



OVER 40 YEARS OF PERFORMANCE DESIGNED SOLUTIONS

APPLICATION: ALUMINUM FOUNDRY

LOCATION: MIDWEST USA

UNI-SHIELD 70A Great Choice for Aluminum!

Background ❖

An Applied Foundry Solutions furnace is processing A-356 alloy aluminum at 1350-1425°F. The traditional lining was a 70% Al₂O₃ castable with aluminum penetration inhibitors. The operator had a goal of over 2 years lining life, but after about 1 year, the lining was worn and required a reline.

URC Approach ❖

Considering challenges such as a long lining life and an aggressive cleaning and fluxing done every night, URC side-stepped the traditional aluminum resistant offering and installed **UNI-SHIELD 70A**.

URC DELIVERED ❖ VALUE

The **UNI-SHIELD 70A** is a new approach to more cost effective aluminum furnace linings due to the following features:

	Low Cement (w/inhibitors)	Zircon Additives	SiC Additives	Hot MOR @ 1500° F (psi)	C704 (cc)
Traditional 60-70% Al ₂ O ₃ Aluminum Resistant Castable	Yes	No	No	2000-3000	5-7
UNI-SHIELD 70A	Yes	Yes	Yes	5000	3-4

The combination of properties enables **UNI-SHIELD 70A** to outperform traditional approaches, thereby supplying the customer a cost effective lining that adds considerable value and reduces overall costs.

Results ❖

"After about 1 year, it looks like the day we put it in."

~Refractory Installer

At this aluminum foundry, we expect to exceed the 2 year lining life goal with the **UNI-SHIELD 70A**



UNI-SHIELD 70A cup tests with various alloys show little to no penetration.

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