

WDS Ultra Board for Aluminum Launder System



Industry: Aluminum

Application: Aluminum Launder system

Product Solutions: WDS® Ultra Board

Location: India, Asia

July 2025

The Challenge

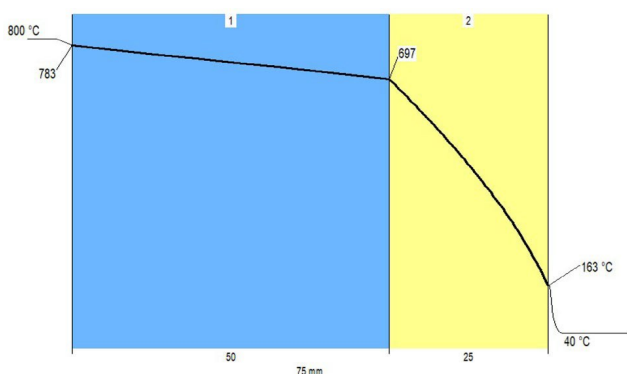
Amid growing pressure to cut carbon emissions and manage rising energy and material costs, energy-intensive industries are turning to advanced thermal insulation for greater efficiency.

In aluminum processing, our customer wanted to reduce heat loss and fuel consumption by improving thermal performance in the aluminum launder system. The current lining is with 25 mm calcium silicate and 50 mm PCPF. The current process would remain stable with the new design providing more security.

By partnering with Morgan for materials and installation, the customer aims to:

- Lower the cold face temperature by over 50 °C
- Reduce the required holding furnace temperature
- Ensure long-term structural stability
- Simplify the installation and the maintenance, with full compatibility for molten aluminum

Figure 1 : Thermal Profile of the current lining



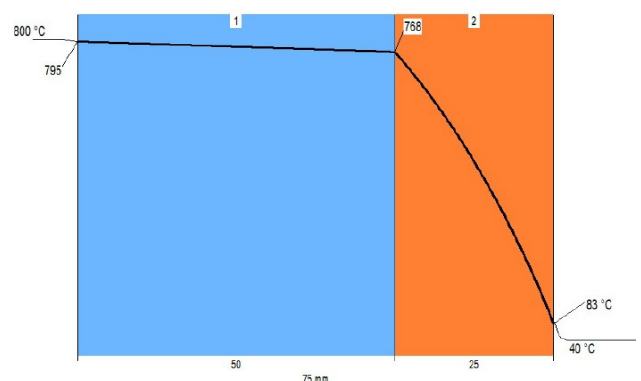
Proposed Solution

After a full review of materials, and thermal analysis, Morgan recommended **WDS Ultra** board to our customer. Our best-in-class microporous board for high compressive resistance, exceedingly low thermal conductivity over the full temperature range, and also easy to cut and install at site.

The thermal profile calculations show that with WDS Ultra Board, it is possible to reduce the cold face temperature by 50°C, with 30% heat loss reduction, when compared to the existing lining.

The high classification temperature at 1000°C ensures high temperature structural stability with an extended service life.

Figure 2 : Thermal Profile of the new lining using WDS Ultra



WDS Ultra Board for Aluminum Launder System



Customer Impact

WDS Ultra boards were installed, replacing the existing calcium silicate insulation in the aluminum launder systems. At the end of the monitored trial, the customer achieved significant benefits, with cold face temperature reduction of 80°C, and holding temperature reduction of up to 20°C. This contributed to significant energy savings with a fast payback period of just **1.13 month**, with a more comfortable and safer operating environment.

The customer plans to extend the use of the WDS Ultra boards across other launder systems.

Figure 2 Installation of WDS Ultra Board



Table 1: Solutions and Results

	Conventional Lining	New Lining	Impact
Design	Calcium Silicate Board, 25mm	WDS® Ultra Board, 25mm	
Thermal Conductivity of Board	0.15 W/m·K @600°C	0.03 W/m·K @600°C	
Total Heat Loss (calculated)	2583 W/m²	794 W/m²	~70% reduction in heat loss
Actual Measurement			
Cold Face Temperature	163°C	83°C	Surface temperature reduced by 80°C
Holding Furnace Temperature	(Baseline)	Reduced by 18–20°C	Less energy required
Diesel Consumption	(Baseline)	Reduced by ~200 Liters/Day	Lower fuel cost and carbon footprint
Equipment lifespan	(Baseline)	Operates at lower temperature	Extended lining and service life
Payback Period	—	1.13 month	Immediate cost saving

Customer Feedback

“We adopted the WDS ULTRA ALE2 ALU board to replace calcium silicate insulation in our aluminum launder system. The results have exceeded our expectations—heat loss was significantly reduced, fuel savings were immediate, and the system became more energy-efficient. The lower operating temperature also improved equipment longevity and workplace safety. We appreciate Morgan’s timely support and effective implementation.”