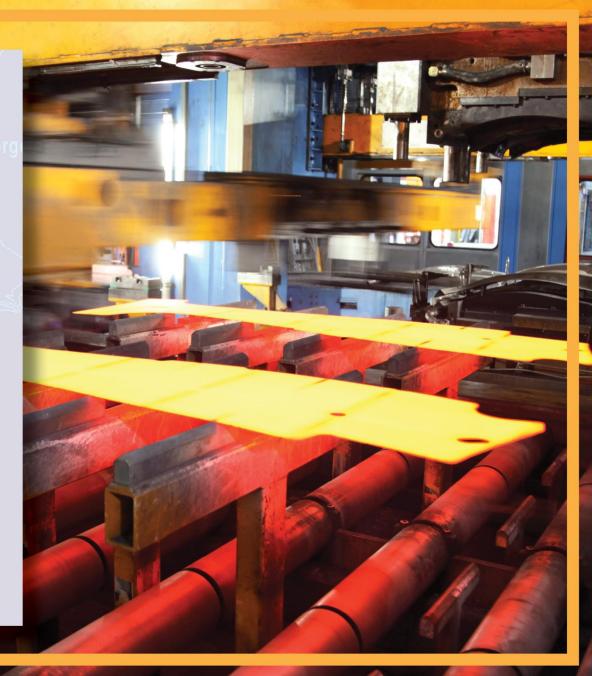
Hot Stamping — Experience — and Tech Tour

November 20-21, 2024 Charleston, SC





The Compact Strip Production Process for PHS Grades

Dean Kanelos

Market Development & Product Applications Manager **Nucor Automotive Solutions**





Nucor today



LARGEST STEEL AND STEEL PRODUCTS PRODUCER IN NORTH AMERICA.

- 25.2 million tons of steel and steel products shipped to outside customers in 2023
- Approximately **32,000** teammates working safely at over 300 facilities in North America



LARGEST RECYCLER IN **NORTH AMERICA**

Nucor recycles about 20M tons of scrap metal annually at its 29 EAF steel mills



FORTUNE 150 COMPANY

- \$34.7 billion in sales in 2023
- \$14.7 billion in capital returned to Nucor stockholders since 2012
- **NYSE listed: NUE**



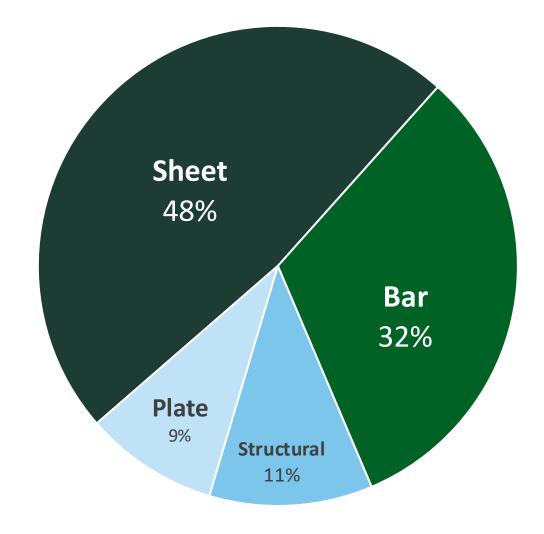


Annual Capacity: Steel mills

PRODUCT	CAPACITY
Sheet	14.6
Bar	9.5
Structural	3.2
Plate	2.8
Total Steel	30.2

Capacity in millions of short tons as of December 31, 2023

Excludes the Nucor Steel Crawfordsville Sheet Mill Expansion, the Nucor West Virginia Sheet Mill, and the Nucor micro mill in Lexington, North Carolina.







Building out a Broad Array of Targeted Capabilities in Steel Sheet











EXPANDING SHEET CAPABILITIES

Nucor Steel Indiana • 55" HR Width for Const. Grades Adding Galvanizing line and prepaint line (Late 2025) **Nucor Steel West Virginia** Fully operational 2026 Nucor Steel Gallatin (KY) • 72" Hot Band Pickle Galvanizing Line **California Steel Industries** New 250,000 tons/yr. tube mill (2024) 2M+ tons value-added steel **Nucor Steel Berkeley (SC)** · Cold Rolled, Galv. HR, Pickled & Oiled, ERW Pipe • Adding new Galv Line (2027) **Nucor-JFE Mexico** • 400,000-ton Galv sheet facility **Nucor Steel Decatur (AL)** 50/50 JV with JFE Steel

Nucor Steel Arkansas

3rd Gen Galv Line, Specialty Flexible Cold Mill AHSS, Motor Lamination, HVAC, Automotive

November 20-21, 2024

Charleston, SC

Thicker Slab

Thicker slab - 84" HR. 2 Galv. Lines

Thicker Slab

Drawing Steels

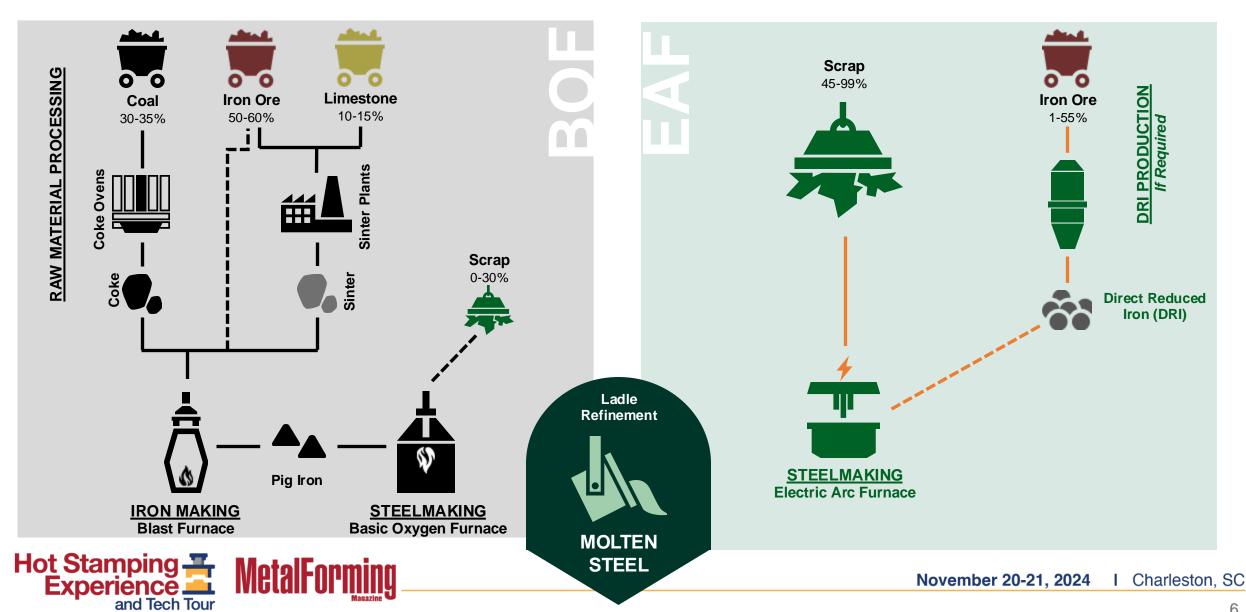
· Demanding Line Pipe & Auto

74" Hot & Cold Mill Width

Deep Drawing & Extra Deep

New 2nd Galvanizing Line (Mid 2026)

Extractive vs. Circular Process



Nucor PHS Grades Produced & In Development

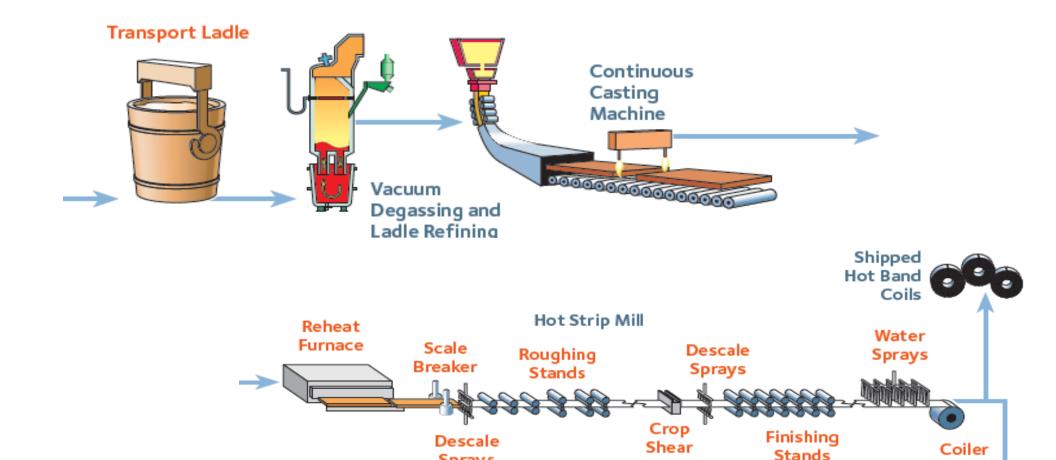
- ✓ PHS 1500
- √ Coating Free PHS (in development)
- ✓ PHS 2000 (in development







Conventional Steel Casting & Hot Mill Process



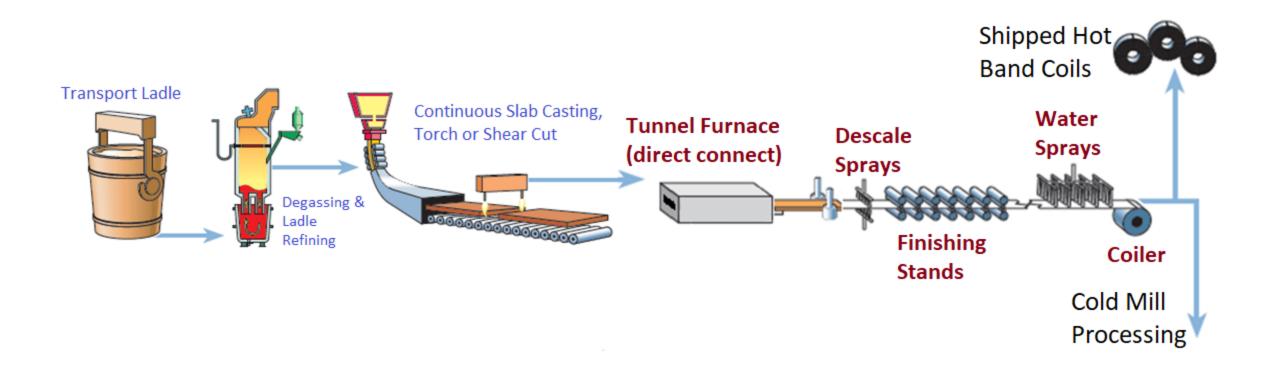
Sprays





Cold Mill Processing

Compact Strip casting and hot mill Process







Nucor's Process for PHS Production

- Scrap is selected based on desired residual chemistry requirements
- Scrap & pig iron are charged into furnace
- DRI is fed through chute into furnace
- DC Furnace, ≈160-ton heat, 100-ton heel







Tap & Ladle Refining

- Heats tapped open (not killed)
- Bottom tap from furnace
- ≈160-ton heat, 100-ton heel
- Transferred to Ladle Metallurgy Furnace for alloying, refining, argon stir & temp adjustment
 - Boron is final addition to ensure free boron for heat treatability







Casting

- Thin Slab Caster, 55-65mm
- Up to 1905mm wide (75")
- Straight funnel mold
- Can use Liquid Core Reduction
- Thin slabs pass directly through tunnel furnace to hot mill







Hot Rolling

- 7-stand finishing mill
- Induction furnaces prior to finishing mills to trim temperature if needed







