

General Description:

- **Location:**
Mendon, MI
- **Profile:**
19,600 sq. ft.
- **Project:**
Metal Roof Assembly
Installation

Services Provided:

- Structural Survey
- Design Development
- Construction Document
- Construction Review & Administration

Challenge:

- Manufacturing process could not be shutdown
- Roof exposed to corrosive environment

Solution:

- Designed a roof that was able to be superimposed over the existing roof, avoiding a process shut down
- Designed a system which included a protective finish that was chemically resistant to the corrosive environment

Lear Plastics Corporation *Plating Building*

The original roof had experienced extreme degradation due to the corrosive environment in the plating manufacturing process. This process posed a challenge during the project in two ways. First, the new roof needed to be able to withstand the corrosive environment from the production process. Second, the area slated for replacement was directly over an intense manufacturing area making it necessary for the project to be consummated with-

out shutting down this process. The design incorporated superimposing the existing roof with a new



Overview of field of roof

metal roof assembly and included a protective finish which was chemically resistant to the corrosive environment. A structural survey of the existing structure was conducted to confirm and ensure that the existing structural capacity would incorporate the new metal roof assembly. Due to time restraints, a Design-Build format was implemented where the consultant "teamed-up" with a contractor to "fast-track" the installation. A construction document was developed to encompass the overall installation process. The existing metal roof system and structural supports were superimposed with additional framework to support the new MR-24 Butler Standing Seam Metal Roof As-



The new metal roof was installed retrofit over the existing metal roof.



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Corrosive chemicals from the plating manufacturing process were expelled from the roof top projections and resulted in massive corrosion to the existing metal roof assembly.



Complete removal of the existing metal roof assembly was required due to the extensive degradation of the original system.

sembly. In the process, obsolete rooftop equipment was removed and new decking was installed to match existing decking. Expanded polystyrene insulation was installed over the existing substrate. The new metal roof assembly was installed and secured to the new support structures. Metal flashing and elastomeric flashing were fabri-

cated for "tie-in" to the existing facility roof areas. The Kynar 500 system was selected for the protective finish because of its chemical resistance and color coordination. Field detailing was imple-

mented during the construction process in concert with providing Field Quality Control. Lear Corporation was able to meet their timetable without shutting down their production line and obtained an end product that was able to withstand the corrosive environment, yielding a long-term solution and a maximum return on investment. ■

<u>FEATURES</u>	<u>BENEFITS</u>
Superimposed new roof over old roof	Process did not have to stop
Design-Build	Met needed timetable
Designed protective, resistant finish	Withstand corrosive environment
Designed additional insulation	Increased R-value and energy efficiency
Provided Field Quality Assurance	Ensured higher quality end product

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