MQP, based in the UK, operates on a global basis through a network of consultants and distributors with representatives and offices in all parts of the Aluminium world, from Australasia to South Africa, Europe to the Americas. In 2018 MQP ventured into China with the formation of MQP China Ltd and the opening of a sales office and warehousing facility in Shanghai. In 2019 MQP exhibited in Aluminium China for the first time. This introduced us to more companies than ever before with many of them coming to seek us out to talk about Optifine.

**Optimum and powerful grain refinement**

The development of our high efficiency grain refiner, Optifine, an optimum and powerful grain refiner, gives MQP a huge asset in advancing casthouse melt quality. MQP, under an exclusive manufacturing agreement with our partners STNM (Hebei Sitong New Metal Material Co. Ltd), supplies Optifine from a state-of-the-art manufacturing plant, located in Baoding, capable of producing 16,000 tpy of grain refiner. Production will be increased by almost 50% when a new line is commissioned at the end of 2019.

The grain refiner produced in STNM is firstly verified to a particular grain size by TP1 test in the plant and then, crucially and most importantly, ALL the material is quality control checked in MQP’s laboratories in Sweden and the UK using our unique Opticast technology.
Testing in this way, with Opticast, is only available from MQP and ensures that ALL batches of **Optifine** meet our exacting standards of quality and efficiency, it's the only grain refiner produced with a guarantee of its efficiency. Opticast is uniquely applied by MQP in the quality control of **Optifine** so if a grain refiner has not been quality tested using Opticast it is NOT **Optifine**.

**Optifine** is a highly effective grain refiner which can achieve the level of refinement needed to avoid ingot cracking at up to 70% lower addition rates than standard TiBor grain refiners. This results in improved quality and reduced operating costs over a wide range of aluminium alloy compositions. Savings of 30-40% can achieved in the end to end cost of grain refinement together with reducing the number of potential particles that cause casting defects. **Optifine** was first used in regular production in 2010 and is now in routine use in 34 major casthouses worldwide in the production of over 3 million tonnes of aluminium alloys annually with outstanding results.

Opticast and **Optifine** are routinely used together in many casthouses worldwide, to both optimise current grain refining practise and during initial trials to demonstrate to customers the potential reduction in grain refining costs and the subsequent impact on quality when switching to **Optifine**. Indeed, providing comprehensive technical support to casthouses is an integral part of MPQ’s Optifine programme ensuring that optimum addition rates for **Optifine** can be reached safely and consistently to deliver maximum savings. Reducing the amount of grain refiner by 70% also reduces the number of potential particles that cause casting defects. This reduction will also mean less coil storage and transport as well as less frequent coil changes in the casthouse.

**Future Developments**

MQP is undertaking a major research programme at Brunel University to study the fundamental mechanism of grain refinement using High Resolution Transmission Electron Microscopy (HRTEM) to find ways to improve the efficiency of Optifine even further. This equipment is one of only 4 such units worldwide. Also, in conjunction with our partners, STNM, we will bring new grades of Optifine grain refiners to market in the near future.

Originally written for Aluminium International Today – 30 Year Anniversary Book’
For further information please contact us:
Tel: +44(0)1564-200443
E-mail: richard.dean@mqpltd.com