The steelmaking plant is designed for high productivity of high-quality steel grades up through ULC-IF grades for automotive-exposed applications. The DC electric arc furnace can produce heats at the rate of almost 220 tons/hour. The twin-station ladle furnace offers the flexibility to treat two heats simultaneously, as does the twin-tank vacuum degasser. This proven steelmaking technology assures that only the highest-quality steel will be sent to the CSP thin-slab caster.

The greenfield minimill of SeverCorr will be erected in Lowndes County, Mississippi/USA. The decision to arrange the steel mill in Lowndes County was driven by the site’s proximity to the growing number of automotive producers located in the southern United States, access to low-cost and reliable electric power from the TVA and the business-friendly environment in Mississippi. The 1400-acre mega-site, situated approximately seven miles west of Columbus, offers the required transportation infrastructure.

The recent location of a number of foreign automotive manufacturing companies in the southern United States has created the need for a steel sheet mill capable of producing doors, fenders, hoods and panels. The SeverCorr sheet mill can supply the high-quality steels at competitive prices relative to competitor steel mills located farther from the targeted customer. Minimills, similar to the one being constructed at SeverCorr, have combined lower capital and operating costs with advanced technology, in creating more efficient plants than integrated steel sheet plants relying on virgin ore ironmaking and aged facilities.

**MELTSHOP**

- EAF, heat weight nominal 150 tons
- EAF, type DC, EBT with patented pin-type anode
- EAF, power max. 160 MW

- LF, type Twin-station with joint electrodes
- LF, power system 25/28 MVA

- VTD, type Twin-tank with joint vacuum system
- VD pumping capacity 400 kg/h

**Steel grades**

- Sheet steel including ULC and advanced automotive steels

**CSP CASTER**

- Ladle capacity 150 tons
- Slab thickness as cast 70/55 mm (with LCR)
- Slab width 900/1,880 mm
- Casting speed max. 6 m/min
- Tundish capacity 36 tons
- Shearing force 8.5 MN

**CSP MILL**

- Six four-high stands
- CVC® PLUS system, work roll bending
- Roll separating force 46 MN
- Main drives 10,000 kW
- Work roll diameter 950/620 mm
- Backup roll diameter 1,500 mm
- Final gages 1.4/12.7 mm
- Specific coil weight 21.4 kg/mm

The CSP caster produces 1,880-mm-wide thin slabs—a width never cast before—with a variable thickness between 65 and 35 mm. This is an essential requirement for the production of carbody sheets and high-strength multiphase steels as well as the highest quality automotive steel. All of the six four-high roll stands come with hydraulic screw-downs, CVC® PLUS shifting and work roll bending systems. The cooled and flattened strip leaves the caster and differential tension loopers. The mill equipment is particularly designed for processing strip with very good surface quality conforming to the O5 quality standard at the end of the entire process chain. The runout roller table incorporates a run-out cooling system, offering great flexibility in setting specific strip properties and processing dual-phase steel. To safeguard the flatness of the cooled strip, the laminar cooling section is equipped with edge masking systems.
US steelmaker SeverCorr LLC has launched a project to set up a new greenfield minimill for the production of automotive sheet steel. SeverCorr is a joint venture between Russian Severstal and SteelCorr from the USA. The new enterprise wants the boosting to some 3.0 million tons/year.

SeverCorr has ordered SMS Demag for the complete package, including construction of the entire cold rolling complex. SMS Demag was awarded the contract to supply all production facilities from steelmaking to finishing.

The pickling line/tandem cold mill (PL/TCM) will be provided with our proven turbulence pickling technology as well as pickling line technology and the tandem cold mill will be equipped with an AGC system for a precise strip flatness control. As an extension to boost production to 2.0 million tons/year, a pickling line coupled with a five-stand tandem cold mill with the additional possibility to produce pickled hot strip will be installed.

SeverCorr hot-dip galvanizing line (CGL) is suitable for cold-rolled steel strip and features an inline skin-pass mill. The continuous production of highest galvanized steel strip is ensured by a continuous galvanizing furnace for top surface quality and mechanical properties, one galvanizing pot system which can be changed to two-pot system in a future step, as well as the post-treatment section for chromating to extend the service life of the coated product. For instance: the highly effective strip cleaning system with the single-stand 4-high mill is designed for a capacity of 400,000 tons/year.

The SeverCorr hot-dip galvanizing line (CGL) is suitable for the continuous production of highest galvanized steel strip.

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THE NEW GREENFIELD MINIMILL AT SEVERCORR LLC, MISSISSIPPI / USA

The production process: from melting up to galvanized strips.
Layout of the new minmill:
1. Meltshop
2. CSP plant
3. Pickling line/tandem cold mill
4. Continuous galvanizing line with inline skin-pass mill
5. Temper mill