Billet Weighing System

Allegany

A Brand of VPG Process Weighing
Billet Weighing Produces Significant Savings

- Delivering exact billet weights improves melt shop yield by 0.5%
- Reduced tailings improve rolling mill yield by 0.5%
- Achieve weighing accuracy of ±1 kilogram per every 1000 kilograms

Visit http://www.weighingsolutions.com, use the online billet weighing system calculator, and see exactly how much you can save.

System Payback

With over 25 systems in operation worldwide, documented return-on-investment (ROI) statistics prove that savings from reductions in shorts and scrap will pay for an installed system in less than a year. Manufacturers that installed billet weighing systems in 1987 are still reaping the benefits today.

Typical caster torches cut all billets to a given length. Cutting to length, however, results in large variances in actual billet weight. Rolling mills roll by weight rather than length. Overweight billets leave rolling mill customers with extra “scrap” steel, which has to be returned and remelted. Cutting by weight, rather than length, resolves the scrap/remelt problem. Rugged construction and an easily customized operating system ensure that billet weighing systems will work for any caster in any environment.

Cutting Billets by Weight Negates all Caster Variables

Many factors contribute to cross-sectional density variations as billets are produced, especially as the “heats per mold” ratio increases. Factors include:

- Mold abrasion
- Metal temperature
- Ferrostatic pressure
- Caster speed
- Spray cooling water volume and temperature
- Inconsistent torch “home” position
- Proximity and temperature of other billets on the strand
Adaptive Feedback Activates the Cutting Torch

An adaptive filtering algorithm computes and dictates the cut length for each successive billet. Torches or shears are activated based upon analysis of the following criteria:

- The billet previously weighed
- An historical evaluation of strand densities
- Trend analysis software
- Input for the length measurement encoders
- Maximum “prime cuts” per heat

Complete Caster Control

Hot metal detectors (HMDs) sense a new billet and initiate the lift and weigh cycle. Actual weight value is transmitted to the mainframe controller for evaluation. Based upon live weight feedback from the previous billet and other system computations, the length encoder is instructed to alter the cut length of the next billet, if necessary.

Note: Components and functions designated by the color blue are supplied/performed by Allegany equipment.
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