

**Linie de bobinare – deciere process****/****Spooler Line - process description**

Bara provenita din laminor este deviata si transportata catre linia de bobinare (spooler line).

Inainte de a ajunge la masinile de bobinare, produsul laminat trece printr-o instalatie de racire cu apa, pentru a asigura proprietati mecanice si metalurgice constante printr-un proces de tratament termomecanic. Bara care iese din zona de racire trece apoi printr-o foarfeca de divizare, unde este taiata la lungimile individuale necesare

Cutitele foarfecii, aflate in rotatie continua, sunt actionate prin intermediul unei transmisii cu angrenaje montate in corpul foarfecii si sunt antrenate de un motor extern de curent alternativ.

Produsul laminat este ghidat tangential catre diametrul exterior al tamburului intr-un canal de prindere amplasat pe un inel mobil pozitionat pe flansa fixa a bobinatorului. Forta de alimentare este asigurata de un mecanism cu clapeta de prindere, care forteaza bara sa intre in contact cu inelul mobil.

Dupa prinderea barei, sistemul de distribuire a spirelor porneste automat, iar bucele sunt infasurate pe tamburul bobinatorului.

Inelul mobil de prindere se retrage automat in flansa fixa si este sincronizat cu miscarea inainte a distribuitorului de spire in timpul formarii celui de-al doilea strat al bobinei.

Bobina este apoi asezata pe o masa mobila de manipulare, unde este fixata cu ajutorul a patru cleme de retinere pentru a preveni pierderea compactitatii acesteia.

Dupa transferul bobinei, masa de manipulare coboara si se deplaseaza catre statia de legare, unde se aplica patru benzi de legare in jurul bobinei.

Dupa finalizarea operatiei de legare, clemele de fixare ale mesei de manipulare sunt eliberate, iar bobina este transferat in zona de depozitare cu ajutorul unui sistem de manipulare cu brat rotativ si translatabil.

Sistemul cu brat rotativ si translatabil ridica bobina de pe masa de manipulare si il pozitioneaza pe un transportor cu role, unde aceasta este lasata sa se raceasca natural inainte de a fi transferata in depozit.

The bar coming from the rolling mill will be diverted and conveyed to the spooler line.

Before reaching the spooling machines, the rolled product passes through a water-cooling line to maintain consistent mechanical and metallurgical properties through a thermomechanical treatment process. The bar exiting the water cooling box then passes through a dividing shear, where it is cut into individual lengths.

The continuously rotating shear blades are driven by a gear transmission housed within the shear body and powered by an external AC motor drive.

The rolled product is guided tangentially to the outer diameter of the drum into a gripping channel located on a movable ring positioned at the fixed flange of the spooler. The feeding force is provided by a hook-flap mechanism, which forces the bar to engage with the movable ring.

Once the bar has been gripped, the coil distribution system starts automatically, and the loops are wound onto the spooler drum.

The movable gripping ring automatically retracts into the fixed flange and is synchronized with the forward movement of the loop distributor during the formation of the second coil layer.

The coil is subsequently placed onto a movable handling table, where it is secured by four retaining clamps to prevent loss of coil compactness.

After the coil has been transferred, the handling table lowers and moves to the strapping station, where four straps are applied around the coil.

Once the strapping operation is completed, the retaining clamps on the handling table are released, and the coil is transferred to the storage area by means of a **rotating and translating fork**.

The **rotating and translating fork**, lifts the coil from the handling table and places it onto a roller conveyor, where it is allowed to cool naturally before being transferred to the warehouse.

**Caracteristici principale ale instalatiei de finisare:**

- Factor ridicat de umplere;
- Cerinte reduse de spatiu pentru depozitare;
- Bara este mentinuta sub tensiune pe toata durata procesului de bobinare;
- Formarea bobinelor prin infasurare fara rasucire a barei, distribuita uniform pe tamburul bobinatorilor in straturi regulate, omogene si compacte;
- Intreaga tagla este transformata in bobina, strat cu strat;
- Bobinele sunt legate automat in patru puncte cu ajutorul a doua masini de legat;
- Punctul final de colectare se afla pe un transportor lung cu role, de unde operatorii pot prelua bobinele folosind poduri rulante sau paleti;
- Bobinele foarte grele si extrem de compacte, care reduc la minimum cerintele de spatiu de depozitare;
- Statia de colectare a bobinelor, echipata cu un distribuitor si functia Easy Down, asigura formarea si mentinerea unor bobine cu forma optima.

Main Features of the Finishing Facility:

- High filling factor;
- Reduced warehouse storage space requirements;
- The bar is maintained under tension throughout the spooling process;
- Coil formation by twist-free winding of the bar, uniformly distributed on the spooler drum in regular, homogeneous, and compact layers;
- The entire billet is wound into a coil, layer by layer;
- Coils are automatically strapped at four locations by means of two strapping machines;
- Final collection point on a long roller conveyor, where customers can pick up the coils using overhead cranes or pallets;
- Very heavy and highly compact coils, minimizing warehouse storage space requirements;
- The coil collection station, equipped with a distributor and an Easy Down function, ensures the formation and preservation of optimally shaped coils;