

**General Description:**

- **Location:**  
Zeeland, MI
- **Profile:**  
Manufacturing Facility
- **Project:**  
Tower Panels - Dispute Resolution & Restoration

**Services Provided:**

- Forensic Evaluation
- Dispute Resolution
- Design Development
- Construction Documents
- Field Quality Assurance

**Challenge:**

- Needed to determine the exact cause of the cladding blow off
- Recourse needed to occur with proper financial obligations

**Solution:**

- Used a scientific approach to fully analyze the problem and find the cause
- Produced conclusive evidence to ensure that responsible parties met financial obligations

## Mead Johnson/Bristol-Myers Squibb ZIPP Tower FORENSIC INVESTIGATION

On November 10, high winds blew twelve 40-foot metal panels off the tower of Mead

wondering what had caused the cladding failure. As the investigation began, controversies arose between Mead Johnson and the original construction manager. Legal counsel became involved and StructureTec was contracted to perform a forensic evaluation. The wall construction consisted of two layers. The interior wythe was comprised of cementitious masonry block units. The exterior cladding consisted of corrugated metal sandwich panels. These sandwich panels each had an outer metal skin with insulation in the middle. The exterior wall layer was connected to the interior with subgirts consisting of six-inch by 18-gauge metal studs attached with 18-gauge metal clips as fastener connections. The original project had been fast-tracked as a design-build with a construction manager and an engineering firm.



*Overview of completed restoration.*

Johnson's Zeeland Integrated Powder Plant, a 180-foot high manufacturing facility. Mead Johnson, a division of Bristol-Myers Squibb, is a global manufacturer of infant formula. The building was only six years old at the time. These panels caused extensive damage to the parking lot and several vehicles when they landed. Fortunately, no one was injured, but Mead Johnson was left



*Twelve panels blew off the tower, landing in the nearby parking lot.*



*All deficient panels were replaced on the tower.*



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**FEATURES**

Scientific approach to problem-solving

Performed analysis and calculation on structural support

Produced attorney "work product"

Designed new exterior cladding support in its entirety

Provided Field Quality Assurance

**BENEFITS**

Eliminated the cause of the problem, not just effect

Ensured that new structural supports met required support capacities

Supported effective negotiations for settlement with owner

Eliminated potential for reoccurrence of problems

Ensured high quality end product



*Exterior cladding consisted of sandwich panels with an outer metal skin and insulation in the middle.*



*Extensive observation and analysis was performed on the existing construction to determine the cause of the failure.*



*A deficient subframing system was one of the primary causes of the blow off.*

StructureTec investigated the original construction documents, the exterior metal walls panels (both attached and blown off), and the subframing and connection details. The weather on the day of the blow off was also noted. Wind speeds had reached 67 mph, but the original criteria for the wall was supposed to be based on a design wind speed of 85 mph. By analyzing the construction documents and the construction components, StructureTec was able to determine that the blow off was attributable to two primary conditions. The first included deficient and/or omitted fastener connections for the exterior metal panels and wall corner details. The second was the erection of a deficient subframing system. The final conclusion was that it had been both a design flaw and workmanship errors. StructureTec generated an attorney work product and then worked with Mead Johnson corporate counsel through many months of negotiations to ensure a resolution whereby Mead Johnson would incur no cost to repair both the areas of blow off, as well as other areas of the tower which were affected with similar flaws – preventing potential future problems. StructureTec then worked to redesign the structural system and performed field quality assurance to ensure the final project exuded the necessary quality. In conclusion, Mead Johnson was able to have their situation resolved, creating a watertight, safe facility which will now yield the greatest return on investment. ■

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