Public Schools

INSPECTED BY:
Mark L. Kiefer
Level – I Certified Infrared Thermographer #6363

QUALIFIED ASSISTANT:
As assigned by the customer

INSPECTION PERFORMED:
June 15, 2004

IR EQUIPMENT USED:
Agema 470 #073219



Vanguard Engineering, Inc.
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FOREWORD

Flat roof structures are the standard in industrial and municipal applications. Of the millions of square feet of roof installed each year it has been estimated that up to 40% will develop problems within the first year of service. The average life span of these roofs is seven years, but it is estimated that they could last as long as twenty years if correctly installed and maintained. This is where infrared imaging stands above all other methods in prolonging the life of your flat roof structure.

HOW INFRARED THERMOGRAPHY WORKS

Infrared roof inspections work on the principal that different materials in the roof have different thermal mass. In the daytime the sun heats the roof structure. After the sun sets the roof begins to cool. If there is a leak in the roof membrane the insulation inside the roof will become wet. The wet insulation has a higher thermal mass than the rest of the "dry" roof structure. As a result of this difference the "wet" areas will maintain heat energy longer than other areas providing the infrared inspector with a clear picture of the damaged area. The temperature difference between damaged and "dry" roof is very small (typically 2-4 degrees).



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Date: 6/15/2004 Report No. 20030606

Customer: Your Elementary School,
Your Public Schools

Location: East Wing – North Edge

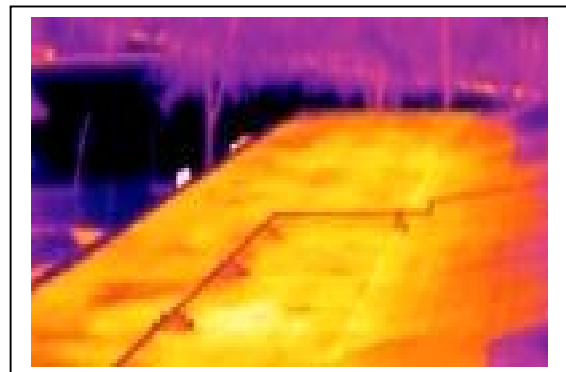
Problem: Moisture infiltration (yellow/orange area in IR image. Area #1 identified at time of inspection with spray paint. Total wet area = 25' X 160'. Moisture verified with Delmhorst moisture meter. Core cut taken by roofing contractor – 1" fiber insulation board (wet) over previously installed roof membrane.

PRIORITY: IMMEDIATE ACTION

VISUAL IMAGE



INFRARED IMAGE



Repair Comments: This area should be reinspected after repair.