Basic Oxygen Furnace (BOF)

RESCO®
PRODUCTS, INC.

www.RescoProducts.com

Basic Oxygen Furnace

Safety Lining / Taphole / Lip Casting

OXILINE H

OXILINE B

NULINE 15-96

NULINE R 20 A

RESCORAM 85S

NULINE 12 XF

NULINE 3-99

PERECON

METALKASED FEATURE

PERMANENTE MORTAR

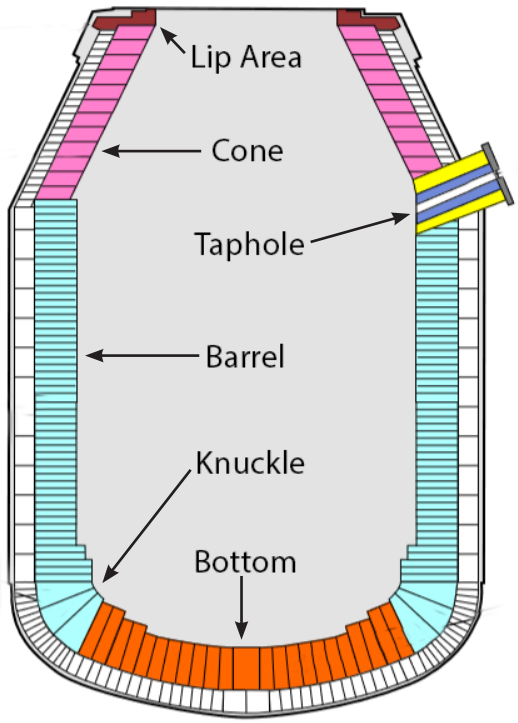
SAFETY LINING

The safety lining in the BOF / Q-BOP is typically tasked to perform a single campaign potentially coving many years. Most shops utilize a single 9" safety bottom using skews in the knuckle or radial transition area of the bottom to the barrel. The barrel safety lining is usually 9" in thickness. Cone safety linings can be 6-9" in total thickness using standard key shapes or special parallelogram shapes to provide better fit. Mortar is generally used in laying the bottom safety lining and skews, but bricks in all other areas are usually laid dry.

Safety Lining		
Section	**Brick**	**Mortar**
Bottom	Perecon	Permanente Mortar
Knuckle	Oxiline H	Permanente Mortar
Barrel	Oxiline H / Oxiline B / Nuline R5	Permanente Mortar
Cone	Oxiline H / Oxiline B / Nuline R5	Permanente Mortar

TAPHOLE

RESCO promotes the concept of epoxied/ core drilled tapholes. Placement of an isopressed taphole (also available from RESCO) in this drilled opening results in excellent long-term integrity and freedom from steel penetration. This concept also speeds up the reline process by 4 hours or more and eliminates the need to handle large, heavy pieces and placing them in the proper alignment



LIP CASTING

This area of the vessel can be either rammed or gunned once brickwork has been completed. If rammed, RESCO's Rescoram 85S can be used.

Basic Oxygen Furnace
Work Lining

WORKING LINING

The working lining must be designed to provide exceptional integrity for the life of the vessel usually ranging from many months to many years. This design must also be balanced so that uniform wear can be achieved and gunning maintenance kept to a minimum. Overall cost per ton is kept in mind in putting an entire package together. Bottom construction can range from a combination of keys, a single key-wedge, to the currently popular concentric ring design. Knuckle construction can run from simple keys laid horizontally, to precut wedge shapes, to key-arch-wedge shapes called radial knuckle skews that make the transition from the bottom to the barrel using single shapes in consecutive courses. Barrels usually consist of standard keys in lengths from 21”-33". Cone shapes can be standard keys to special parallelogram shapes. Tapholes can consist of special shapes or the concept of core drilling can be used to create an opening capable of having a taphole sleeve inserted and gunned around.

Working Lining		
Section	**Brick**	**Ram**
Bottom		
Non-Severe	Nuline R5	Rescoram 85S
Moderately Severe	Nuline 15-96	
Most Severe	Nuline 12 XF	
Knuckle and Barrel		
Non-Severe	Nuline R 20 A / Nuline 15-96	Rescoram 85S
Moderately Severe	Nuline 12XWB	
Most Severe	Nuline 12XF/ Nuline 3-99	
Cone		
Non-Severe	Nuline 36-95	Rescoram 85S
Moderately Severe	Nuline 15-96	
Most Severe	Nuline 12XWB / Nuline 12 XF	
Lip Area		Rescoram 85S

Basic Oxygen Furnace

OXILINE H

OXILINE B

NULINE 15-96

NULINE R 20 A

RESCORAM 85S

NULINE 12 XF

NULINE 3-99

PERECON

METALKASED FEATURE

PERMANENTE MORTAR

BRAND DESCRIPTIONS

OXILINE H	a burned high purity/high strength composition that offers very high strength as well as complete freedom from concerns for oxidation.
OXILINE B	a burned, tar-impregnated high purity/high strength composition that offers very high strength as well as complete freedom from concerns for oxidation.
NULINE 15-96	a mid-level magnesite carbon product containing high purity sintered MgO and graphite and a dual metals addition.
NULINE R 20 A	a mid-level magnesite carbon composition containing a metal addition for oxidation resistance and strength enhancement
RESCORAM 85S	an 85% alumina, phos-bonded plastic material.
NULINE 12 XF	a premium magnesite carbon composition containing very high purity fused MgO and graphite and a dual metals addition for exceptional oxidation resistance and strength enhancement.
Nuline 12XWB	a premium magnesite carbon composition containing a combination of sintered and fused MgO, graphite and a dual metals addition for exceptional oxidation resistance and strength enhancement.
NULINE 3-99	a premium magnesite carbon product containing very high purity fused MgO and graphite and having significant dual metals additions providing the ultimate oxidation and strength enhancement.
PERECON	a burned 95% magnesia class brick that contains a special additive to achieve improved hydration resistance.
METALKASED FEATURE	This feature consists of gluing 22 gauge steel to four sides of any brick shape. This provides enhanced brick-to-brick bonding as well as providing thermal expansion relief to the entire lining.
PERMANENTE MORTAR	a dry magnesite, air setting mortar.

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Edited 2019

TRI MEMBER