

CASE STUDY

# Steel Mill Ladles



## Steel Mill Ladles

Project Details

QUANTITY **4 Ladles**

WEIGHT (EMPTY) **32-tonnes**

RATED CAPACITY **135-tonnes**

SIZE **15' x 15'**

SPECIALIZED PROCESSES INVOLVED:

- Plate Cutting and Roll Forming
- Sub Arc Welding
- Hot Riveting
- Horizontal Boring
- Complete Weldment Stress Relieving
- Heat Resistant Coating
- Automated Plate Beveling

### 1 The Challenge

A North American steel producer was looking to improve their product capability and increase overall production through a major mill expansion and equipment upgrade. This project focused on quality and productivity improvements, including increasing the slab thickness, which impacted many upstream and downstream processes.

Among the required changes; their existing steel mill ladles had insufficient capacity for the new 50% larger batch size and did not meet the technical requirements for the new system, so four upgraded units were needed.

In their search to find a vendor to complete this highly-specialized fabrication project, it was also critical that the supplier have the capacity to facilitate ongoing plant visits and minimize downtime in production while implementing this new equipment. Additionally, there were no suppliers capable of fabricating custom-designed units of sufficient size and quality within the tight time constraints.

The customer was confident in Brandt's robust, multidisciplinary team of engineers and world-class ISO 9001:2015 certified manufacturing facilities to meet their tight timeline constraints and adhere to the project's stringent quality specifications. As a result, Brandt was awarded the contract to perform the work.

### 2 The Solution

Drawing on extensive experience in large-scale fabrication projects and a strong understanding of the customer's business requirements, Brandt assigned a highly-qualified team, led by a Senior Project Manager, to this project to coordinate the initiative, facilitate ongoing communication and ensure successful, on-time delivery of the finished pieces.

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**“We selected Brandt for their experienced team and world-class manufacturing facilities and they definitely delivered for us. Their ability to handle all of our process and project requirements exceeded our expectations. The ladles were delivered on time and with no issues, which is virtually unheard of in our industry.”**

—  
Ladle Purchaser

The completed ladles are uniquely suited to this steel producer’s updated process requirements. They are ~15’ in diameter and ~15’ high, with a complex hot riveted laminated base. Individual capacity of the ladles is 135-tonnes of liquid steel and each unit weighs over 32-tonnes empty. They are precise, highly-complicated fabrications with every detail critical for successful operation. Many highly-specialized processes were utilized by Brandt in order to complete this project, including plate rolling and forming, automated plate beveling, hot riveting, sub arc welding, machining and stress-relieving.

Logistical handling of such a large weldment was possible due to Brandt’s impressive 60-ton crane capacity, allowing the pieces to be manipulated in the shop to facilitate complex fabrication operations.

Brandt’s unique ability to combine all of the necessary manufacturing capabilities in-house and at one location made it easy for the customer to conduct regular site visits and effectively monitor progress throughout.

### **3 The Result**

Completion and delivery of the ladles occurred four months after the project began. This aggressive timeline was possible because Brandt houses all of the required processes in one building.

The new ladles were seamlessly integrated into their new production process without issue. With these new units operational and working according to plan, the customer is able to make full use of their upgraded process.

Throughout the project, the customer benefited from Brandt’s collaborative approach, enjoying clear, ongoing communication, effective project management, state-of-the-art quality assurance programs, and regular shop visits and progress updates.

The successful execution and completion of this project has led the customer to partner with Brandt for additional turnkey projects as well as repair, reverse-engineering and mobile onsite services.

#### **FOR MORE INFORMATION:**

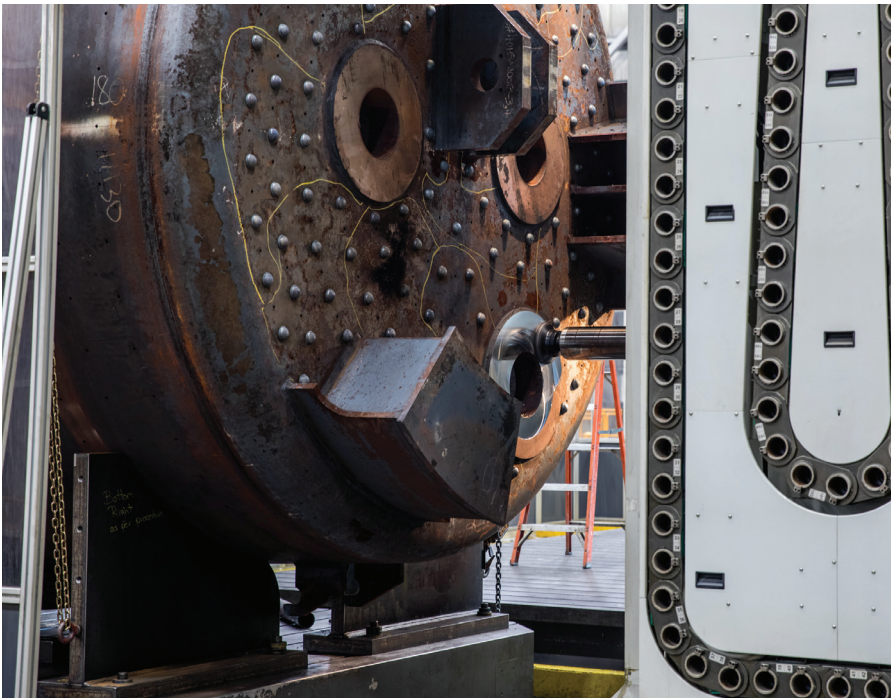
Call us at **1-306-791-7557**

Email us at **custom@brandt.ca**

Or visit us at **www.brandt.ca**



Trunnion Pin Installation



Horizontal Boring



Sub Arc Welding