

General Description:

- **Location:**
Sterling Heights, Michigan
Plymouth, Michigan
- **Profile:**
Approx. 3 million square feet
- **Project:**
StructureScan Survey and
Roof Evaluation

Services Provided:

- StructureScan Survey
- Evaluation
- Development of Long-Range Program

Challenge:

- Large square footage with tight time restraints
- Wanted to scan dead level roofs which showed extensive ponding water
- Discovered extensive defective decking - creating structural hazards

Solution:

- Used multiple crews working simultaneously
- Scanned during periods of dry weather when roofs were dry
- Areas with defective decking were flagged and taped off for safety purposes



Web: www.structuretec.com

Email: geninfo@structuretec.com

All rights reserved.

Visteon Corporation Sterling Heights Facility

Visteon Corporation, a major manufacturer of auto parts, had been completing major capital roof work for several years on both their Sterling Heights and Plymouth manu-

of what was occurring on their roofs. StructureTec was contracted as a specialty consultant to perform an infrared StructureScan Survey and an evaluation. Visteon had been operating in a reactive mode, addressing emergencies as they arose. StructureTec began with a scientific approach to the situation in order to delineate more precisely on the cause and effect of the leakage conditions. StructureTec faced several challenges at the beginning of the project. First, the sheer size of the facilities with the massive amount of square footage posed a challenge. Added to this challenge was the



Overview of a portion of Sterling Heights Plant

facturing facilities. Comprising more than three million square feet, these roofs posed many challenges for Visteon with hundreds of rooftop projections which required significant rooftop traffic to service these units. Additionally, numerous new projections were being installed intermittently on an ongoing basis. It became quickly apparent that these combined factors inevitably resulted in severe abuse to the in place roofing materials. The major capital projects had not achieved the expected results in arresting the leakage conditions. Visteon wanted to attain a more accurate picture

fact that Visteon needed this information in a very short time frame. StructureTec addressed these challenges by employing three different crews who worked simultaneously in order to maximize the square footage covered



Areas of wet insulation were delineated on the roof using paint and were also denoted on detailed roof schematics.



Approximately two million dollars of reconstruction occurred in areas exhibiting extreme degradation and wet insulation.

each day. The process began with the visual evaluation, which included establishing a Roof Condition Index (RCI) for each area. During the evaluation, observations by StructureTec personnel revealed that the roof decks were dead level and exhibited ponding water at numerous locations. This added a challenge because the StructureScan Survey required dry surfaces, and it would typically take from three to seven days for the roof surfaces to dry. The evaluation process also revealed that many of the roofs were exhibiting defective decking below. Further investigation revealed that many of these areas with defective decking had been constructed with phenolic foam insulation. This product has since been removed from the marketplace because when it becomes wet and saturated it exhibits high acidity which causes corrosion to steel decking. These conditions posed an additional challenge. Areas of the roof that were not structurally sound should



Many pieces of rooftop equipment exhibited areas of wet insulation due to inadequate flashings and extensive rooftop traffic.

FEATURES

Determines the exact extent of wet, saturated insulation

High level of accuracy as opposed to guesswork

Scientific approach to problem-solving

Ascertained the extent of substrata degradation where maintenance is not viable

BENEFITS

Save dollars by eliminating unnecessary roof replacement

Precise repairs to eliminate leakage conditions

Addressed the cause of the problem, not just the effect

Properly invested dollars in areas that absolutely required replacement

not have any foot traffic. These areas had to be taped off for safety purposes, especially for the StructureScan which occurred at night. The infrared scan was then conducted over 100% of the roof surface. Areas of wet insulation were painted on the roof surface and were also denoted on a detailed roof plan. This process provided an accurate picture of where wet substrates existed. StructureTec then used the evaluation and StructureScan information to develop a detailed, defined, prioritized, long-range program. Short-range goals were also denoted, and approximately two million dollars of reconstruction occurred in prioritized areas. In conclusion, Visteon now has an accurate picture of their roofing conditions and a long-range, detailed program for handling their roofing concerns, which will provide the maximum return on investment. ■

Total Building Envelope Management SolutionSM

www.structuretec.com
(800) 745-7832