GERDAU
BEAUMONT MILL

October 6, 2016

Welcomes

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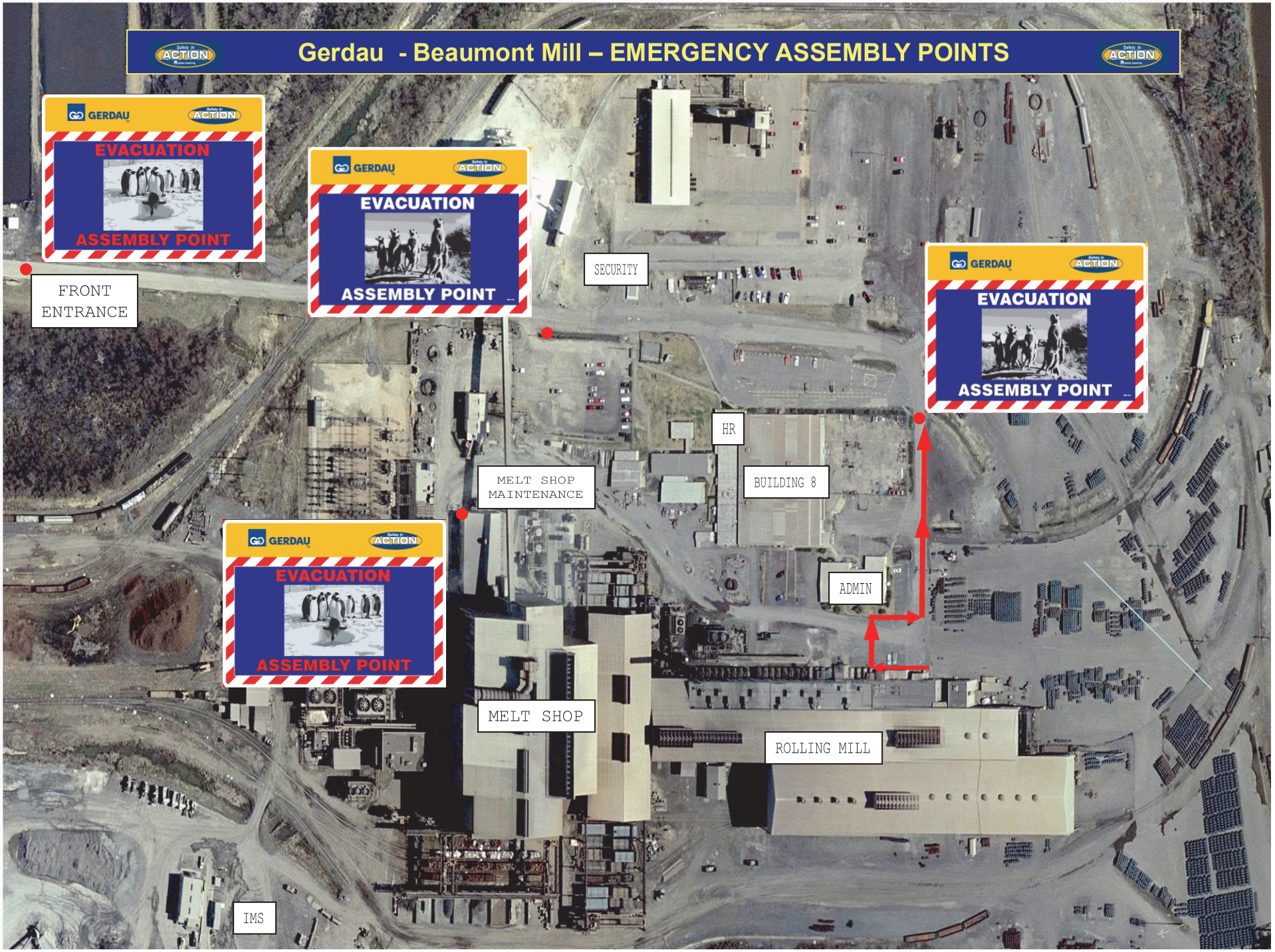
Gerdau - Beaumont Mill – EMERGENCY ASSEMBLY POINTS
GERDAU
EVACUATION
ASSEMBLY POINT
FRONT ENTRANCE
SECURITY
HR
BUILDING 8
MELT SHOP MAINTENANCE
ADMIN
MELT SHOP
ROLLING MILL
IMS

Gerdau Beaumont Mill

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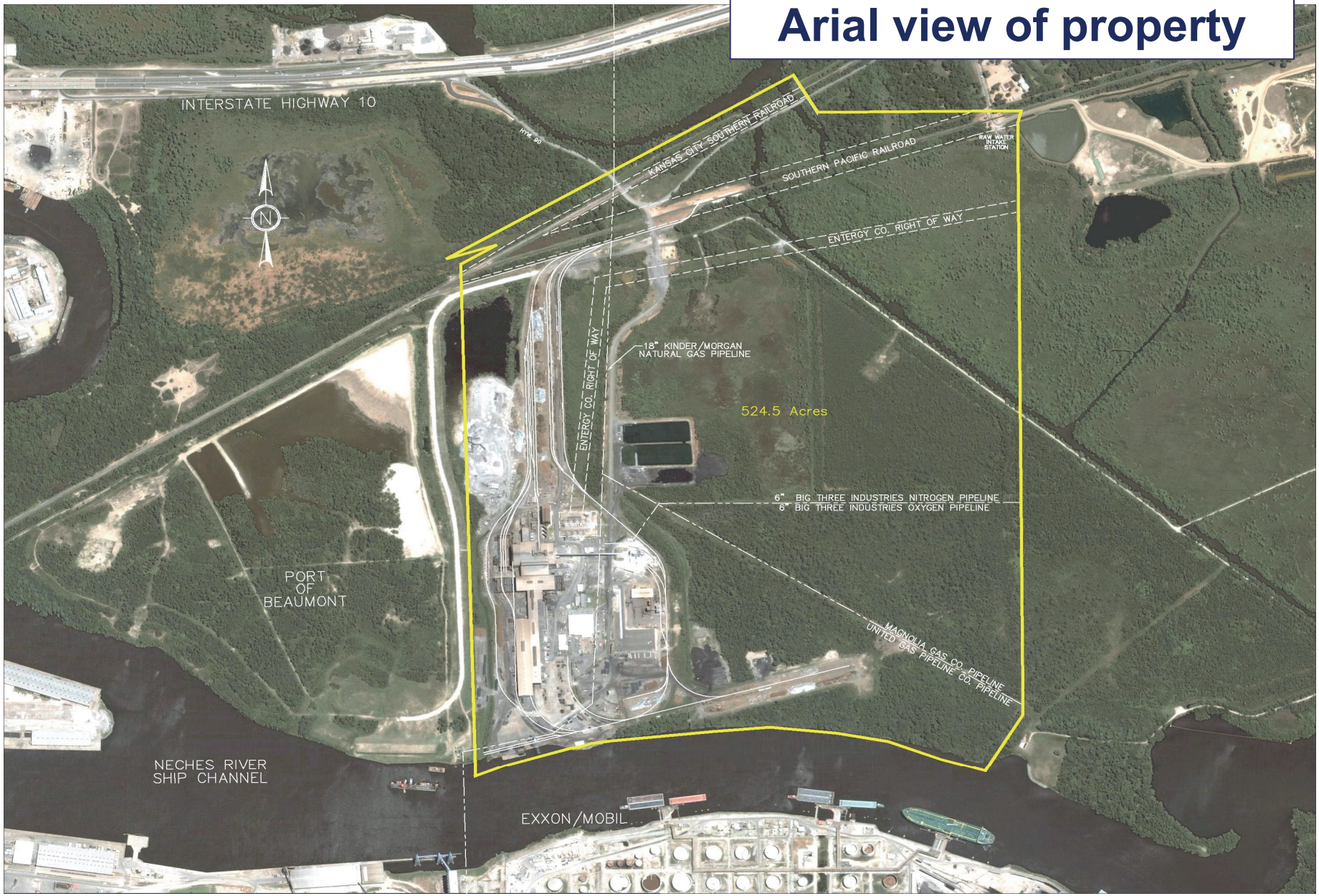
Arial view of property



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Bird's Eye View of Plant

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Beaumont Mill History

- Construction started in1974 by the Korf Corporation operating under the name of Georgetown Texas Steel.
- Production started in 1976.
- Sold to North Star Steel, a division of Cargill in 1983.
- Sold to Gerdau Ameristeel in November of 2004.
- Name changed due to consolidation of the Gerdau brand in 2011 – Gerdau Beaumont Mill

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Beaumont Mill History

Current Certifications

- ISO 9001:2008
- ISO 14001

Recognition and Awards

- Approved by DOT of 46 States
- 2008 SMA Safety award for zero LTA
- 2009 10CFR50 Approved supplier for nuclear grade rebar
- 2009 and 2010 Recognition award from US Department of Energy
- 2010 Outstanding Enginnering award from the AIME
- 2010 GLN Most Improved Environmental
- 2012 Bronze award: GLN 1-year zero LTA

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Workforce and Labor Relations

- Gerdau Beaumont has a work force of 341 employees.
- Our represented employee's are from United Steel Workers Local 8586.

Products and Operation

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Products

- The Beaumont facility is an electrical steel mill operation that has the capacity to produce 600,000 TPY of coiled wire rod and coiled rebar

Product	Size
Wire Rod	7/32” (5.5 mm) to 11/16” (17.5 mm)
Rebar US Market	10 mm (#3), 13 mm (#4) &16 mm (#5)
Rebar Canadian Market	10 mm & 15 mm
Billets	5 1/8” or 6 ½” sq. - 30’ to 49’ 6” in length

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Rod Diameters Available at Beaumont

Diameter (in)	Diameter (in)	Diameter (mm)	Length per Weight (ft/lb.)	Reduction Ratio	Diameter (in)	Diameter (in)	Diameter (mm)	Length per Weight (ft/lb.)	Reduction Ratio
	0.217	5.50	8.00	713	13/32	0.406	10.32	2.27	203
7/32	0.219	5.56	7.84	699	7/16	0.438	11.11	1.96	175
15/64	0.234	5.95	6.83	609	15/32	0.469	11.91	1.71	152
1/4	0.250	6.35	6.00	535	1/2	0.500	12.70	1.50	134
17/64	0.266	6.75	5.31	474	17/32	0.531	13.49	1.33	118
9/32	0.281	7.14	4.74	423	9/16	0.562	14.27	1.19	106
19/64	0.297	7.54	4.25	379	19/32	0.594	15.08	1.06	95
5/16	0.312	7.92	3.85	344	5/8	0.625	15.88	0.96	86
21/64	0.328	8.33	3.48	311	21/32	0.656	16.67	0.87	78
11/32	0.344	8.73	3.17	283	11/16	0.688	17.46	0.79	71
3/8	0.375	9.53	2.67	238					

Steel density = 0.283 lbs./in^3

Billet Dimensions: 5 1/8 in. (130mm) square

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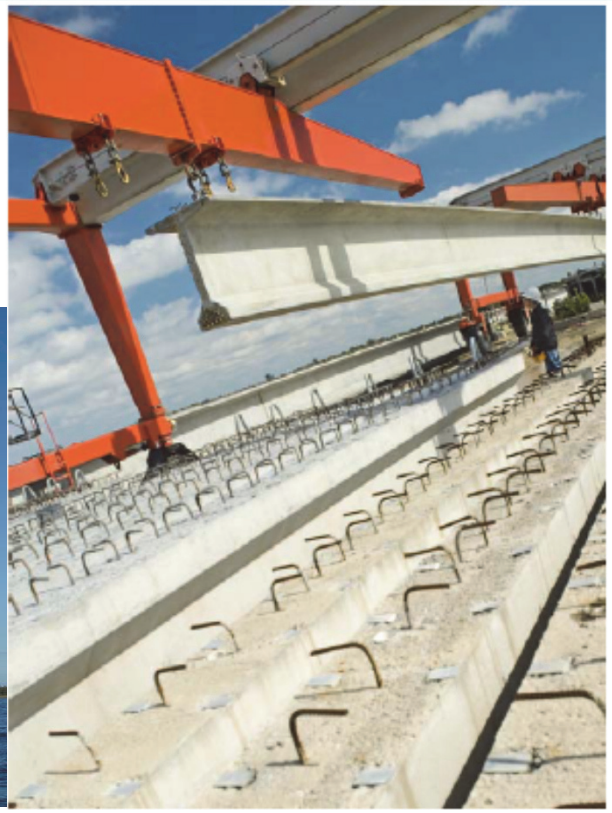
Products for Civil Construction

- Mesh is used in concrete pipe, forms and culvert applications
- Coiled rebar is used in civil projects such as the construction of walkways, roads and bridges
- PC strand is used in pre-stressed and post-tensioned concrete structures, including bridges, parking decks, industrial and commercial buildings



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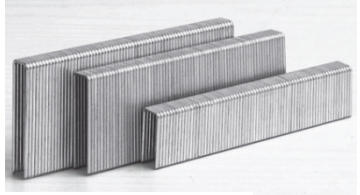
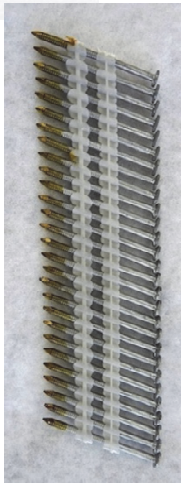
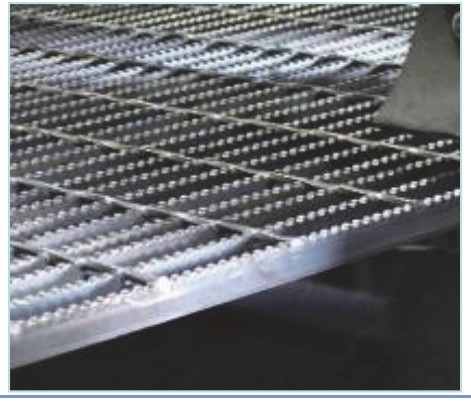
Finished Wire Products

Wire rod is also used to produce a variety of finished goods including nails, fence, barbed wire, floor grating, shopping carts, shelving units, welding wire, stick electrodes, automotive fasteners and tire bead wire







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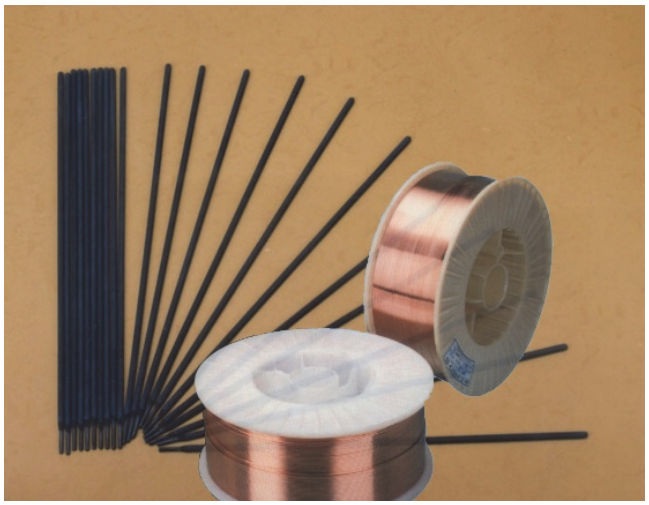

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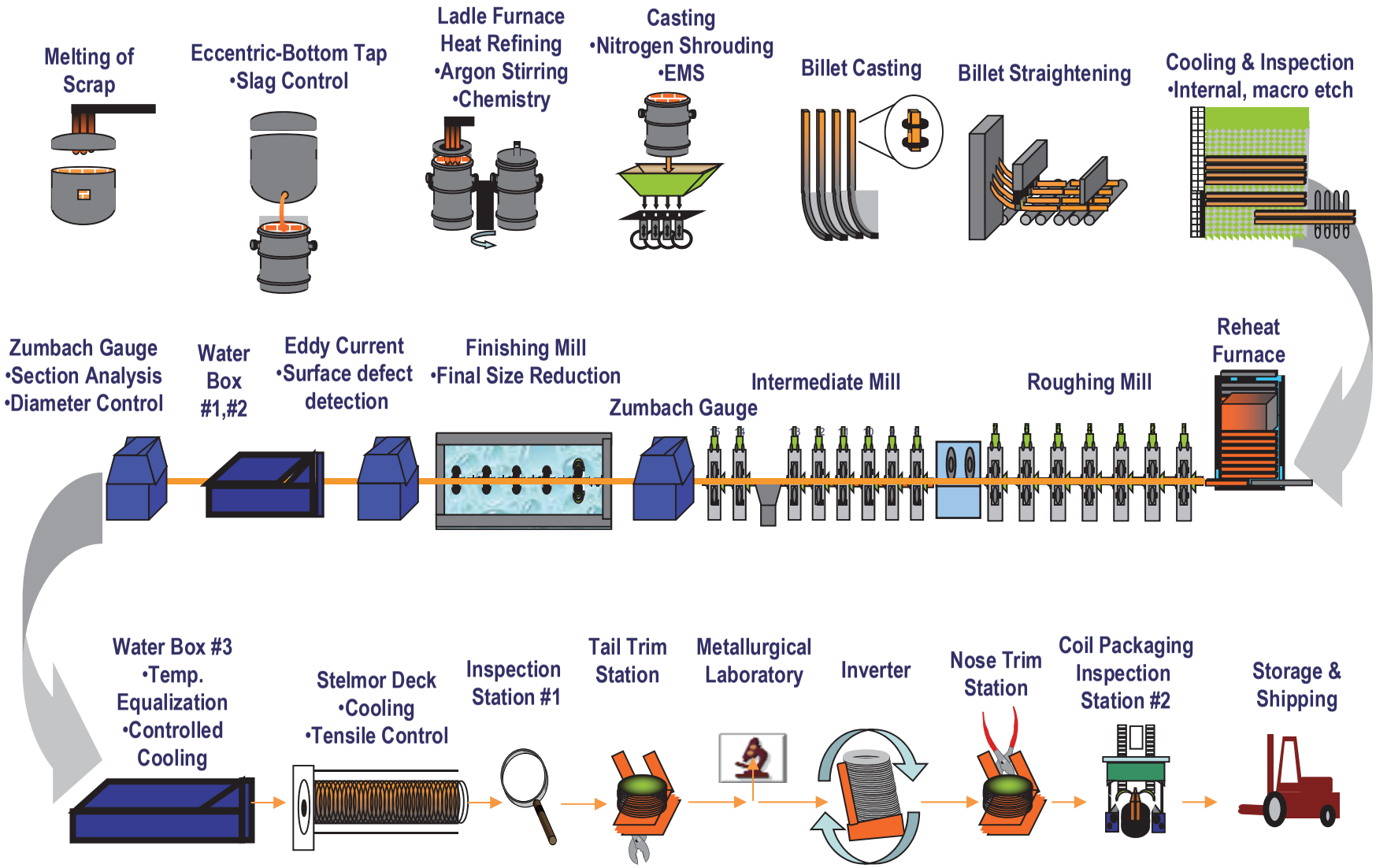
Beaumont Process Flow



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Ferrous Scrap

- Main raw material for the electric arc furnace steelmaking process.
- Major cost component of finished product.
- Received by Truck, Rail & Barge.

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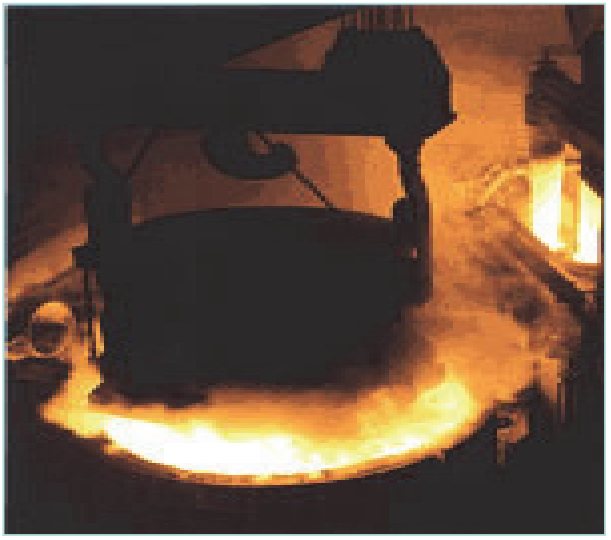
Steelmaking

- 120 ton/heat Electric Arc Furnace, powered by a 76 MVA transformer.



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Billet on the Cooling Bed

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Reheat Furnace

- Natural Gas
- Pusher-type
- Bricmont Level I and Level II control system

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Hot Rolling-Rod Mill Beaumont

- Rod Mill is divided into five main sections:
  1. Roughing Mill; 1-7 rolling mill stands
  2. Intermediate Mill; 8-15 rolling mill stands
  3. Rod Block; 16-25 rolling mill stands
  4. Cooling Deck; Beaumont Stelmor forced air cooling system
  5. Finishing Section; Coil reforming, trimming, inverting, and compacting
- Roughing & Intermediate mills are the same as a continuous bar mill
- Rod Block
  - The rod block is a10 stand unit that is driven by one shaft so that all stand speed increases in proportion to the decreasing area of the section to keep material flow constant
  - Rod blocks use carbide rolls with precise diameter based on speed requirements for each roll stand in the block – called modules
  - The bar entering the rod block is sheared in line to assure a good end for entry and to prevent cobbles
  - Cut-up shears ahead of the block begin if there is a cobble in the rod block

Rolling Mill

- Siemens-Morgan design
- Two strand - 25 roll stands
- Stelmor cooling decks
- Pallet-style coil transport system
- Zumbach gauge for real time section feedback
- Eddy Current surface defect detection in line.

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Rolling

- Billets are reheated to 2200^{o}F prior to rolling in a gas fueled reheat furnace
- Billets are formed into intermediate or finished products in the rolling mill.

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Rolling

- Roughing Mill
  - stands 1-7
- Crop & Cobble Shear
- Intermediate Mill
  - stands 8-15
- Crop & Divide Shear
- No-twist Mill (Morgan Blocks)
  - stands 16-25

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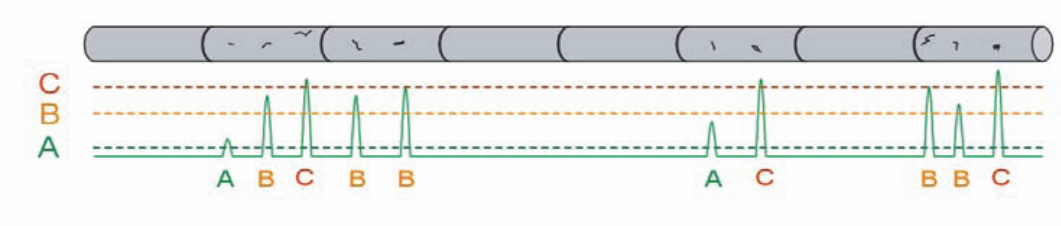
Finishing

- Zone 1 & 2 waterboxes
- Zumbach gauges (size)
- Zone 3 waterbox

- Eddy Current Function



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Coiling & Cooling

Laying Head – Conveyor - Stelmor Air Cooling

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Trim Station #1

Coil Inverter

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Trim Station #2

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Coil Transport & Finishing

- Pallet cars
- Transfer cars
- Inverters
- Compactors

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Import/Export at Port of Beaumont Orange County Wharf

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Questions?

Link: http://www.steeluniversity.org

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Tour – For your Safety

- Wear Personal Protective Equipment
- Remove Jewelry
- Keep to designated path
- Watch for mobile equipment (forklifts & trucks)
- Watch for overhead crane movement
- Use handrails when on stairs
- Stay with your group
- Feel free to ask questions along the way!