

General Description:

- **Location:**
Midland, Michigan
- **Profile:**
Corporate Headquarters
- **Project:**
Exterior Penthouse Wall Remediation

Services Provided:

- Evaluation
- Methods Testing
- Material Testing
- Remediation Plan

Challenge:

- Visible staining which others had been unable to identify
- Staining needed to be removed without damaging wall

Solution:

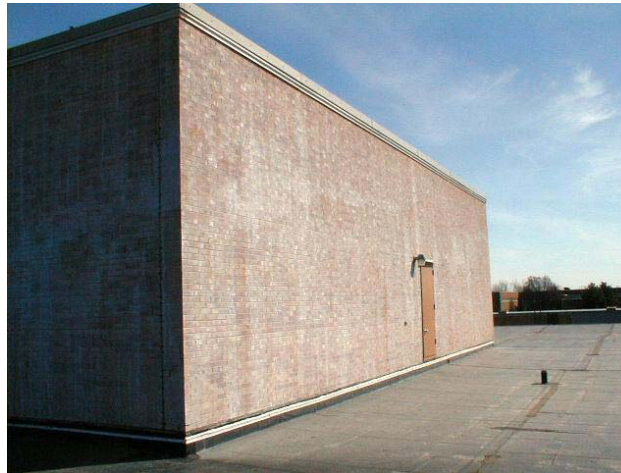
- Applied scientific approach to deduce staining was a residue
- Performed careful analysis and testing to find correct methods for removal

CB Richard Ellis/Dow Corporation Dow Center/2040 Building

Dow Corporation was experiencing a highly visible staining on the Dow Center/2040 Building. Over a period of six to nine months, the staining

the problem or develop a remedy. StructureTec was then consulted and performed an evaluation of the exterior walls. StructureTec deduced that an incompatible sealer system had been applied to the masonry, creating this staining effect slowly over time. The condition was not efflorescence, as others had proposed, but was in fact staining due to a residue that had formed on the surface of the masonry. Although structural degradation had

worsened and became visible from the road. This staining created a very undesirable appearance to this high profile corporate building. There was also concern as to whether or not there was structural damage occurring or if there was moisture entrapped in the masonry. Dow had attempted to correct the problem with contractors and consultants, but had been unable to find the cause of



Overview of staining on penthouse walls of Dow Center/Building 2040

not yet occurred, it was determined that the breathability of the masonry was limited due to the residue. If not corrected, the

Methods, means, and procedures for removing the residue were tested on strips to determine effectiveness.



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FEATURES

Scientific approach to problem-solving

Rilem tube test for masonry absorption to determine the porosity

Analysis of white staining to determine the cause of this condition

Evaluation of masonry breathability

Designed sealer system for exterior masonry walls to satisfy the porosity

BENEFITS

Eliminated the cause of the problem, not just effect

Able to determine proper corrective action for exterior facade

Developed methods, means, & procedures for removal of undesirable residue

Prevented moisture build-up in the masonry brick units

Created a moisture barrier to minimize moisture ingress through the exterior masonry wall

were detailed with specific instructions. After these procedures were implemented and the project completed, StructureTec conducted a follow-up visit a year later to ensure that no staining had occurred and that the new system was performing satisfactorily. In conclusion, Dow Corporation has a corporate headquarters building that is again aesthetically pleasing and structurally sound. Proper methods, means, and procedures ensure that the cause of the problem has been addressed and the penthouse walls have a long-term solution which will yield the highest return on investment. ■

problem could become structurally damaging as well as aesthetically displeasing. StructureTec analyzed the residue and then performed various tests in order to develop methods, means, and procedures for removing the residue without damaging the masonry surfaces in the process. Further tests were then performed to find a clear, water repellent sealer which would adequately weatherproof the walls without staining, while allowing for the breathability of the masonry. Recommendation procedures



Residue staining was more severe on several areas of the walls.

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