

General Description:

- **Location:**
Midland, MI
- **Profile:**
Manufacturing Complex
- **Project:**
DATA MANAGEMENT SERVICESSM
Roof Evaluation &
*StructureScan*TM

Services Provided:

- Roof Evaluation
- *StructureScan*TM Survey
- DMS Implementation
- Development of Long-Range Program

Challenge:

- Size and spread of facilities
- Extensive roof top projections
- Special access needed in certain areas of the complex

Solution:

- Used multiple crews to complete the evaluation
- Dedicated coordination between StructureTec and Dow crews
- Took precautionary measures to prevent problems



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Dow Chemical *Research & Development Buildings*

Dow Chemical Corporation has a large corporate campus at its headquarters in Midland, Michigan. With several complex facilities ranging in age, they needed extra help to organize their facility assets and coordinate preventative maintenance. StructureTec was called to evaluate the existing conditions of the building facilities and create a computerized database



tem (RCI - Roof Condition Index) with 100 being in perfect condition and 0 being a failed condition. This rating system allows Dow Chemical to see how the condition of the roof progresses over time.

The evaluations took note of all roof areas - both damaged and in good condition. Individual photos were taken of all areas to document their condition for a benchmark. The buildings had many of the common signs of aging - fractures, deteriorated sealant, vegetation growth, and ponding water. These areas of repair were noted.

After evaluations were complete, a *StructureScan*TM thermal imaging scan was



Overview of Roof Top

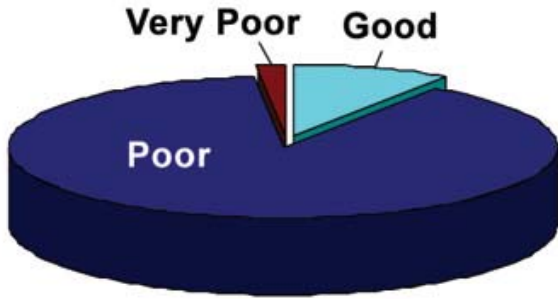
to organize all the building conditions and maintenance schedules.

StructureTec first evaluated 23 buildings with over 1.1 million total square feet of roofs. Physical conditions of these roofs were recorded into a customized computer database program, along with photos of all areas. This gave Dow Chemical a benchmark of their current roofs' status so they can better make educated decisions on maintenance programs. Physical conditions of the roofs were graded on a numbering sys-



*Damaged protective board around roof top drain.
(Protected Membrane Assembly)*

RCI Breakdown



Each building's roof conditions are evaluated according to the Roof Condition Index (RCI).

done. This procedure locates roof areas with wet insulation that might not be seen with the naked eye. These wet areas were marked off on the roof surface and noted in the report.

Once all roof evaluations and thermal imaging scans were completed, StructureTec then prioritized the roof areas in order of those requiring immediate maintenance. This allowed for accurate yearly maintenance plans and budgets to be created. These budgets also accounted for the cost of deferred maintenance.

When it was all complete, Dow Chemical walked away with a comprehensive benchmark of their roofs' conditions, complete with photos and recommendations of how to fix problem areas. This computerized database allows them to update the conditions of their roofs, document maintenance completed, upload new photos, compile maintenance bud-

gets, and run condition reports.

In addition to developing the overall maintenance program, a long range asset management program was developed for major capital projects including roof replacement and major restoration considerations. This process established budgets, allowing Dow Chemical to invest in required upgrades on a prioritized basis.

In the end, StructureTec provided Dow Chemical with a comprehensive roofing program that will assist them in maintaining their facilities for years to come. This roof asset management program will help them manage facilities through time and personnel changes, as the information will be stored in their infrastructure for future reference. The prioritized budgets created for the next several years will help Dow Chemical decide how to best use resources to gain the greatest return on investment. ■

FEATURES

- Delineates integrity of each specific roof area
- Develop a roof condition index rating
- Prioritization which encompasses all roofs
- Delineates which roofs need to be replaced and which need to be maintained
- StructureScan Survey of roof systems

BENEFITS

- Able to prioritize roof replacement and repairs
- Establish budgets for future work
- Inventory of all facility assets
- Able to allocate their resources properly, maximizing the return on investment
- Able to identify substrata conditions