ROOFTEC

Infrared Moisture Detection Survey

RoofTEC conducts ground-based infrared moisture detection surveys using state-of-the-art infrared technology. The purpose of the Infrared Roof Survey is to detect wet insulation within a roofing system. Infrared scanning devices detect infrared radiation, or heat, within the infrared spectral region. The variances in the heat of the scanned objects can be seen in a thermal image on the screen of the IR camera.

The infrared survey relies on wet insulation within the roof to absorb solar heat during the day and retain this heat longer than dry roof areas. At night, as dry roof areas cool down faster, the IR camera records the heat energy that is retained by the wet insulation. In this way, areas of wet roof insulation can be detected and potential problems prevented.

Thermographic photographs indicate wet insulation using grey scale to show temperature variations. Lighter areas signify wet areas at higher temperatures, while darker areas show dry areas emitting less infrared radiation at a longer wavelength. In fact, all areas emitting more radiation show up warm, including walls, ply laps, fasteners, and even HVAC equipment. When looking for wet insulation, one is attentive to anomalies indicative of characteristic insulation patterns to help distinguish between areas that are actually wet and those that are warm for other reasons.

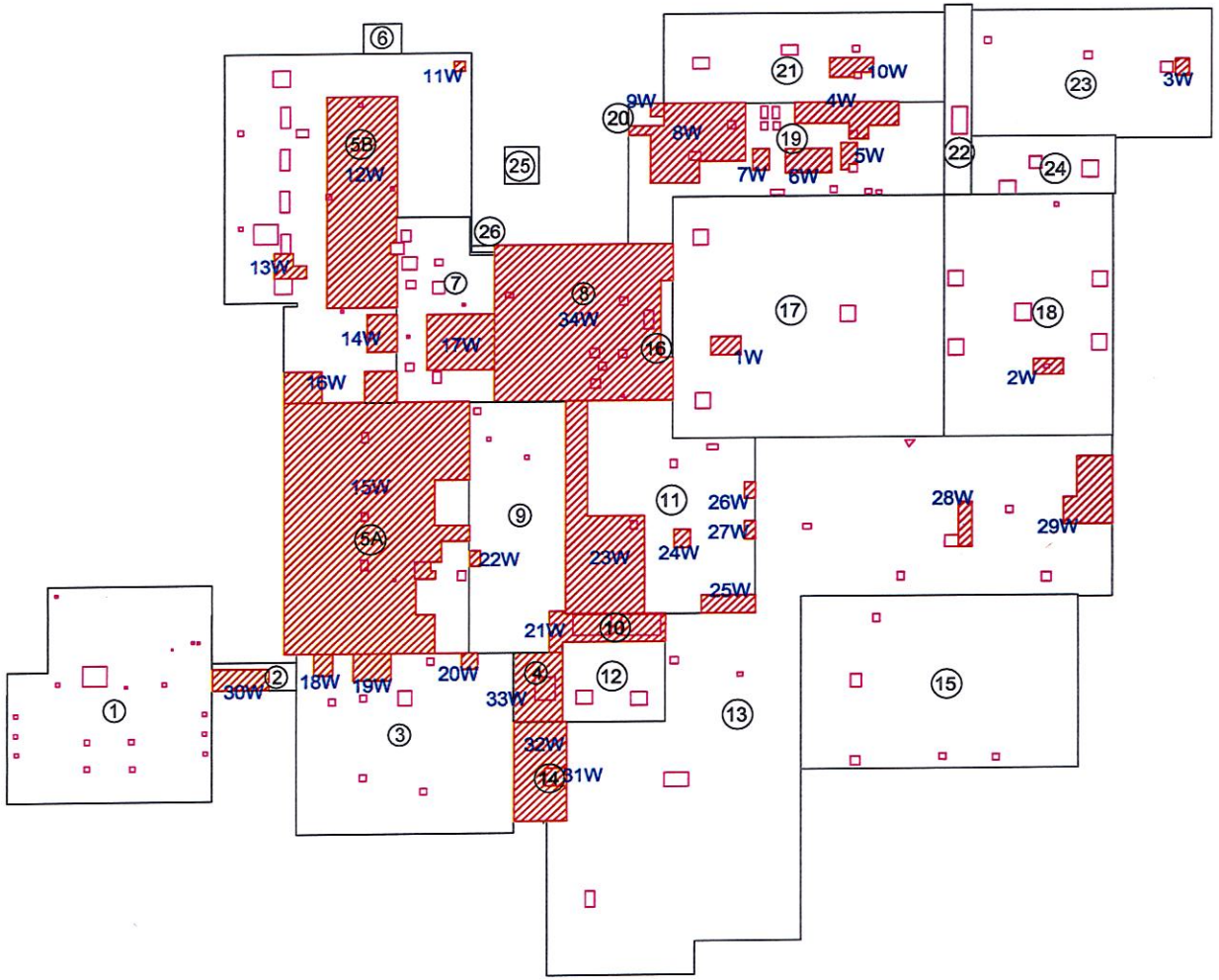
As a precursor to an infrared scan, core samples are extracted at representative roof areas in order to provide the infrared technician with data about roof construction, as well as a visible inspection of roof system components.

Core extractions and moisture probes are conducted to validate results of the infrared scanning device. The Delmhorst Moisture Probe measures electrical resistance within materials and indicates moisture levels within roof membranes. The Tramex is a capacitance measuring device that is a non-invasive means of detecting moisture within a roofing system. Both instruments are used to interpret and confirm anomalies detected with the infrared camera.

ROOFTEC

Executive Overview of Infrared Survey Findings				
Site	Kenston Middle School			
Building	Main			
Sector ID's	All			
Date & Time	May 9, 2017 - 8:00 P.M.			
Sector ID	**Area (square feet)**	**# of Anomalies**	**Anomaly Area (square feet)**	**Wet % of Sector**
Sector 1	5,825	0	0	0.00%
Sector 2	328	1	168	51.22%
Sector 3	5,593	3	232	4.15%
Sector 4	450	1	450	100.00%
Sector 5A/B	16,145	6	8,455	52.36
Sector 6	160	0	0	0.00%
Sector 7	2,440	1	525	21.52%
Sector 8	3,838	1	3,838	100.00%
Sector 9	3,335	1	24	0.72%
Sector 10	497	1	497	100.00%
Sector 11	5,266	5	1,674	31.79%
Sector 12	1,140	0	0	0.00%
Sector 13	14,555	3	1,182	8.12%
Sector 14	72	1	72	100.00%
Sector 15	6,745	0	0	0.00%
Sector 16	130	0	0	0.00%
Sector 17	9,265	1	77	0.83%
Sector 18	5,758	1	66	1.15%
Sector 19	4,265	5	1,512	35.45%
Sector 20	110	1	25	22.72%
Sector 21	3,646	1	114	3.13%
Sector 22	735	0	0	0.00%
Sector 23	4,375	1	35	0.80%
Sector 24	1,158	0	0	0.00%
Sector 25	250	0	0	0.00%
Sector 26	21	0	0	0.00%
Total for Building				
26 Sectors	**96,102**	**34**	**18,946**	**19.71%**

Building Overview



Wet Insulation Areas:

1W	77 SF	18W	56 SF
2W	66 SF	19W	140 SF
3W	35 SF	20W	36 SF
4W	357 SF	21W	497 SF
5W	54 SF	22W	24 SF
6W	153 SF	23W	1,447 SF
7W	48 SF	24W	42 SF
8W	900 SF	25W	140 SF
9W	25 SF	26W	24 SF
10W	114 SF	27W	21 SF
11W	16 SF	28W	85 SF
12W	2,092 SF	29W	375 SF
13W	95 SF	30W	168 SF
14W	154 SF	31W	72 SF
15W	5,930 SF	32W	722 SF
16W	168 SF	33W	450 SF
17W	525 SF	34W	3,838 SF

LEGEND

- Rooftop unit or penetration
- Wet insulation anomaly
- (#) Roof Sector ID

ROOFTEC
36403 Vine Street, Willoughby, OH 44094
Ph: 440.269.2066 Fax: 440.269.2067 rooftec@rooftecinc.com

Project
Kenston Middle School
17429 Snyder Road
Chagrin Falls, Ohio 44023

Customer
Jeremy McDevitt
Kenston Local Schools
17419 Snyder Road
Chagrin Falls, Ohio 44023

Dwg. By	Checked By
SS	JB
Date	Scale
5/2017	N.T.S

Job # 17027.01