

HSS: DESIGNS FOR THE 21st CENTURY



HSS coil storage facility at Worthington Industries, Decatur Alabama

WORTHINGTON PLANT IN ALABAMA COUNTS ON UNIFORM STRENGTH OF HSS TO STORE HUGE INVENTORY OF STEEL COILS



annealing, tempering and slitting. Processed coils, either slit or full-width, are shipped to a broad range of customers including automotive, steel furniture, container and steel tube manufacturers. Most of the coil storage at Decatur including all work in progress, is indoors and takes up more than 40% of the 750,000-square-foot plant.

When the Decatur Plant was planning a new storage facility for coils, it turned to a design that was successful at another Worthington plant, in Delta, Ohio. The design used steel Hollow Structural Sections (HSS)—about 250 tons of it.

Rack's Design Is Simple, Effective

The coil storage facility is simple, but effective, and takes advantage of the uniform strength of HSS. It consists of row after row of 8" x 4" x 1/4" rectangular HSS laid out on the plant's concrete floor. Each set of two rows is connected by lengths of steel angle irons, welded at a 90° angle to the HSS. This defines the areas where coils are to be placed and keeps the coils—which weigh 20 tons, on the average—from rolling. The rows are formed with lengths of the HSS, the maximum length that could be shipped to the plant by truck, welded end-to-end. There's no need for connections to the concrete floor. The weight of

HSS 'Grid' Makes It Easy to Locate Coils for Processing

Worthington Industries' Decatur Plant in Alabama deals in steel coils—lots of them. At any one time, there are literally thousands of coils in varying stages of processing before being shipped out to customers or to other Worthington Steel plants for additional processing.

At Decatur, Worthington brings in coils of hot-rolled steel from a number of mills. After pickling, the coils go through a variety of processes such as cold-rolling,





the HSS—and the coils resting on it—keeps the rack in place.

Having a rigidly-defined grid of spaces in which coils are stored makes it easy to locate coils when it's time for the next

processing operation or for shipping, according to John Mertler, Engineering Manager. “We have a computerized coil identification system, where each space on the coil rack has a specific numerical location,” he says. “The numbered grid is

shown in the 40-to-70-ton capacity overhead cranes that move coils in and out of the storage area. So the rack provides a unique location for each coil.”

HSS Facilitates Drainage of Oil

Mertler says that there's another advantage to the HSS rack, as opposed to storing coils right on the plant floor. “In the area where we place coils after they've been pickled, we've welded sloping steel trays to the HSS, so that oil draining from the coils runs to one side where it can be easily drawn off. That eliminates safety or housekeeping problems that would occur if the oil was to run off onto the floor.”

Based in Columbus, Ohio, Worthington Industries is a diversified metal processing company with annual sales of more than \$2 billion. The company is North America's premier value-added processor of flat-rolled steel and a leader in manufactured metal products. It operates 53 facilities and serves about 1,700 customers in the automotive, appliance, agricultural, office equipment, machinery and leisure time industries. Manufactured products include pressure cylinders, manufactured metal products and aftermarket body panels.

