



**RENO**  
REFRACTORIES, INC.



# MONOLITHIC REFRACTORIES FOR TODAY'S CEMENT PLANTS

P.O. Box 201 | Morris, AL 35116 | 205.647.0240 or 1.800.741.7366 | [www.renorefractories.com](http://www.renorefractories.com)



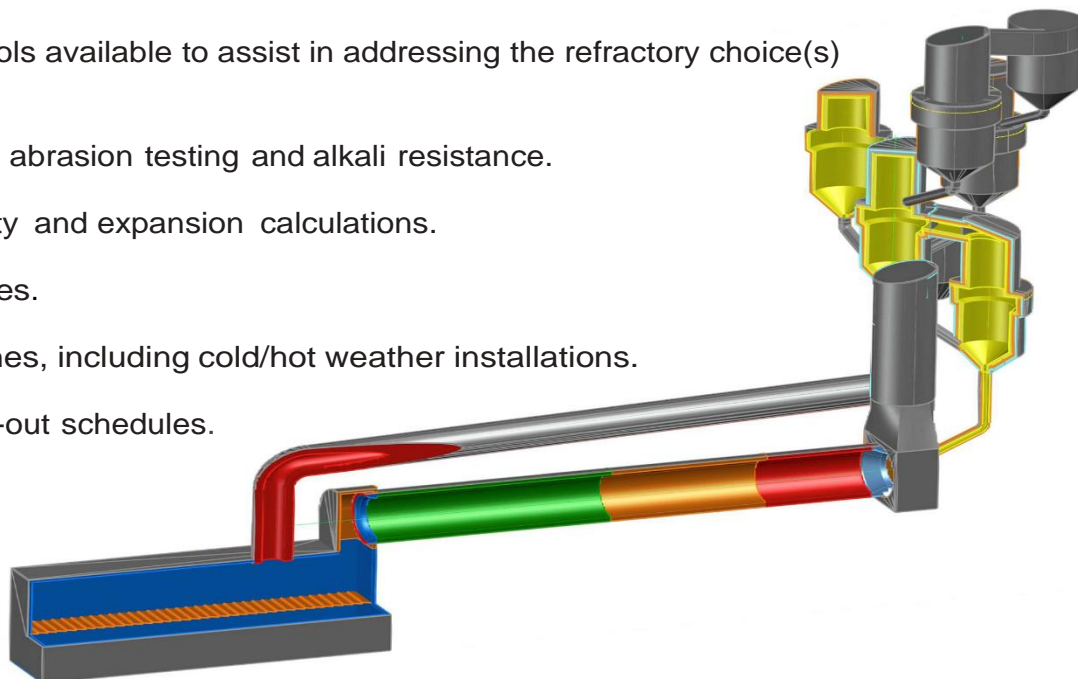
## PRODUCT CONSIDERATIONS

There are many factors when considering the optimum refractory to use in a cement plant application. These can range from simple issues to more complex factors, like the following:

1. Time of the year - hot or cold temperatures affect the installation and final properties.
2. Fuel types used - coal, pet coke, alternative fuels.
3. Atmosphere - reducing or oxidizing.
4. Location of installation - Upper stages, cooler, riser, etc.
5. Turnaround time – Total amount of time available for the complete reline installation including dry out.
6. Anticipated life expectancy of lining – Affected by installation method.
7. Installation method based on time restriction - gun, cast, pump, shotcrete.
8. Anchoring method to use based on installation and product selection.
9. Wear Mechanisms - Alkali attack, abrasion, thermal shock, etc.
10. Thermal analysis– used to determine shell temperatures in order to avoid dew point corrosion from alkali/chloride condensation. Addresses expansion allowance requirements.
11. Dry out method to use, independent or during startup.
12. Cost - must be cost effective.

Fortunately, there are tools available to assist in addressing the refractory choice(s) based on the above.

- A. Wear mechanisms, abrasion testing and alkali resistance.
- B. Thermal conductivity and expansion calculations.
- C. Anchoring guidelines.
- D. Installation guidelines, including cold/hot weather installations.
- E. Recommended dry-out schedules.



Summary of Products by Use Area and Install Method			
AREA	CASTABLE	SHOTCRETE	GUN MIX
Stage 1 (Top) & 2	Reno Cast 26 - PC	Reno Cast 26 - PC	Reno Gun 28
Stage 3	Reno Cast 40 AR Reno Cast 52 AR LC	Reno Cast 40 AR Reno Cast 52 AR LC	Reno Gun 28
Stage 4	Electropump™ 1152 AR Reno Cast 52 AR LC	Electropump™ 1152 AR Reno Cast 52 AR LC	Reno NC Gun 18 Z Reno NC Gun 52 AR
Calciner	Electropump™ 1152 AR Reno NC 52 AR Reno Cast 52 AR LC	Electropump™ 1152 AR Reno NC 52 AR Reno Cast 52 AR LC	Reno NC Gun 18 Z Reno NC Gun 52 AR
Riser	Cleancast 33 Z Electropump™ 1125 SiC	Cleancast 33 Z Electropump™ 1125 SiC	Reno NC Gun 18 Z Reno NC Gun 52 AR (patching only)
Feed Shelf	Cleancast 33 Z	Cleancast 33 Z	Reno NC Gun 18 Z
Feed Hood	Electropump™ 1152 AR Reno NC 52 AR Reno Cast 52 AR LC	Electropump™ 1152 AR Jet Cast NC 52 AR Reno Cast 52 AR LC	Reno NC Gun 52 AR
Tail Ring	Cleancast CK Cleancast 18 Z	Cleancast CK Cleancast 18 Z	Reno NC Gun 18 Z Reno NC Gun 52 AR
Firing Hood	Electropump™ 1152 AR Reno NC 52 AR Reno Cast 52 AR LC Reno Cast SA 60Z	Electropump™ 1152 AR Jet Cast NC 52 AR Reno Cast 52 AR LC Reno Cast SA 60Z	Reno NC Gun 52 AR Reno NC Gun 60 AZS
TA Duct	Electropump™ 1152 AR Reno NC 52 AR Reno Cast 52 AR LC	Electropump™ 1152 AR Jet Cast NC 52 AR Reno Cast 52 AR LC	Reno NC Gun 52 AR Super Abrade AZS-G ASAP Gun 60 Z
Nose Ring	Cleancast CK Electropump™ 1125 SiC	Cleancast CK Electropump™ 1125 SiC	Reno NC Gun 18Z
Cooler Drop Walls & Hot Curbs	Cleancast CK Jet Cast NC 6059	Cleancast CK Jet Cast NC 6059	NC Gun 6059
Cooler Walls	ASAP Cast 60 LC ASAP Cast 70 LC	ASAP Cast 60 LC ASAP Cast 70 LC	Reno NC Gun 52 AR
Cooler Curbs	ASAP Cast 60 LC	ASAP Cast 60 LC	ASAP Gun 80 ABR
Cooler Bullnose	Cleancast CK Jet Cast NC 6059	Cleancast CK Jet Cast NC 6059	NC Gun 6059
Cooler Roof	Jet Cast NC 6059	Jet Cast NC 6059	NC Gun 6059
Cooler Cold Zone	ASAP Cast 60 LC	ASAP Cast 60 LC	ASAP Gun 80 ABR
Cooler Vent Duct	Reno Cast 52 AR LC	Reno Cast 52 AR LC	ASAP Gun 80 ABR
Burner Pipe	Reno Cast 70 KH		
Burner Pipe Tip	Electrocast™ 3SB Reno NC 90 AR Reno NC 52 AR		
Backup Insulation	Reno Lite Cast 22	Reno Pump 80 LW FF	GN 25 LW Reno Lite Gun 40
Hot Repairs			Mach Gun 60 P Reno Gun 80 P
Kiln Brick Patch			Reno NC Mag Gun
Hot Gas Generator	Reno NC Pump 50 FS		Reno NC Gun FS
Cooler Cyclones	Super Abrade RTG		Super Abrade RTG
Raw Mill/Finish Mill	Super Abrade RTG		Super Abrade RTG

The above is not an all-inclusive listing of all of the products Reno manufactures for cement applications or that can be used in any particular area. Please consult with your Reno Representative if you have any questions, have a particular need or require additional information.

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***MAKE RENO YOUR FIRST CALL FOR ALL OF YOUR  
MONOLITHIC NEEDS!***

*It is the mission of Reno Refractories, Inc.* to investigate, develop, communicate and deliver valuable refractory products and services to our customers in North America. We have a responsibility to supply the best value in refractory technology by optimizing the profits and safety of our customers. We take pride in our reputation as a leader in these endeavors.