

Norðurál Aluminium Smelter



SCOPE OF VERKÍS SERVICES

- ▶ Cost estimating
- ▶ Civil engineering
- ▶ Structural engineering
- ▶ Mechanical engineering
- ▶ Tender document preparation and bid review
- ▶ Contractor and vendor technical control
- ▶ Site supervision and quality control
- ▶ Operation and maintenance documentation review

DESCRIPTION

Aluminium production takes place in two 600 m potlines, each with 90 reduction pots, and two 900 m long potlines, each with 130 reduction pots, with a total floor area of more than 50.000 m². The total number of reduction pots are 440. The potlines include overhead pot tending machines, alumina conveying system, pot-gas extraction ducts, compressed air pipes and pot control system.

In addition to the potlines, the plant includes the following:

- Alumina unloading, handling and storage facilities at the harbour, including vacuum ship unloader and harbour silos
- Alumina conveying system from the harbour silos to the gas treatment centers
- Gas treatment centers (dry) and associated ducting
- Switchgear substation, main distribution system and rectifier transformers with harmonic filters
- Anode rodding and storage facilities, including butt crushing and bath processing
- Casthouse to produce remelt ingots and sows
- Potline service facilities, including pot tending machine maintenance shop, and cathode delining and relining facilities
- Compressor stations and associated piping
- Warehouse and workshops
- Administration and personnel facilities

Baked anodes is being imported and spent anodes exported, eliminating the need for a green carbon plant and an anode baking furnace.

PROJECT OVERVIEW

Work on the Norðurál aluminium smelter started in 1996. The first stage with 60 ktpy capacity was completed in 1999. Stage 2 with 30 ktpy capacity was completed in 2001. Stages 3 and 4, with a combined capacity of 130 ktpy, was completed in 2006. Stage 5 was completed in 2007, bringing the total capacity up to 260 ktpy. Verkís was involved in all stages of the smelter project through the Verkís subsidiary HRV Engineering.

CLIENT:

Norðurál
Grundartangi, Iceland

LOCATION:

Grundartangi, Iceland

PERIOD:

1996-2007

SCOPE SUMMARY:

- Number of pots: 440
- Pot current: 185 kA
- Prod. Capacity: 260 ktpy
- 4 potline buildings
- Vacuum ship unloader
- Harbour silos
- Alumina conveying
- GTCs
- GIS
- Rectifier transformers and harmonic filters
- Anode rodding shop
- Bath plant
- Casthouse
- PTM maintenance shop
- Cathode delining shop
- Compressor stations
- Warehouse
- Central/vehicle workshops
- Potline office and control room
- Administration building
- Fuel and gas storage

