

Resco Products for

Electric Arc Furnaces

SUBHEARTH

The subhearth zone of most EAF are zoned in one of three ways;

- 1) somewhat unusual but still used in some shops is the all brick hearth concept. This 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) the second concept used today is that of laying 9 x 4 1/2 x 3 straights flat on the shell in several layers and then covering with dry vibratible. This concept can be enhanced thru the use of 9 x 4 1/2 x 3 key-arch-wedges and installing a series of concentric rigs that yields a much more solid base than just laying the straights for supporting the sidewall.
- 3) the third concept is simply placing dry vibratible directly on the shell

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

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 OXLINE H ,but Tar-impregnated, to enhance composition by adding carbon to existing porosity to provide greater slag resistance as well as enhancing hydration resistance.

STADIUM

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

BRAND SELECTIONS

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

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 OXLINE H ,but Tar-impregnated, to enhance composition by adding carbon to existing porosity to provide greater slag resistance as well as enhancing hydration resistance.

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 of OXILINE B or mag-carbon in terms of composition. Slag or metal contact is possible but maintenance should prevent this.

NON-SEVERE to MODERATELY SEVERE APPLICATION

OXILINE B- same as OXLINE H ,but Tar-impregnated, to enhance composition by adding carbon to existing porosity to provide greater slag resistance as well as enhancing hydration resistance.

NULINE R 10 or R20- two cost effective resin-bonded, sintered Mgo compositions containing 8-17% graphite respectively that provide good all around refractoriness.

NULINE R10SA or R 20 SA- same as the above mentioned compositions except for the addition of dual metals to provide oxidation resistance if needed.

SEVERE APPLICATIONS

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

NULINE 13 DF- a brick similar to Nuline 10-99 but using higher purity raw materials.

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 no problem or a severe problem.

NON-SEVERE to MODERATELY SEVERE APPLICATION

OXILINE B- same as OXLINE H ,but Tar-impregnated, to enhance composition by adding carbon to existing porosity to provide greater slag resistance as well as enhancing hydration resistance.

NULINE R 10 or R20- two cost effective resin-bonded, sintered Mgo compositions containing 8-17% graphite respectively that provide good all around refractoriness.

NULINE R10SA or R 20 SA- same as the above mentioned compositions except for the addition of dual metals to provide oxidation resistance if needed.



SLAGLINE *cont.*

MODERATELY SEVERE

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

NULINE 13 DF- a brick similar to Nuline 10-99 but using higher purity raw materials.

MOST SEVERE APPLICATIONS

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 oxidance resistance while providing resistance to aluminum carbide hydration.

NULINE 15 DF- a composition similar to Nuline 13 DF but 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.

UPPER SIDEWALLS COLD SPOTS AND HOT SPOTS

NON - SEVERE APPLICATIONS

NULINE R20- a cost effective resin-bonded, sintered Mgo compositions containing 8-17% graphite respectively that provide good all around refractoriness.

NULINE R 20 SA- same as the above mentioned compositions except for the addition of dual metals to provide oxidation resistance if needed.

MODERATELY SEVERE

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

MOST SEVERE APPLICATIONS

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 oxidance resistance while providing resistance to aluminum carbide hydration.

NULINE 15 DF- a composition similar to Nuline 13 DF but 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.



Resco Products, Inc
Penn Center West
Building 2, Suite 430
Pittsburgh, PA 15276

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 any number of materials with the following representing the typical choices;

NON-SEVERE APPLICATIONS

VIBROCAST 70 M- a 70% alumina , 3200 F degree low cement castable designed to yield minimum porosity and very good strengths.

MODERATELY SEVERE APPLICATIONS

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

SEVERE APPLICATIONS

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

DELTAS

NON-SEVERE APPLICATIONS

VIBROCAST 70 M- a 70% alumina , 3200 F degree low cement castable designed to yield minimum porosity and very good strengths.

MODERATELY SEVERE APPLICATIONS

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

SEVERE APPLICATIONS

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

MAINTENANCE

With the acquisition of National Refractories and their excellent line of basic specialties including the K/R GUN series of products (greater than 90% MgO in all products) and PERMANENTE series of products (greater than 85% MgO) that can be rammed, cast, and even gunned in some cases.

Phone: 800.354.1211
Phone: 412.494.4491
Fax: 412.294.1080
www.rescoproducts.com

