RD2 – Primary metal production
August 2015

As the hallways at Gløshaugen is again filled with students, also the RD2 starts the fall with a number of activities. First, the excavation of a silicon furnace was done at Wacker in early August. Next, the Mn-pilot experiments will be started in late September. The summerstudents has also delivered their summer-reports, and one of them had already been cited in Adresseavisen (RD5). Two new PhD students has already started, and totally about 9 students will start their project work within areas related to metal production (RD2+RD5). Fall 2015 will be a great fall !!

Merete Tangstad

Mandag 31. august 2015 | Adresseavisen

» Silisiumproduksjon

Når smelteovnen stenger, går forskere fra Sintef og NTNU inn for å undersøke det som ligger igjen i ovnen. Målet er en mer miljøvennlig smelteprosess.

Ovnen skal bli mer miljøvennlig

»Kyrksæterøra

Smelteverks-industrien

Smelteverket Wacker Holla på

bedre. Det koster flere millioner kroner å stenge ovnen. Derfor er det sjelden forskerne har mu-ligheten til å ta prøver fra ovnen. Med gravemaskin er ovnen delvis revet, og mens den frem-deles er rødglødende blir det tatt

hva som går inn i ov... som kommer ut. H... under selve prosess... og karbon blir omgjort til ... um, kan de bare undersøke i laboratorieovner. Inni Wackers industrielle ovn det opp til 2000

NYHETER | 9

Excavation of Wacker silicon furnace

During demolition of industrial furnaces, the focus is on removing the furnaces as soon as possible. The possibilities of doing metallurgical excavations may be quite limited. It has however been experienced, that valuable information can be found also during the "fast-track" process. One of the goals of RD2 is hence to find the optimal procedure during "fast-track" demolitions, to harvest metallurgical knowledge of zones and reactions. During the Wacker excavation, Adresseavisen also visited, which ended up with a two-page article in the newspaper describing the environmental-friendly Norwegian metal producing industry (31.8.2015).

The quote of June

Though we are not always good good enough in showing our significance to the the politicians, there are quite many of them that are aware. This is a quote from the politician Arne Byrkjeflot (Rødt) in Adressavisa the 10.th of June discussing the energy situation and the use of windmills. "I Norge trenger vi hvite sertifikater som subsidierer energisparing og energigjenvinning. I tillegg til å satse på det grunnlaget vi har: **bevare og utvikle solcelle industrien, bygd på verdens mest avanserte smelteverk som produsere solcellenes innhold: rent silisium** og utnytte norsk skog og industrien som bygger på den."

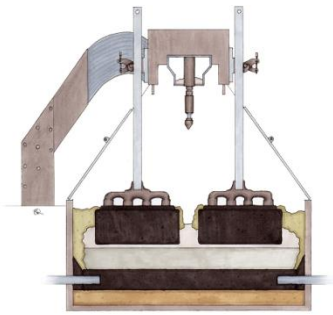
Step change innovations:

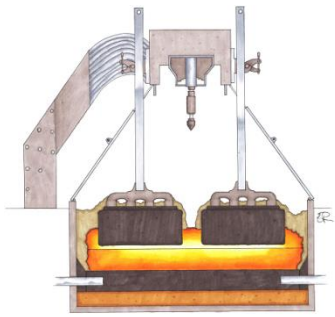
Not presently a part of the SFI, however still interesting: In Kazakhstan they produce SiAl-alloys directly in Submerged Arc Furnaces.

RD2 – Primary metal production
August 2015

Congratulations to FFF

FFF was awarded with Elkems Forskningfond honorary award at the Prosin conference in August due to their long-term commitment to research and development work.

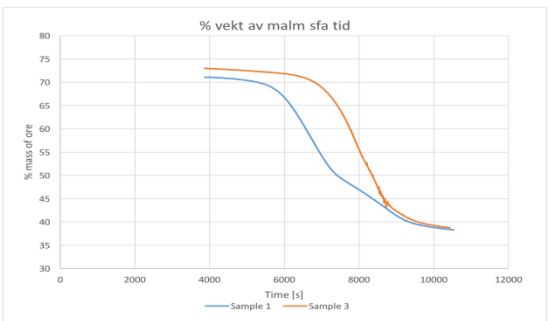


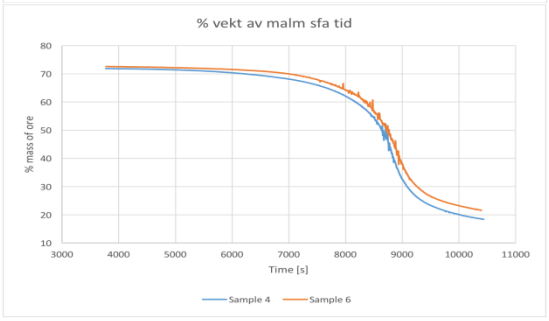


Aluminium

One of the possible routes within Al in RD2 has been to characterize alumina and its dissolution rate in the bath. This will give a consistency on characterization methods and fundamental knowledge in RD2. If the projects agrees on this approach, the first step is a review report.

Summer-job: Joakim Holtan, coming from HIST, has studied the reduction rate of Mn-ores at different size fractions, 1mm and 4mm particles. The reduction rate for the Mn-ore alone is faster for the smaller particles. When Mn-ores is mixed with quartz, as it would be in the production of SiMn, the reduction rate is the same, independent on size. So far this is explained due to the melting temperature of the charge mixture.





Summer-job: Erik Roede, a skilled artist, currently studying nano-technology has drawn sketches from the Al- production and FeMn-production this summer. He will continue to do some minor work during the fall.

Short courses

- 21st and 22nd of September there will be a 9 hour course in the fundamentals of FeMn/SiMn production.
- 28th and the 29th of September there will be a 9 hour course in the fundamentals of Si/FeSi production.

Pilot scale experiments. The 22. of September the first Mn-pilot scale experiment will be performed. The goal is to optimize the operation of pilot scale experiments. These experiments will be a coordinated effort between the industry and Sintef/NTNU.