

# Billet Plant Presentation



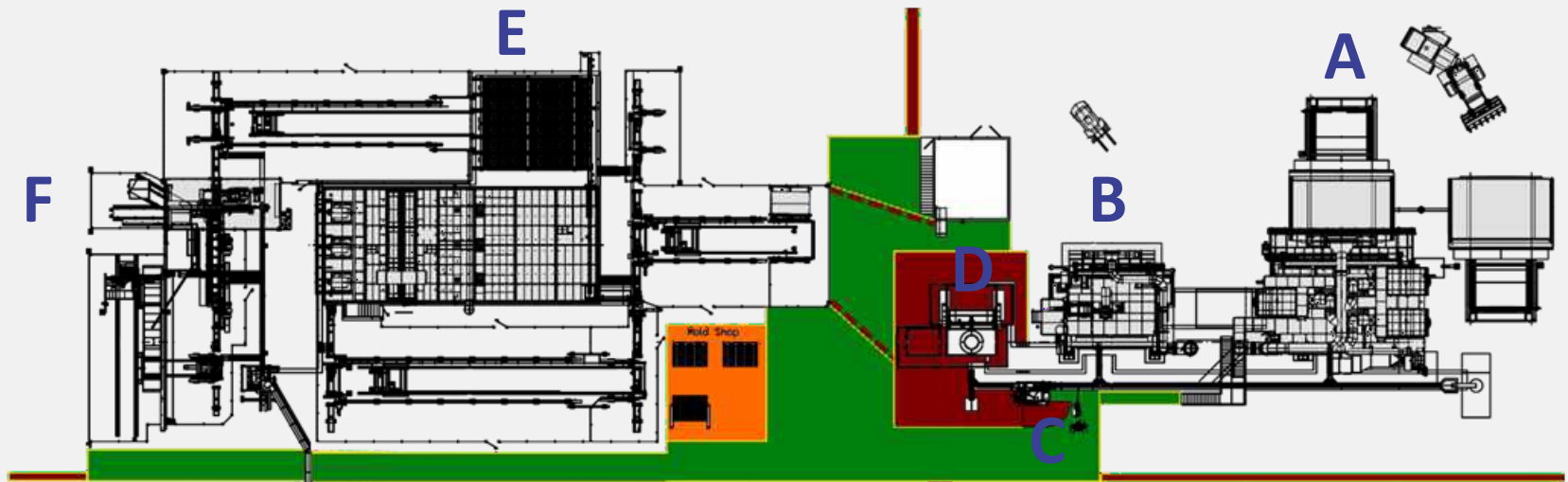
# Billet Plant Capability

- Annual capacity 70.000 tons of products
- Full range of alloys in 6xxx series
  - Other alloys are possible on request
- Current diameters
  - $\varnothing 178\text{mm}$ ,  $\varnothing 203\text{mm}$  and  $\varnothing 354\text{mm}$
- 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

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- 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

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- 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

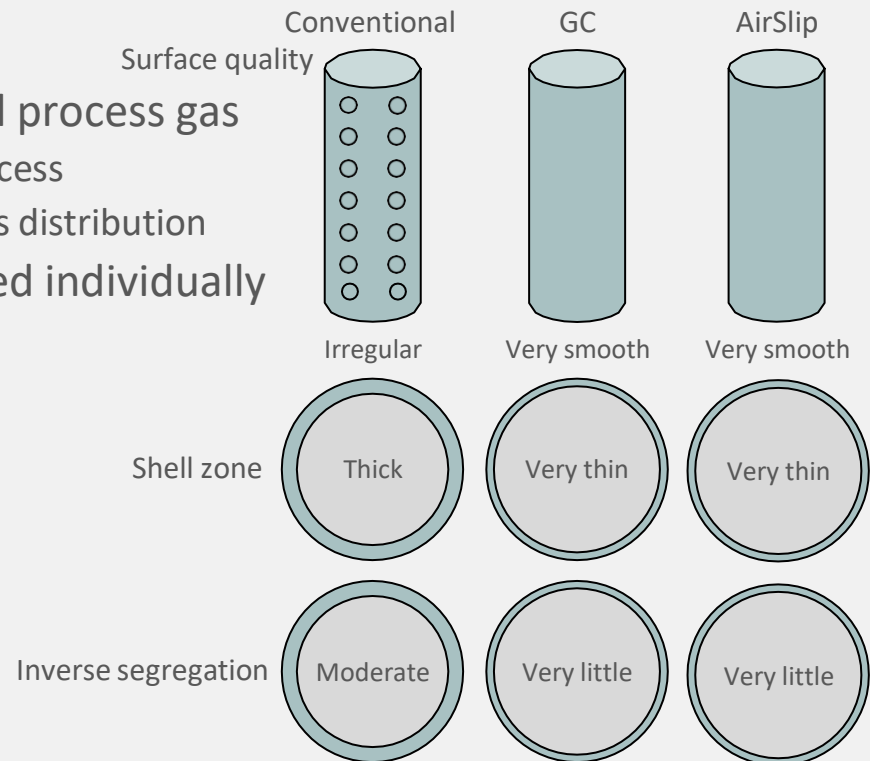


# Casting Technology

- 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

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- 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

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- 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

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- 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

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- 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