



OVER 50 YEARS OF PERFORMANCE DESIGNED SOLUTIONS

UNI-PUMP/SHOT CF Technology

CEMENT FREE • SILICA GEL BONDING SYSTEM • NO COLLOIDAL SILICA REQUIRED

BENEFITS

• Cement Free Technology

- Excellent resistance to chemical attack.

• One Component System

- No colloidal silica is required... mix with water and pump or accelerate with CF activator to shotcrete.
- Extremely cost effective, **CF Technology** can be 15-20% less than colloidal silica systems.

• Great Strength

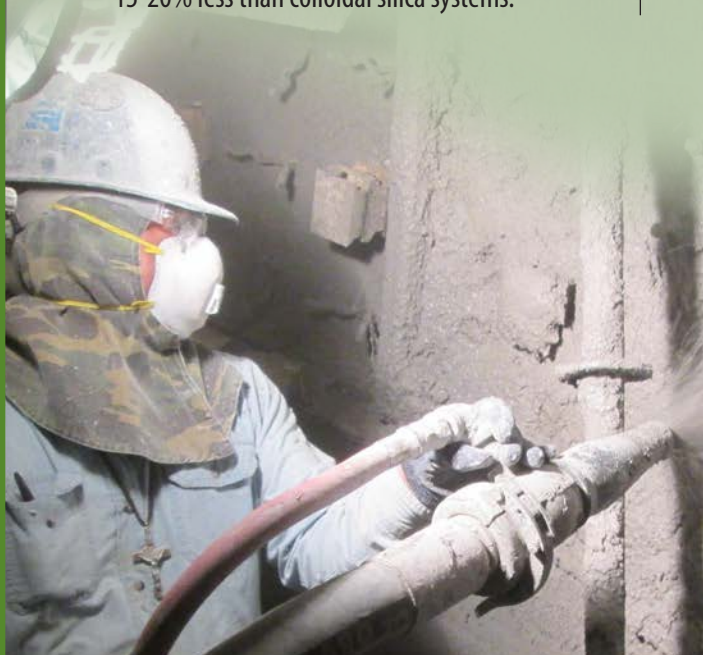
- Actual job tested data after 1500°F for **UNI-PUMP 50 CF**.

Density	149 pcf
MOR	2530 psi
CCS	10900 psi
C704	6.5-7.5 cc

• Faster Heat-ups

- The "Gel Bond" allows faster water release than cement bonded products, thereby saving time on heat-up.

	% Weight Loss (H ₂ O)	
	Gel Bond	Cement Bond
after 135°F.....	52.....	25
after 220°F.....	97.....	71
after 300°F.....	100.....	80



PRODUCTS

- UNI-PUMP 50 CF
 - UNI-PUMP 60 CF
 - UNI-PUMP 70 CF
 - UNI-PUMP 80 CF
 - UNI-PUMP AZS CF
 - UNI-PUMP AZ-SC CF
- UNI-SHOT 50 CF
 - UNI-SHOT 60 CF
 - UNI-SHOT 70 CF
 - UNI-SHOT 80 CF
 - UNI-SHOT AZS CF
 - UNI-SHOT AZ-SC CF

All URC CF Technology Products feature RF (Rapid Fire) Technology to allow for safer & faster dryouts.

URC FAQ's

1. Are colloidal silica containing products better?

The original cement free patents incorporated colloidal silica. Today, advances like **CF Technology** have made a one component system more cost effective with performance equal or better than colloidal silica systems.

2. Do the UNI-PUMP/SHOT CF products set up at room temperature?

- a) **Shotcrete Application:** When **UNI-SHOT CF** is shotcreted with the CF activator, the shotcreted product solidifies and hardens at ambient temperature just like a cement containing shotcrete.
- b) **Pumped Application:** When **UNI-PUMP CF** mixes are pumped in place, they exhibit similar "soft set" properties after 24 - 36 hours as colloidal silica containing products. However, experiments on pumping ductwork with **UNI-PUMP 50 CF** show that a low heat (90 to 110°F) inside the ductwork sections will "hard set" the product so that forms are comfortably removed and the ductwork can be moved.



3. Is UNI-PUMP/SHOT CF Technology consistent batch after batch?

Yes! On a recent 300 ton project, 51 samples of **UNI-SHOT 50 CF** were tested by an independent lab. The tested samples met data sheet and project specs, and the testing firm sent the following email with the results.

"I don't think I've seen a castable material that was this consistent over 50+ samples."

4. Do the UNI-SHOT CF products veneer?

Our experience is that the CF Shotcrete products veneer as well as cement bonded shotcrete over clean, existing refractory.





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UNI-SHOT CF Shotcrete

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PROPERTY	COLLOIDAL SiO ₂	URC CF SHOTCRETE	NOTES
Strength	✓	✓	At preheater operating temperatures, hot strengths of both products are = / better than low cement
Water Release	✓	✓	Both products offer faster water release, no air curing and faster heat ups compared to low cements
Ease of Installation	✗	✓	The URC CF products mix with water, require no Colloidal SiO ₂ and are better for winter shutdowns
Overhead Installation	✗	✓	The URC CF products are easily shot and placed overhead in warm and cold projects
Veneering	✗	✓	Tests show that URC CF products achieve a stronger bond with the substrate than Colloidal SiO ₂
Cost Effectiveness	✗	✓	The URC CF products are 10-20% less than the corresponding Colloidal SiO ₂ product – not including possible disposal costs



TOP: The UNI-SHOT 60 CF was easily shot overhead at a recent workshop demo.

BOTTOM: Immediately after placement, the UNI-SHOT 60 CF panel was solid and hard to the touch.



- ### URC Products
- UNI-SHOT AZ-SC CF
 - UNI-SHOT AZS CF
 - UNI-SHOT 80 CF
 - UNI-SHOT 70 CF
 - UNI-SHOT 60Z CF
 - UNI-SHOT 60 CF
 - UNI-SHOT 50 CF

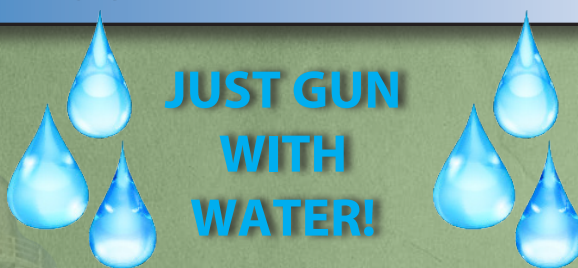
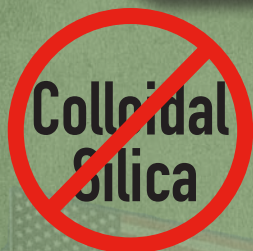
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OVER 50 YEARS OF PERFORMANCE DESIGNED SOLUTIONS

UNI-GUN 60 CF Gun Mix

BREAKTHROUGH CEMENT FREE GUN MIX



Experience:

Over 1 million lbs. successfully installed in over 20 projects since 2021.

Special Properties:

- **Veneering:** Due to the “sticky” gunning consistency, the CF Gun Mix family bonds well to both clean substrates and full depth applications.
- **Storage:** With no cement or colloidal silica, store and use for maintenance emergencies.
- **Less Down Time:** . . Begin dry-out immediately. Call for customized dry-out.

Family of Solutions:

PRODUCT*	Al ₂ O ₃ , %	SiO ₂ , %	CaO, %	ZrO ₂ , %	SiC, %	Abrasion Resistance	Alkali Resistance	Buildup Resistance
UNI-GUN 60 CF	64.5	32.6	0.0	–	–	Excellent	Excellent	–
UNI-GUN 60 CF ALK R	59.5	37.6	0.0	–	–	Superior	Superior	Excellent
UNI-GUN 60Z CF	58.0	34.6	0.1	4.4	–	Excellent	Excellent	Excellent
UNI-GUN MZS CF	58.0	29.8	0.1	4.4	4.8	Superior	Excellent	Superior
UNI-GUN 70 CF	70.4	25.8	0.1	–	–	Excellent	Good	–
UNI-GUN 70 CF ALK R	70.0	26.0	0.1	–	–	Superior	Superior	Excellent

* Contains RF (Rapid Fire) Technology



Scan Code for
More Details

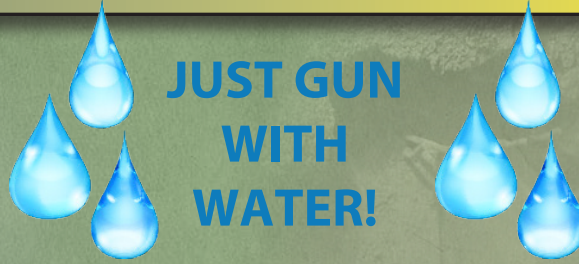




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UNI-GUN 60 CF Gun Mix

BREAKTHROUGH CEMENT FREE GUN MIX



Background:

URC's **UNI-SHOT CF Series** is a dependable, high performing cement free shotcrete. Until now, cement free gun mix systems required the use of colloidal silica, which is difficult to install and expensive.

Goal:

Develop a 60% Al₂O₃ cement free gun mix system with excellent properties and Rapid Fire Technology... installed with standard equipment and water!

Results:

UNI-GUN 60 CF* Exhibits the Following Benefits:

Installation:

- No colloidal silica/guns with water
- Standard Gunite equipment + **DUSTBUSTERLITE** nozzle
- Low rebounds/low dusting (10-15%)

Alkali Resistance:

Best in class alkali resistance, outperforming low cement gun mixes!

Abrasion Resistance:

< 10 cc C704 test (typical 7-8 cc)

Physical Properties:

(Fired to 1500°F)

DENSITY	CCS	MOR
151 pcf	11,000 psi	2,000 psi

Chemistry:

Al ₂ O ₃	SiO ₂	CaO
64.5%	32.6%	0.0%

FLS Alkali Test	
UNI-GUN 60 CF	
	Virtually NO penetration, NO cracking
Conventional Low Cement 60% Gun Mix	
	Alkali penetration causes bond disruption and expansive cracking

Recent Installs:

Plant	Area	Details:
East Coast Cement	• Clinker Cooler	6" UNI-GUN 60 CF (43,000#), 3" UNI-CAST LW-60 G
West Coast Cement	• Stage 5 Cyclone • Lower Calciner • Kiln Hood	"Gunned great with very low dust, very sticky" ~ Contractor
Southern Cement	• Flashing/ Maint. over brick	"Good adhesion over brick" ~ Contractor

* Contains RF (Rapid Fire) Technology

