



Berry Metal Company supplies Water-Cooled Oxygen Lances, Post Combustion Lances, Sensor and Camera Lances, Furnace Deskulling Lances, Oxy-Fuel Burners and specially designed Forged and Cast Lance Tip Sub-Assemblies. Additionally, we provide repair service, technical support, complete replacement parts and field service.

Single and Double Flow

Post Combustion Lances

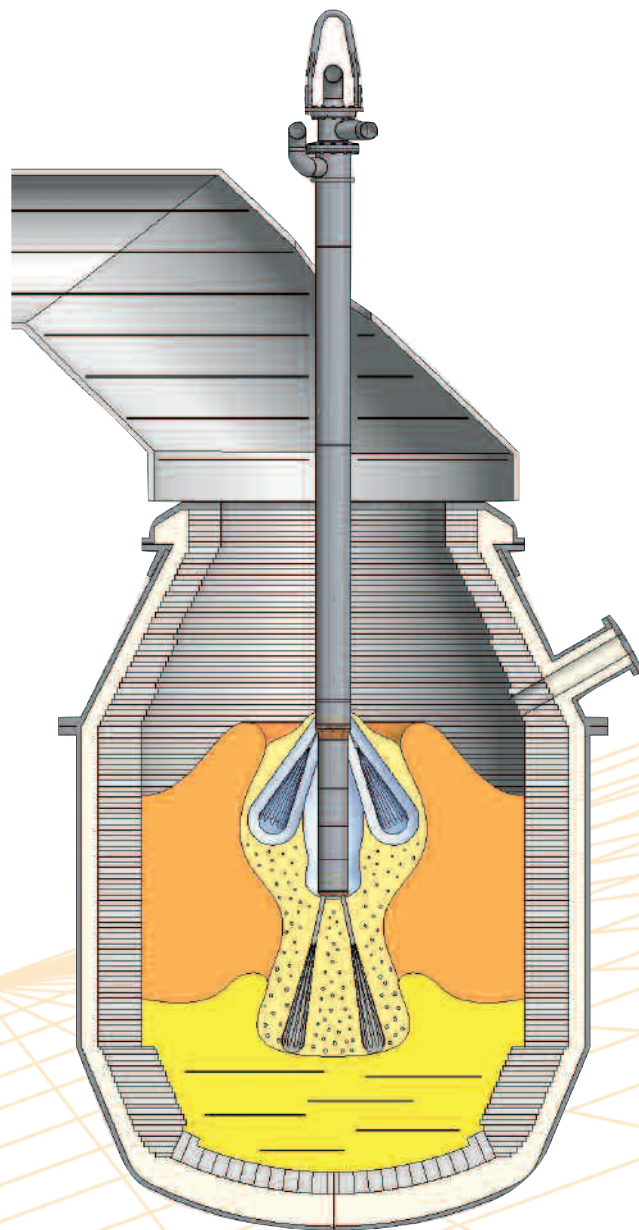
Berry Metal Company is the world's largest Oxygen Lance designer and builder, and the No. 1 value-added Lance technology supplier in North America.

Single and Double Flow Post Combustion Lances

Berry Metal Post Combustion Lances allow BOF operators to take maximum advantage of the heat energy contained in the carbon monoxide (CO) gas produced in the vessel during the refining of a heat of steel. By increasing the Post Combustion ratio (reducing CO by the reaction $\text{CO} + 1/2 \text{O}_2 = \text{CO}_2$) inside the BOF vessel, the thermal efficiency of the process is greatly enhanced.

The Post Combustion Lance is provided in two designs: a Double Flow design which contains two separate and independent oxygen systems; and a single flow or split flow design which contains an internal distribution system that "splits" a part of the main oxygen flow for the Post Combustion oxygen.

The special Double Flow Lance requires two oxygen control systems and two oxygen inlets to the Lance. This Lance has an additional advantage for independently controlling the secondary oxygen for the most effective combustion of CO to CO₂ during the heat refining period. The Single Flow Lance design can be easily retrofitted to an existing BOF system and requires modification to the lower Lance barrel only. In both designs, Post Combustion oxygen is introduced through the Distributor and is combined with the CO produced from the main oxygen reaction to liberate extra heat energy within the vessel.

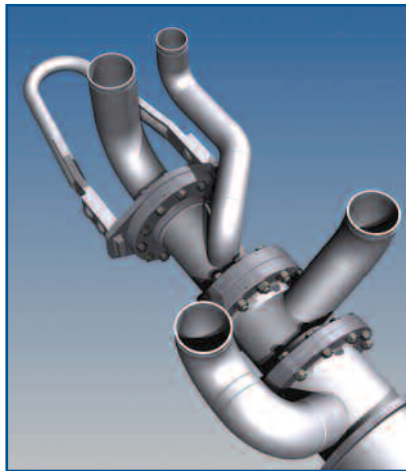


For more information on this and other technological innovations, contact Berry Metal Company at 724-452-8040 or www.berrymetal.com

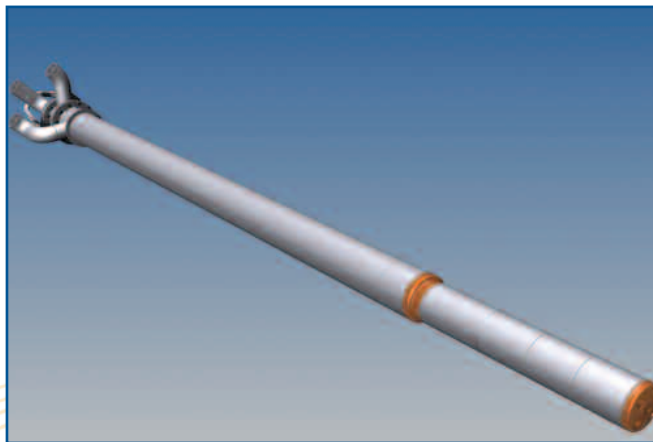




Single "Split" Flow



Double Flow



The Benefits of Post Combustion Lances

- This state-of-the-art design allows steelmakers to maximize the heat energy in the furnace.
- PC is used as a maintenance tool to reduce and even eliminate build-up and skulls on Lance barrels.
- Post Combustion is used also to eliminate and reduce build-up in furnace mouth and cone areas.
- PC Lances allow for increased scrap consumption permitting greater flexibility in scrap-to-hot-metal ratios.
- Faster heat times from the increased heat generation created by "post combusting" CO to CO₂ above the bath level.
- Furnace utilization is maximized with deskulling technology.
- This technology is a good tool to be used in conjunction with slag splashing.
- Post Combustion can help reduce furnace slopping.
- Safety is improved as workers no longer need to manually deskull Lances.
- Potential for reduction in CO off-gas as CO is combusted to CO₂.
- Lance utilization is increased because Lances are no longer required to be cleaned and deskulled.
- Post Combustion can help with dephosphorization.
- Reduce mechanical damage to the furnace mouth and cone areas caused by Gradall's and other heavy equipment.

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