

Case study: Longer shelf life, reduced inclusions in molten aluminum TOMBO™ No. 4722-R LUMICAST™ R



Industry

Aluminum smelting

Customer

Aluminum manufacturer

Background

Lumicast is a fibrous castable insulation material used to on various casting vessels and launders that are in direct contact with molten aluminium alloys. It was first developed with refractory ceramic fibre (RCF) before the substance became controlled. NICHIAS then developed the existing 4722-A, made from alkali earth silicate (AES) wool which is not subject to the regulations and as improved performance. But NICHIAS customers raised concerns about its short shelf life (3 months). As such, NICHIAS has developed a new product - 4722-R. 4722-R is an irregularly shaped insulation material intended for the same lining application as well as repairs and moulding. It has equal outstanding performance of 4722-A but it also has a 2x extended shelf life.

Challenges faced

Due to the characteristics of AES wool, 4722-A cannot be stored for long periods of time, especially in the presence of moisture. If it was to be shipped in excess of 1 months (such as by sea), by the time a customer were to receive it, the shelf life will have already reduced to around 2 months. This can severely affect the way in which customers plan for use of this product.

Solution and benefits

NICHIAS developed 4722-R as a response to customer demand and requests. It utilizes the alumina fibre which is an inorganic fibre that does not react with moisture. This has drastically improved the products shelf life

from 3 months to up to six months. This means that even with lengthy shipping schedules, on arrival, to product still has many months left to be used.

Furthermore, NICHIAS was also able to address the risks of inclusions. Alumina fibre has lower coarse shot (non-fibrous particle) which minimises the risk of inclusions in the customer's product. Additionally, 4722-R is uniform and flexible which makes it easy to repair with by hand or trowelling. Lastly, as it does not contain any refractory ceramic fibre (RCF) this product is not subject to REACH regulation in the EU.

For more information, please visit:

<https://nichias.co.jp/en/>



TOMBO™ No. 4722-R LUMICAST™ R

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