



Project Profile

- **Company:**
NHI Mechanical Motion
- **Industry:**
Fabricated Metal Product
Manufacturing
- **Project Location:**
Claremont, NH
- **Ross Products:**
DexcoTM Heavy Duty Wide
Span Racks
- **Application:**
Metal Coils and Stamping
Dies

Challenges: Increase Floor Space and Manufacturing Efficiency

Safely storing and accessing extremely heavy metal coils can pose a real challenge. Ross designs and manufactures DexcoTM structural coil racking systems capable of handling these massive loads. Recently, NHI Mechanical Motion reached out to Ross to provide a solution for coil and die storage.

The initial consultation with NHI revealed several challenges the company was having throughout the manufacturing facility:

- Slit coils and stamping dies were stored on the floor, utilizing valuable production space and creating safety hazards
- While coils could be stacked on top of each other to free up some floor space, that practice created difficulties in locating and accessing the correct coils and transferring them to the stamping machines in a timely fashion
- Stamping dies could not be stacked on top of each other so they took up significant amounts of floor space
- On average, locating the correct coils required approximately one-half hour, and finding the dies necessitated up to a full hour of employee time.

Moving into a new 140,000 square foot facility, NHI wanted to take advantage of the vertical space their new building provided. As part of the company's commitment to continuous improvement and cost efficiency, the company also wanted to reduce material handling and manufacturing set-up times. Moving product and equipment to rack storage and locating the coils and dies near the stamping machines could improve production efficiencies.



Steel Coil Storage Area (Before)

Coils were stacked to save space, and stamping dies were located throughout the facility.

Solution:

Dexco Heavy Duty Wide Span Racks

Product Investigation:

NHI first looked to their existing rack suppliers but found that they did not offer systems that could accommodate the required loading conditions. In the end, they determined that their current suppliers' racks would only handle about half of the product and equipment in the allotted floor space near the stamping machines, so a significant amount of product and equipment would still have to be stored on the floor.

Erik Minske, Quality and Environmental Health & Safety Manager at NHI, conducted some internet searches to look for other options and found Ross's DexcoTM racking systems. He contacted Ross and scheduled an on-site visit with Tracy Buck, Sales Engineer, to assess the situation and provide recommendations.

"When Mr. Minske called, he stated he had many issues with finding coils and dies," Buck recalls. "He visited the Ross web site and knew that there must be something that we could develop for NHI. During our initial meeting at NHI, we carefully examined the sizes and weights of the materials. Through the course of the meeting, we started to create a building layout that would move his raw material and dies to rack systems. After a bit of discussion, we determined that DexcoTM Wide Span & Die Rack systems would solve the storage problems in the facility."

Design Process:

During the initial on-site consultation, the location, weights and dimensions of the coils and dies were recorded. A complete material and equipment list was generated to determine the total storage needs. A facility map was utilized to develop the required material flow from receiving through manufacturing and to the shipping department.

The information was provided to the design engineers at Ross, and a wide-span rack design was developed to accommodate the various product sizes and weights. Heavy-duty, structural DexcoTM wide-span racking minimizes the number of columns required to support the shelves, and therefore provides greater flexibility in material storage. Buck summarized, “We were able to incorporate changes that increased throughput of manufactured goods and create additional space for future growth. The project also made die traceability a reality.”

Results:

Custom Industrial Storage Racks Improve Die Change-Out and Organization

While DexcoTM racks were more expensive than competitor’s racks on a per-unit basis, the overall project cost was less because of the high capacity of the wide-span racks. Since NHI was able to take full advantage of their vertical space, they only had to purchase half of the number of racks originally forecast.

After the racks were installed within the allotted floor space, the products easily fit on the shelves near the stamping machines. The racking system placement and its efficient storage resulted in reductions of coil change-out times to as little as 5 minutes and die change-out times to 10 minutes.

In summary, the DexcoTM racking systems provided much-needed floor space, organization, and process improvements that created a positive impact on the company’s bottom line.



Steel Coil Storage Area (After)

About NHI: NHI is a premier global manufacturer of rugged mechanical power transfer products primarily to original equipment manufacturers. With more than 50 years of experience in manufacturing, the company produces mechanical motion parts & assemblies for a wide range of industries, including aerospace, outdoor power equipment, and material handling.

About Ross: Ross manufactures a diverse line of public safety and physical security solutions designed to protect people, property and products in a wide range of applications including heavy-duty industrial storage, anti-terrorism / force protection, and utility access. Based in Leola, Pennsylvania since 1962, the company supports ground-up construction and capital improvement projects throughout the world. Ross specializes in creating products that are engineered and tested to meet the highest standards for safety, quality and reliability within their respective fields.



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