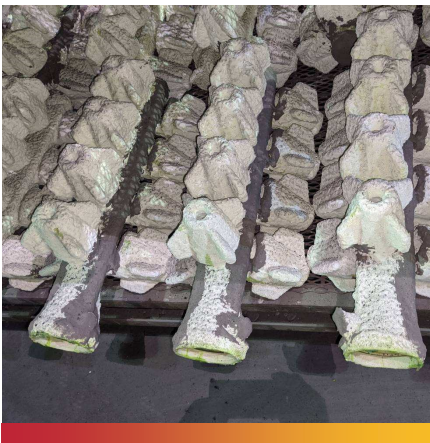


SHELLSHIELD™ REFRACTORY CEMENTS

ShellShield refractory cements are available in three formulas:



ShellShield™ 101 refractory cement



ShellShield 101 refractory cement

- Wet, super duty, air-setting mortar
- Ideal for reinforcing joints prone to cracking or for patching visible shell cracks after dewax

ShellShield™ 201 refractory cement



ShellShield 201 refractory cement

- Fireclay-based, wet, air-set mortar in an extra consistency
- Used in general applications with super duty and high alumina brick

ShellShield™ 301 refractory cement



ShellShield 301 refractory cement

- Fireclay-based, wet, air set mortar in a troweling consistency
- Used with brick and shapes

Chemical Composition* (Proprietary ingredients not included)

	SiO ₂	Al ₂ O ₃	Na ₂ O	Alkalis	TiO ₂	Fe ₂ O ₃	Others
ShellShield 101 refractory cement	52.5%	40.2%		3.6%	1.5%	0.8%	
ShellShield 201 refractory cement	52.5%	40.2%		3.6%	1.5%	0.8%	1.4%
ShellShield 301 refractory cement	67.2%	28.5%	2.8%		0.9%	0.6%	

Physical Properties*

	Temperature	CMOR (ASTM C198)	Consistency	Maximum Use Temperature
ShellShield 101 refractory cement	220 °F (105 °C)	2000 psi (13.8 MPa)	Super duty	3000 °F (1649 °C)
	1000 °F (540 °C)	850 psi (5.9 MPa)		
	2550 °F (1400 °C)	300 psi (2.1 MPa)		
ShellShield 201 refractory cement	230 °F (110 °C)	2000 psi (13.8 MPa)	Super thick	3000 °F (1649 °C)
	1000 °F (540 °C)	850 psi (5.9 MPa)		
	2550 °F (1400 °C)	300 psi (2.1 MPa)		
ShellShield 301 refractory cement	230 °F (110 °C)	750 psi (5.2 MPa)**	Trowling	3000 °F (1649 °C)
	1500 °F (815 °C)	750 psi (5.2 MPa)**		
	2200 °F (1200 °C)	675 psi (4.7 MPa)**		

*These results are based on the testing methods, frequency and procedures of Ransom & Randolph or its approved suppliers. The levels referenced herein are only for general guidance and do not constitute a firm specification. **Brick Broke



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SHELLSHIELD™ REFRACTORY CEMENTS

Application Instructions

Use ShellShield refractory cements similarly to other shell patch/reinforcement mortars. Apply it as is, out of the bucket, using a gloved hand or trowel, as needed. For tighter areas, dilute a portion of the ShellShield refractory cement with water to thin it; then paint it on the desired area of the shell. Fire shells normally after application.

Storage

Protect from freezing and store above 32°F (0°C). Keep pail tightly sealed when not in use to avoid the ShellShield refractory cement from drying out. If the ShellShield refractory cement separates, remix as required. Store in a cool, dry location, out of direct sunlight, in the original, unopened package and protected from the elements to avoid moisture pickup.

Safety

Before handling this material, review the corresponding Safety Data Sheet (SDS).

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the user. All potential liability related to the sale and use of this product is limited to the cost of the particular goods sold in their respective transactions.



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