

Hunting for game changing casthouse technology

At Sunndal in Norway, Hycast, a fully-owned subsidiary of Hydro Aluminium, has been developing casthouse technology solutions for Hydro since 1990. Recently, the company started offering its products to external customers.

"Over the last few years, we have been undergoing a restructuring process in order to enter new markets with our products. With the technological competence we can draw upon from our experienced employees, Hydro's Sunndal smelter right next door, and the metallurgical research cluster we have close by, I believe there is no other casthouse solutions provider that can offer the same range of products as we can," says Helge Jansen, managing director of Hycast.

Jansen admits that the last few years have been tough on the casthouse technology business, with relatively few new investments to compete for. The difficult environment made it necessary to reduce manning by nearly 25% and to re-think the value proposition of the company. "But things are looking up now, and we are receiving more and more external orders," he says.

When Aluminium International Today was visiting Hycast in mid-September, representatives from the Middle Eastern aluminium producer Emal were on site to make final inspections to an inline melt refining filter, SIR, which will be placed at their smelter in Abu Dhabi.

"Instead of having to install

several filters between the melting furnace and the casting table, the SIR filter refines impurities and hydrogen from the metal in one fully automated operation," says director of technology in Hycast, Arild Håkonsen, adding: "Thus the benefits for the producers include shorter time for resetting a cast, fewer filters to clean and maintain, as well as benchmark environmental performance."

"Hycast's vision is to develop game





changing casthouse technology solutions. The SIR filter has lived up to that vision," he says.

Also Rio Tinto's ICAL smelter in Iceland is currently on Hycast's customer list, having ordered a full casthouse equipment setup from the company, excluding melting and homogenization furnaces.

Jansen and Håkonsen highlight two more innovations as key technologies from Hycast: the Low Pressure Casting (LPC) technology which Hydro has installed at one of its remelt plants, located outside Madrid, Spain. The other innovation they highlight is the Adjustable Flexible Molds (AFM) casting tables, currently being

installed at Hydro's sheet ingot casthouse in Høyanger, Norway.

The LPC technology is based on the gas cushion, direct chill, casting technology, which Hydro has been utilizing in its casthouses for more than two decades. "LPC gives a more consistent surface quality and improved extrudability, ideal for production of larger diameters and hard alloys," says Håkonsen.

"With the AFM technology, the producers are able to reduce the needed cut-off at the end of the slab because the technology enables casting of slabs with virtually no convexity. In addition, the casting tables are adjustable so that

instead of having to purchase a casting table for each dimension, producers need only one table. That reduces their investment and maintenance cost significantly," says Håkonsen.

Having gone through tough restructuring measures lately, Jansen believes Hycast now is ready to start shaping the casthouse technology market. "One thing is clear, we do not want to just follow the market and copy everyone else. The competition in this market segment is intense, but we are confident that we are and will be able to offer some unique features and services to our customers," he says. ■