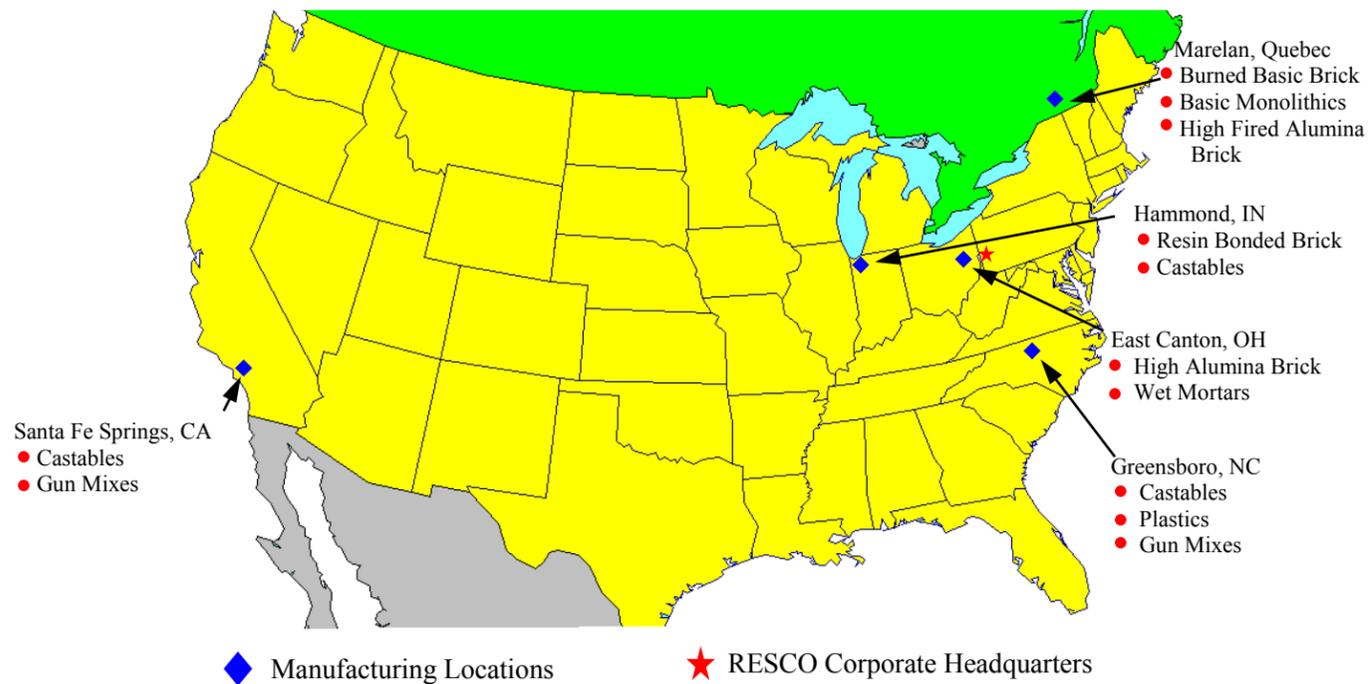


Resco Manufacturing Locations



Regional Sales Offices

Pittsburgh, PA	Gary, IN	Santa Fe Springs, CA	Resco Canada
Phone: 888.283.5505	Phone: 219.886.9767	Phone: 562.802.2463	Phone: 819.242.2721
Fax: 412.494.4571	Fax: 219.886.9821	Fax: 562.802.0315	Fax: 819.242.9718

RESCO for the Long Run

Founded in 1946, Resco has served its markets with specialized products ever since, initially, with the refining industry and later in the steel industry. Innovations have been key to Resco's long success, including AA-22 and the original patent on semi-universal ladle brick.

Recent acquisitions have diversified Resco into many new refractory markets. The addition of National's product lines allows Resco to offer a comprehensive range of products.



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Penn Center West
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Pittsburgh, PA 15276

Phone: 888.283.5505
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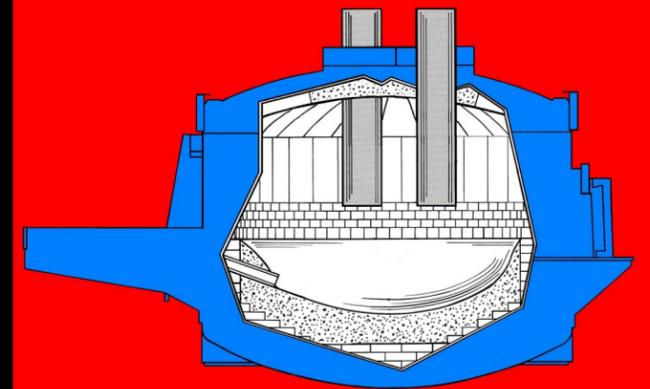


November 2005

PERECON
P-95 B
OXILINE H
OXILINE B
NULINE R 10
NULINE R 20
NULINE R 10 SA
NULINE R 20 SA
NULINE 10-99
NULINE 13 DF
NULINE 15 DF
NULINE 18 DF
PERMANENTE 165AF
VIBROCAST ASC 8 LT
VIBROCAST 70 M
VIBROCAST 85 ULM
K/R GUN 91 G
EZ CAST 3250
KRICON 32-70
PROCAST 80



**Products for
Electric Arc
Furnaces**



Resco Products for

ELECTRIC ARC FURNACES

SUBHEARTH

The subhearth zone is constructed in one of three ways;

- 1) all brick hearth design uses straight brick that are usually laid flat, rowlock or in soldier arrangement to achieve an elevation for the beginning of the stadium portion of the lining.
- 2) brick/monolithic combination of 9 x 4 1/2 x 3 straights flat on the shell in several layers and then covering with dry vibratable. This concept can be enhanced through the use of 9 x 4 1/2 x 3 key-arch-wedges and installing a series of concentric rings that yields a much more solid base for supporting the sidewall.
- 3) all monolithic design involves placing dry vibratable directly on the shell.

STADIUM

The stadium area can consist of all brick or a single layer of brick to provide a safety lining for the dry vibratable.

LOWER SIDEWALLS

This is the area of the furnace that makes the transition from the stadium to the sidewall. Generally it is an area using a single brick length and is either OXILINE B or mag-carbon. Slag or metal contact is possible but maintenance material should cover this area.

SLAGLINE

This is the area of the furnace that sees the slag produced in the melting process. Based upon slag volumes and slag control this furnace zone can be problem free or a severe maintenance area.

TAPHOLE

Tapholes for standard side tapping and bottom tapping furnaces are available in a range of compositions from mag-chrome to burned magnesite tar-impregnated to mag-carbon of many types. Shape geometries ranging from epoxy drilled units to large, hydraulically pressed sleeves and end blocks to iso-pressed, single piece units are available.

SPOUTS

Precast spouts for sidetapping furnaces can be cast in a number of materials.

BRAND DESCRIPTION

NULINE 9-99: a resin-bonded mag-carbon composition that contains 100% fused high purity MgO grain and dual metallics.

NULINE 10-99: a resin-bonded mag-carbon composition that contains 100% fused very high purity MgO grain and dual metal additions.

NULINE 13 DF: a resin-bonded mag-carbon composition that contains 100% very high purity fused MgO grain and very high purity graphite. Dual metals are used to enhance oxidation resistance while providing resistance to aluminum carbide hydration.

NULINE 15 DF: a composition similar to Nuline 13 DF, but with enhanced metals to provide greater oxidation and hydration resistance.

NULINE 18 DF: a composition similar to Nuline 13 DF, but with higher graphite content to provide greater non-wetting capability to slag attack.

NULINE R 10 or R 20: two cost effective resin-bonded, sintered MgO compositions containing 8 and 17% graphite respectively, that provide good all around refractoriness.

NULINE R 10 SA or R 20 SA: same as the above compositions except for the addition of dual metals to provide oxidation resistance.

PERECON: a cost effective, burned, regular purity MgO composition that has good hydration resistance.

P-95 B: this brick has excellent hydration resistance plus very low porosity, minimal high temperature creep and good corrosion resistance to basic slags.

OXILINE H: a burned, high purity MgO composition that has a balanced lime:silica ratio that imparts excellent refractoriness and excellent strength across a wide temperature range.

OXILINE B: same as OXILINE H but tar-impregnated to enhance composition by adding carbon to provide greater slag resistance and enhanced hydration resistance.
VIBROCAST 70 M: a 70% alumina, 3200°F low cement castable designed to yield minimum porosity and very good strengths.

VIBROCAST 85 ULM: an 80% alumina, 3200°F ultra low cement castable designed for maximum slag and metal resistance.

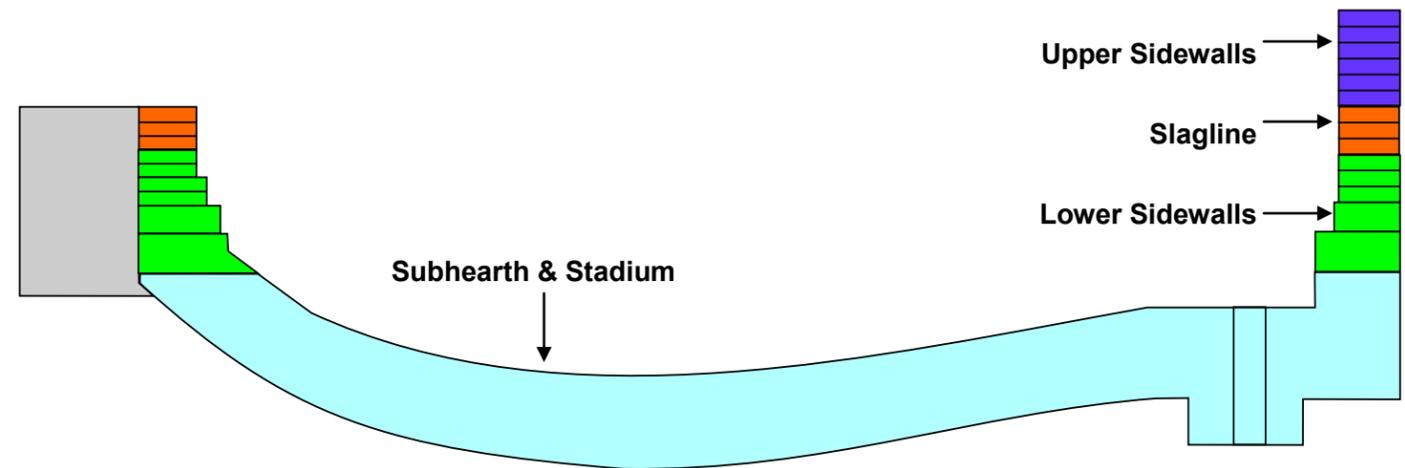
BRAND DESCRIPTION

VIBROCAST ASC 8 LT: a high purity, low cement, 3400°F alumina - spinel castable designed to provide maximum resistance to molten steel and slags.

EZ CAST 3250: a 78% alumina castable. It has excellent abrasion resistance, superior hot strength, and excellent thermal shock resistance.
Permanente 165-AF: a multipurpose, volume stable, non-chromate bond periclase mix which can be rammed or cast.

KRICON 32-70: a 77% alumina, low iron 3200°F low cement castable. It offers improved slag resistance and positive reheat expansion at steel making temperatures. This is a mix that should be vibrated.

ProCAST 80: a bauxite-based, ultra-low cement castable. This vibration mix performs well in deltas requiring high strength, good thermal shock resistance, and good abrasion resistance.



	SUBHEARTH & STADIUM	LOWER SIDEWALLS	SLAGLINE	UPPER SIDEWALLS	SPOUTS
Non-Severe	PERECON OXILINE H OXILINE B P-95 B	OXILINE B NULINE R 20	NULINE R 20 NULINE 9-99	Cold Spot: NULINE R 20 NULINE R 20 SA Hot Spot: NULINE 9-99	VIBROCAST 70M KRICON 32-70
Moderately Severe	OXILINE H OXILINE B P-95 B TI	OXILINE B NULINE R 10 NULINE R 20 NULINE R 10 SA NULINE R 20 SA	NULINE R 20 NULINE R 20 SA	Cold Spot: NULINE 9-99 Hot Spot: NULINE 10-99	VIBROCAST 85 ULM EZ CAST 3250
Most Severe	OXILINE B	NULINE 10-99 NULINE 13 DF	NULINE 13 DF NULINE 15 DF NULINE 18 DF	NULINE 13 DF NULINE 15 DF NULINE 18 DF	VIBROCAST ASC 8 LT