

Billet Plant Presentation



August 2020 – Einar Smáráson

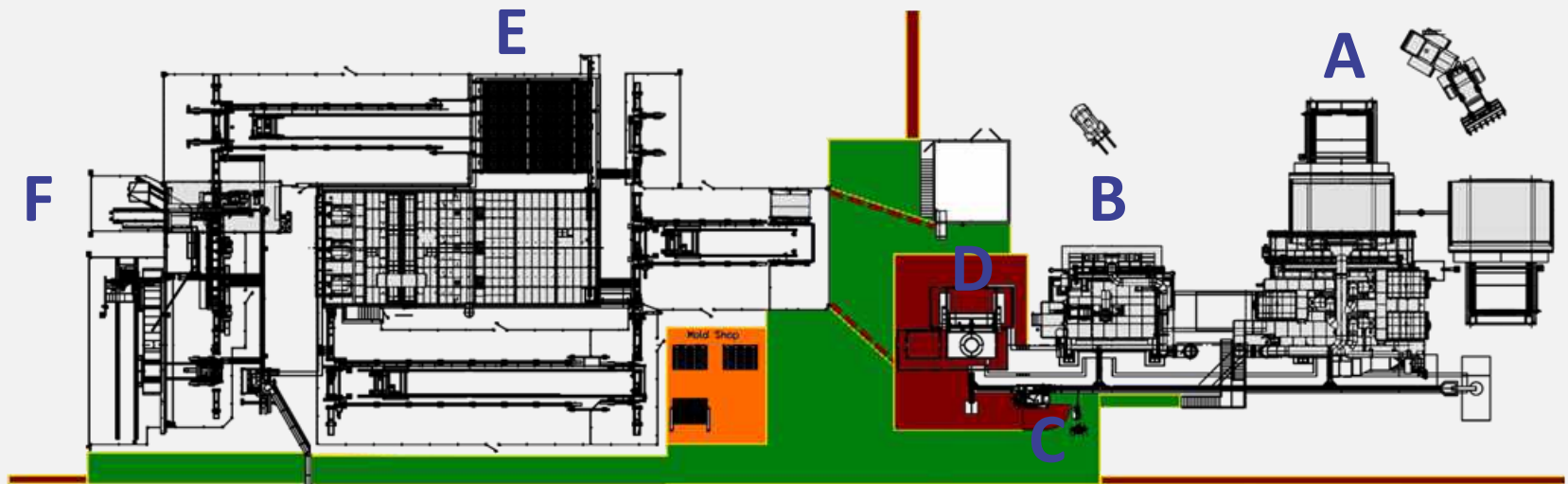
Billet Plant Capability

- Annual capacity 70.000 tons of products
- Full range of alloys in 6xxx series
 - Other alloys are possible on request
- Current diameters
 - \varnothing 178mm, \varnothing 203mm and \varnothing 354mm
- Log length
 - Long 2.000mm to 7.000mm
 - Short 400mm to 2.000mm (on request)
- All finished goods are stored inside until shipment
- Products delivered according to DIN EN486



Billet Plant Layout

- A – Single chamber melting furnace with charging machine
- B – Holding furnace
- C – Inline siphoning reactor (degasser) & dual grain refiner feeder
- D – Casting machine
- E – Continuous homogenising
- F – Sawing and packaging



Furnaces

- High energy efficient 45 ton tiltable single chamber melting furnace
 - Melt rate 14t/h
 - Equipped with electromagnetic stirrer (EMS)
 - Furnace camera for safe metal charging
- 35 ton holding furnace
- Furnaces equipped with internal metal level control for automated and safe metal transfer



Casting Line

- Fully automated hands-off casting
- Maximum casting length 7.500mm
- Internally guided cylinder
- Mould tables
 - Ø178 (7")
 - Ø203 (8")
 - Ø354 (14")
- Fully automated hands-off casting
- Casting technology
 - Hot-top with gas assisted moulds
 - Good operating window to deliver billets with
 - Smooth surface
 - Very thin shell zone
 - Very little inverse segregation

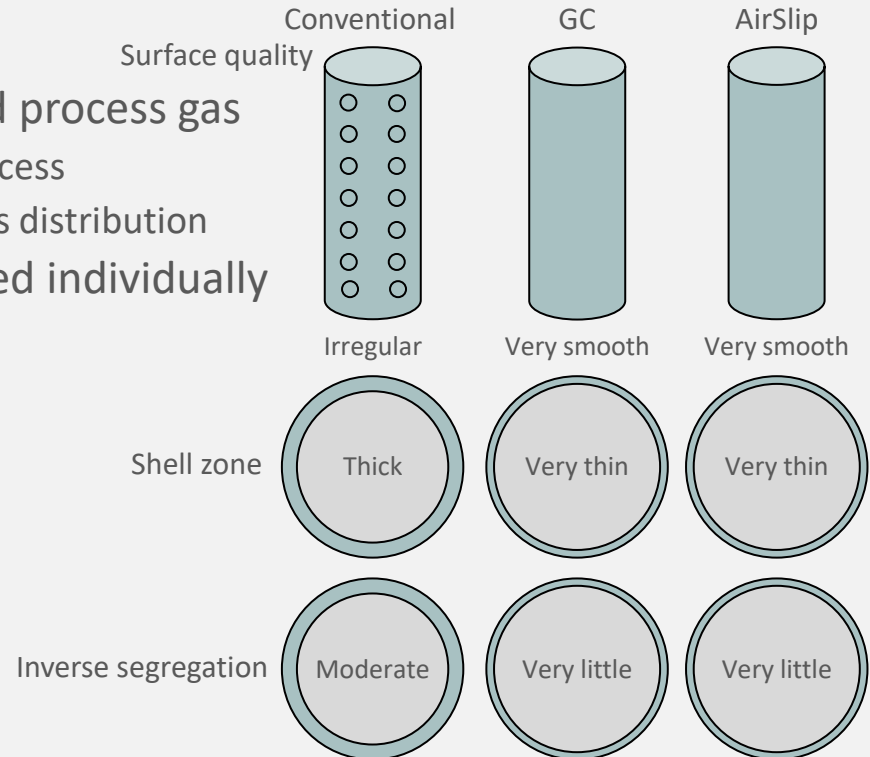


Casting Technology

- Hot-top gas assisted moulds
 - Marketed by Wagstaff and Hycast (Hydro Aluminium) branded as AirSlip and GC (gas cushioning)
- Technology delivered by Hertwich Engineering

- Characteristics

- Dual graphite rings, casting oil and process gas
 - Less risk for oil contamination in process
 - Better and more uniform process gas distribution
- Casting oil and process gas adjusted individually
- Water jet-ring



Melt Refining

- Inert siphoning reactor (degasser)
- Eliminates common degasser drawbacks such as
 - Fully inert atmosphere during operation
 - No back reaction of hydrogen
 - Raised metal level eliminates inclusion carryover
 - Exceptionally low dross generation
 - Drain free
 - No risk for alloy contamination when switching between alloys
- Excellent removal of Hydrogen and inclusions
- No mechanical filtration system required downstream for billets
- Dual grain refiner feeder
 - Assures correct grain refiner feed rate

Continuous Homogenising

- Fully automated continuous homogenising plant from Hertwich
- Electrically heated
- Billet visual inspection station
- Automated ultrasonic inspection
- Log tracking from casting throughout homogenising and packaging



Sawing and Packaging

- Fully automated sawing and packaging
- Long logs 2.000mm to 7.000mm
- Short logs 400mm to 2.000mm (on request)
- Bundled with polyester (PET) on wooden runners
- All finished goods are stored inside until shipment



Summary

- The new plant can supply the most demanding customers with quality products
- All equipment delivered by Hertwich Engineering Austria
- Annual output of 70.000 tons
- Full range of alloys in 6xxx series
- Flexibility in packaging
 - Log length
 - Long logs 2.000mm to 7.000mm
 - Short 400mm to 2.000mm (on request)
 - Bundled with polyester (PET) on wooden runners
- All finished goods are stored inside until shipment
- Products delivered according to DIN EN486