

SHANDONG TAIRAN IMPORT AND EXPORT CO.,LTD

Address:NO. 3, Yanhe Road, Boshan, Zibo, Shandong, China
Email:wp@cnjingganrefractory.com/sdwenping@163.com
Contact:Rose Tel/Wechat:+86-13275332819
Tel:86-533-4188518 Fax:86-533-4188518

Aluminum Free Castable Preform



The aluminum free castable preform solves the problem of reaction between refractory materials used in aluminum industry and molten aluminum. The new composite castable prepared by ourselves will not produce aluminum ash, corrode, nodulate and adhere to aluminum in the process of molten aluminum smelting, which can greatly reduce the loss of molten aluminum in the process of aluminum smelting.

1. Product description of aluminum free castable preform

The wetting of aluminum solution and refractory is the prerequisite for the reaction between the two. At 750 °C, the viscosity of aluminum solution is 0.104Pa · S, which is very close to the viscosity of water at 20 °C of 0.1Pa · S, and has extremely strong permeability. Therefore, the refractory for aluminum smelting furnace is required to have strong resistance to the corrosion and permeability of aluminum solution and no wettability with aluminum solution. The aluminum free castable preform produced by our company is a new composite refractory product, which effectively improves the corrosion resistance and lubricity of the product. The product integrates the characteristics of organic and inorganic binders. By adding a certain amount of new composite materials insoluble in molten aluminum, the product can be directly separated from molten aluminum, and then adding a certain amount of anti radiation materials and neutral materials, the low-temperature sintering strength is improved, which plays a good inhibitory role and effectively improves the service life of the product.

The TR-LB aluminum free castable preform supplied by our company adopts high-purity raw materials and ultra-fine powder, which makes the product have high strength, good thermal shock resistance and other characteristics. By adding an appropriate amount of non wetting agent (such as high-purity chromium oxide, composite barium salt and composite zinc salt), the wettability of molten aluminum and slag to the product can be greatly reduced, and the corrosion resistance and

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scouring resistance of the product to salt containing components and flux can be improved, The characteristic of not adhering to aluminum, that is, it prevents molten aluminum and molten slag from infiltrating into the product, and extends the service life of the furnace lining. The product is very suitable for the lining of melting furnace, static furnace and launder aluminum ladle.

2,Performance parameters of aluminum free castable preform

Item		Unit	TR-LB-1	TR-LB-2	TR-LB-3
Al ₂ O ₃		%	≥50	≥70	≥90
SiO ₂		%	≥13	≥18	≤1.5
CaO		%	<3	<3	<2
Density		g/cm ³	≥2.4	≥2.7	≥3.0
Flexural strength	110℃	Mpa	≥12	≥12	≥13
	1100℃		≥14	≥14	≥14.5
Compressive strength	110℃	Mpa	≥100	≥125	≥140
	1100℃		≥110	≥140	≥160
Linear change rate 1100℃*3h		%	±0.001	±0.0015	±0.0001
Purpose and performance			Aluminum free effect is very good, and the use effect is three times that of TR-LB-2	Aluminum free effect is very good and cost-effective	The aluminum free effect is excellent,good thermal shock resistance, suitable for pure aluminum extraction

3. Main characteristics of the product

- 1) The product has little wettability with molten aluminum, so the corrosion resistance and permeability of molten aluminum are very good
- 2) The new composite material insoluble in aluminum is added to the product, so the effect of not adhering to aluminum is very good
- 3) The product adopts the combination of ultra-fine powder, so it has high strength, good scouring resistance and good thermal shock resistance
- 4) TR-LB-3 has the best use effect, but the price is high. Tr-lb-1 has good use effect, and the price is moderate. Tr-lb-2 has the second best use effect, but the price is the lowest
- 5) The service life of TR-LB-1 , TR-LB-2 , TR-LB-3 products is superior to that of ordinary refractory products, which extends the service life of the kiln

4. Main purpose

Non stick aluminum castable prefabricated parts are mainly used in the lining of aluminum melting furnace, launder and aluminum ladle

5,Good feedback of product use effect,the products have been exported to South

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Korea, Japan, Pakistan

6, We are a professional supplier, who can provide customers with free product technology, use and other issues

Do you want to find a professional supplier of Aluminum Free Castable Preform?

Do you want to find a stable and credible supplier?

Then please contact with us

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Rose: +86-13275332819 (wechat/whatsapp number)