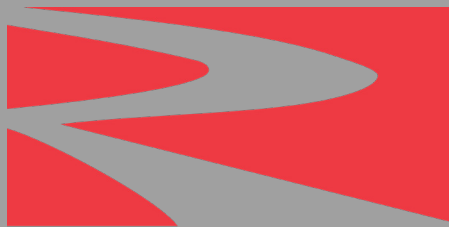




RHI MAGNESITA

Coke Ovens



RESCO[®]
PRODUCTS, INC.

www.RescoProducts.com

Coke Oven Products

Resco Products is a full line refractory manufacturer headquartered in Pittsburgh, PA. With 9 operating plants and 2 mines in North America we are strategically located to serve our customer base. Resco has a well established reputation in the Steel industry, and we offer a multitude of products for the coke ovens.

PATCHING:	JAMB Sprays - Phosphate Bonded
	Trowel Patch and Mortars
	Gunitite - Conventional & Fused Silica/Fine and Coarse
	Castables for JAMBS and General Battery Top Repairs
	Dry Vibratables for Floor Leveling
SEALANTS:	Coke Oven Lid Seal
	Coke Oven Door Seal
	High Density Ceramic Rope
	Drop Sleeve Gaskets
	Grouting Materials
	Silica Dust
	Cold Joint Seal for Goos Necks
EQUIPMENT:	JAMB Spray Vessels
	Door Seal Pumps
	Gunitite Machines - Rotary and Pressure Vessels
	High Pressure Grout Pumps
PRECAST SHAPES:	Door Plugs
	Charge Hole Castings
	Flue Castings
	Fused Silica Wall Shapes
PRESSED SHAPES:	Fused Silica Complete WALL Design - Original & Modules
	Fire Clay Brick
	High Density Wharf Brick
	Insulating Fire Brick



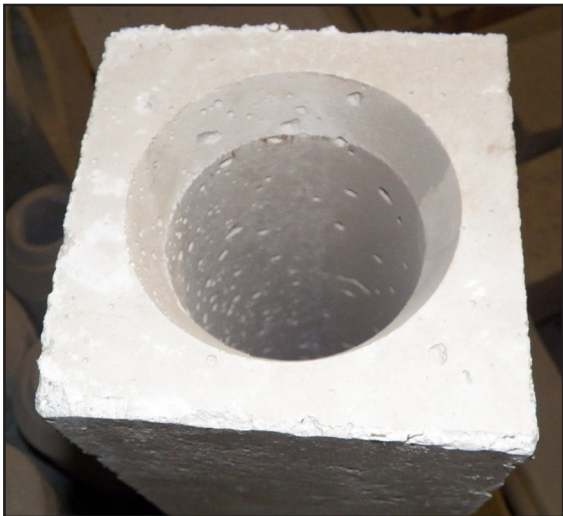
Coke Oven Shapes



Precast Door Plugs



Cast Charge Hole Frame



Cast Inspection Hole



Cast Standpipe Base



**Finished
Gunited
Stack**

**Installed
Stack**



Coke Oven

Services/Equipment

- OVEN SURVEYS
- CERAMIC WELDING:
WALL,. ROOF,
FLOOR, GAS GUN, TIE-IN
- GUNITE
- JAMB CASTING
- OVEN DUSTING
- FLUE CLEAN OUT
- REGENERATORS CLEAN OUT
- HIGH PRESSURE GROUTING:
BATTERY TOP, GAS GUNS,
GAS RISORS, DOOR FRAMES
- END FLUE PANEL PATCH
- END FLUE REPLACEMENT
- CHARGE HOLE CASTING
RE-SET/REPLACEMENT
- FLUE CASTING RE-SET/RE
PLACEMENT
- WHARF REPAIR

Weld Powders

Jamb Sprays

Mortars

Gunites

Castables

Sealants

Equipment

Services

Application Equipment



DOOR SPRAY
BUGGY

ROTARY DRY
GUNITE
MACHINE



PRESSURIZED DRY
GUNITE MACHINE



PRESSURIZED JAMB
SPRAY VESSEL

Coke Oven

Ceramic Welding

A Ceramic Welding service for the repair of refractory brickwork and monolithic linings of coke ovens and other furnaces.

Ceramic Welding

- The RESCO Ceramic Welding system has been in use commercially for more than 3 decades.
- Numerous contracts have been serviced in North America.
- Repairs are carried out to damaged refractory brickwork or furnace linings.
- Resco Ceramic Welding powders can be custom made to suit a wide range of refractory appliances.
- Refractory brickwork is maintained at or near the oven or furnace temperature.
- Disruptions to production are kept to a minimum.
- Coke oven battery or furnace life can be extended.
- Chimney emissions can be reduced.



Coke Oven

The Process

Weld Powders

Jamb Sprays

Mortars

Gunites

Castables

Sealants

Equipment

Services

- Precisely graded refractory material of similar chemical and physical properties to that of the refractory to be repaired is blended to an exact formulation with specific metallic oxidants

- The ceramic welding powder is conveyed in compressed air and mixed with oxygen before passing through a lance to the repair area

- The powder ignites when it comes into contact with the hot refractory substrate

- The exothermic reaction of the metallic constituents raises the temperature to 3540 - 3720 degrees Fahrenheit. *

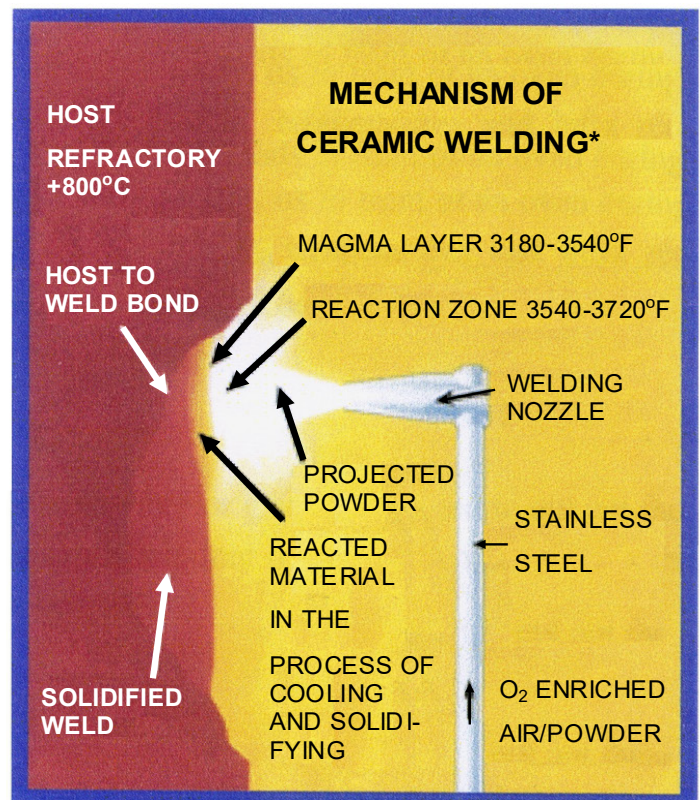
- This heat is sufficient to flux the ceramic welding material and fuse it to the partially melted substrate

- The repair is then carried out by depositing ceramic weld until the correct profile is restored

- The ceramic weld develops similar crystalline characteristics to the host brickwork providing a long lasting repair



From left to right: damaged wall prior to repair, welding in progress, finished repair.

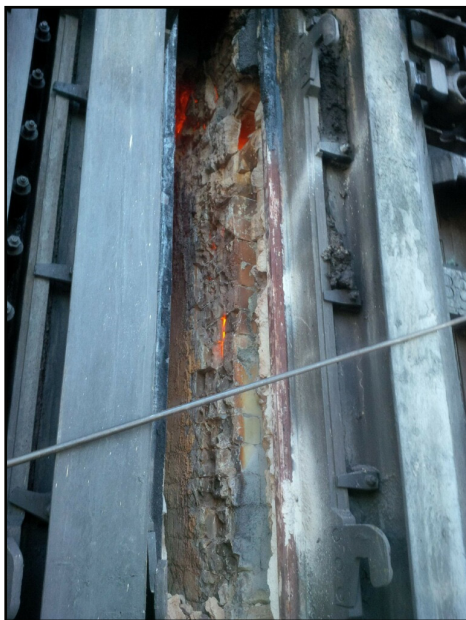


*These figures relate to Silica Type 'S' ceramic welding powder

Coke Oven

Patching Products/Sealants

JAMB Sprays	JAMB Coat P 99 (Premix) & JAMB Coat P Dry
Trowel Patching	LadleLock 70 JP & REF Bond-F
Mortar	LadleLock 3000
Gunitite-Conventional	HM28 LI CO & HM28 LIF CO (Fine Grain)
Gunitite-Fused Silica	RescoGun FS-CF (Cement Free), RescoGun FS-CF Fine
Castables	JAMBS - Unicrete 50 Flowz TL0877 & Unicrete 60 Flowz Battery Top & General - Unicrete 50 Flowz TL0877
Floor Leveling/Patch	R 60 DV (Dry Vibratable)



**Missing Flue:
To be repaired**

**Repaired area with
RescoGun FS-CF**



Sealants

Charge Hole Lids	Lid Seal Lid Seal G (Silica) Lid Seal LW (Low Density)
Doors	Door Seal
Grouting	Super Grout 85
Goose Necks	Cold Joint Seal
Oven Dusting	CO Dust

Coke Oven

The Equipment

Weld Powders

Jamb Sprays

Mortars

Gunites

Castables

Sealants

Equipment

Services

- RESCO currently has two models of ceramic welding machines available.
- The SP150 is a pneumatically operated, trolley mounted machine which has a proven track record.
- The SP100 is a smaller version of the SP150, which is ideal where access is limited.
- Both machines can apply up to 220 pounds of ceramic welding powder per hour.
- Refractory cleaning is achieved by using pneumatic tools or grit blasting techniques.
- The majority of repairs are carried out using standard stainless steel lances. For special applications, water cooled lances are used.



Ceramic Welding Powder

RESCO ceramic welding powders for use in coke oven repairs include:

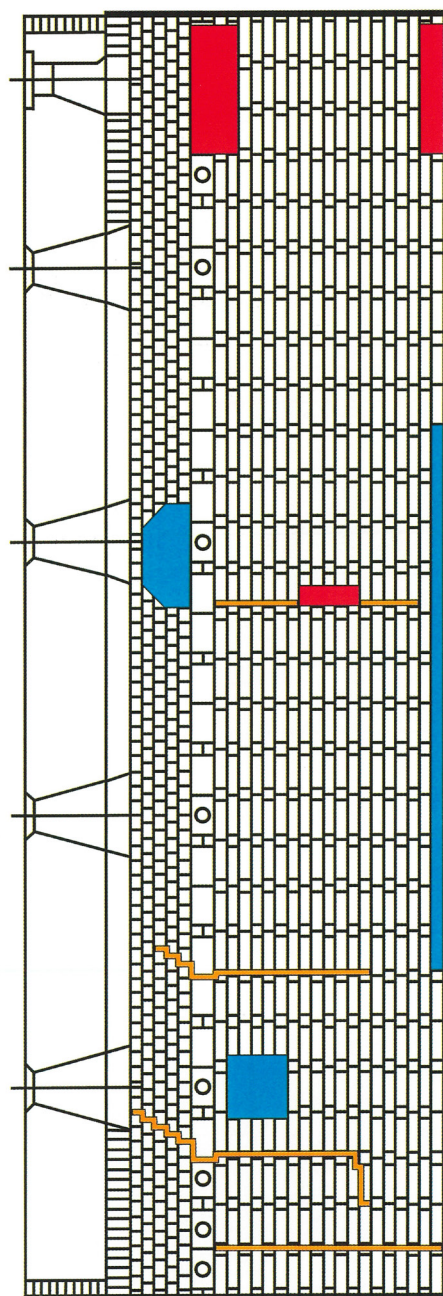
- Silica Type "S" is suitable for the majority of coke oven repairs.
- Fireclay Type "D" is used for fire brick or chamotte applications.
- Al-SiL Type "L" is a higher alumina version of Type D
- Type "FS" is a silica based material with a high resistance to thermal shock.
- Ceramic welding powders can be custom made to suit a wide range of refractory applications.



SP150 Ceramic Welding Machine

Coke Oven

Typical Repairs



- HOLE TO FLUE
- SPALL
- CRACKS/OPEN JOINTS

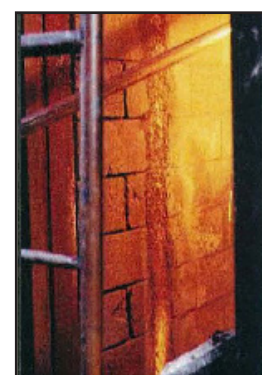


Severe damage to oven wall caused by a defective ram head, shown before and after repair.



Welding damaged roof blocks and undercut using a water cooled lance.

Severe crack to oven wall shown before cleaning, after cleaning, during welding and completed



Ceramic Welding Expert

Thomas Gisewhite



FS Silica
Weld Powder

Fireclay
Weld Powder

Silica
Weld Powder



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