

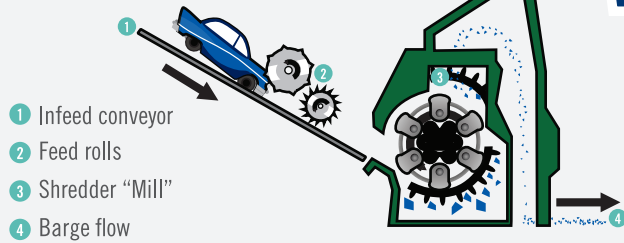
SHREDDER & YARD

SHREDDER FUNCTIONS

- > Shreds material at 160 tons per hour.
- > Separates ferrous and non-ferrous (copper, brass, aluminum and fluff).
- > Produces 16,000 tons per month.

YARD OPERATIONS

- > Provides up to 2,000 tons per day.
- > Handles 900,000 tons per year of incoming scrap from trucks.
- > Supports baghouse operations.



FURNACE

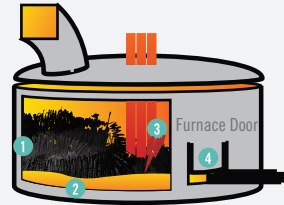
CHARGING SEQUENCE



MELTING PROCESS

Scrap steel is melted in 4 ways:

- 1 Gas energy
- 2 "Hot heat" practice
- 3 Electrical energy
- 4 Chemical energy



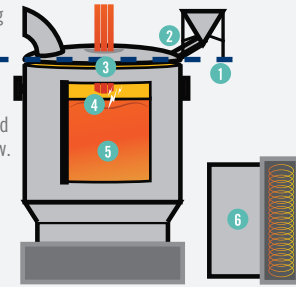
TAPPING SEQUENCE

LADLE METALLURGICAL STATION (LMS)

LMS FUNCTIONS

- > Adds alloys to refine heats according to chemical specifications.
- > Establishes consistent temperature throughout the ladle.
- > "Stages" ladles between furnace and caster to aid in continuous billet flow.

- 1 Mezzanine Level
- 2 Alloy Additions
- 3 Alloy Door
- 4 Slag
- 5 EMS Stirring
- 6 Electro-magnetic Stirring



A ladle fork transfers the ladle from the furnace to the LMS.

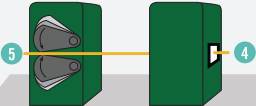
ROLLING MILL

4 BHP bar gauge

Cameras and strobe lights measure finished bars as they go through the mill, allowing operations to monitor rolled bar.

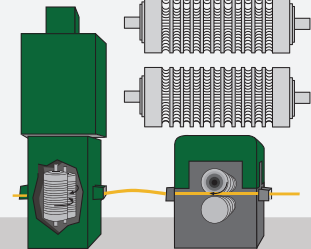
5 "Flying" shear

The flying shear cuts bars at speeds up to 3,000 feet per minute.



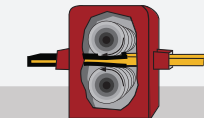
3 Intermediate & Finishing mill

After the roughing mill, the bars begin to get their shape in the "Intermediate" stands. The "Finishing" stands give the final shape to the product.



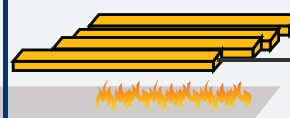
2 "Roughing" mill

When the hot, moldable billet exits the reheat furnace, it enters a series of stands called the "Roughing" mill. This is where the majority of the reduction work is done.



1 Reheat furnace

Billets from the melt shop are heated to 2,000°F in a gas-fueled furnace.



CONTINUOUS CASTER

1 Ladle

2 Tundish

3 Mold chamber

4 Spray chamber

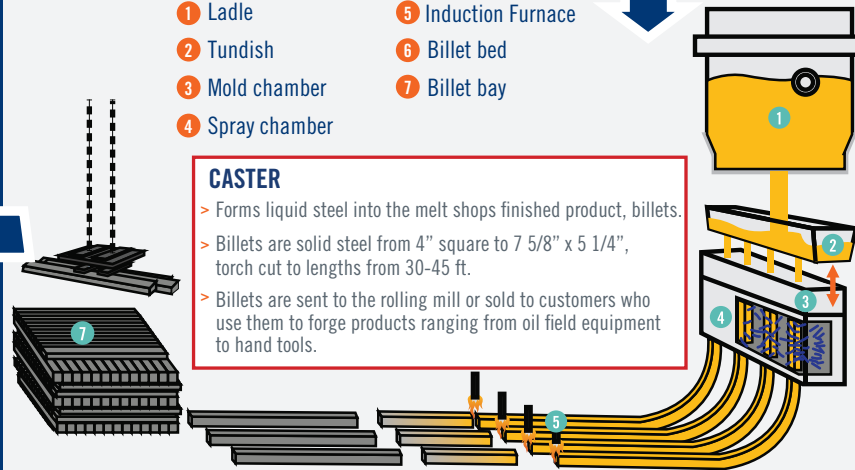
5 Induction Furnace

6 Billet bed

7 Billet bay

CASTER

- > Forms liquid steel into the melt shop's finished product, billets.
- > Billets are solid steel from 4" square to 7 5/8" x 5 1/4", torch cut to lengths from 30-45 ft.
- > Billets are sent to the rolling mill or sold to customers who use them to forge products ranging from oil field equipment to hand tools.



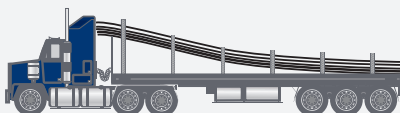
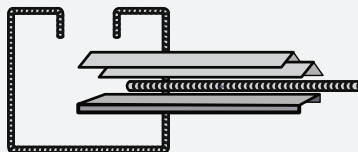
FINISHING & TRANSPORTATION

FINISHING

- > Shears and bends rebar for use in commercial and highway construction projects.
- > Straightens angles.
- > Loads CMC trucks, customer trucks, connected carriers and railcars.

TRANSPORTATION

- > Arranges shipments of all finished products.



MINIMILL PROCESS



6 Cooling bed

The steel exits the mill onto a football field-sized cooling bed.

The cooling bed holds bars until they cool sufficiently for shearing.

The cold backshear blades cut downwards.

7 Backshear & shipping

The backshear cuts bars to customer lengths.

