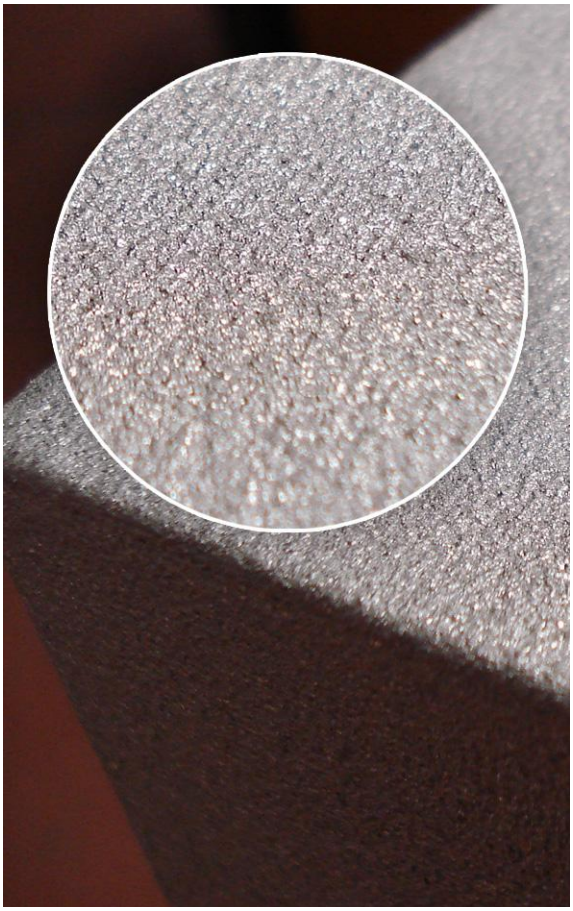
Johnson Matthey
Noble Metals

NOBLE METALS



ACT® Furnace Blocks

Furnace Throat

ACT® Platinum Coated Ceramics for the Glass Industry

Extending the life of a glass furnace offers considerable return on investment. This objective is often achieved by protecting the furnace throat. Some glass manufacturers use bare fused cast ceramics, including chromia blocks, but look for further dimensional stability and durability. Others, such as borosilicate and opal manufacturers, protect the throat with platinum/rhodium linings or molybdenum shields, but seek more cost-effective solutions.

ACT® platinum coated ceramics consist of a thin layer of platinum or 10% rhodium/platinum applied to the surface of the ceramic. Thickness usually varies between 300 and 500 microns. The coating gives complete corrosion resistance against attack of molten glass. It provides 100% shape retention of the substrate for the lifetime of the coating, thus offering an ideal solution to protect throats and extend furnace campaigns.

The financial benefits are so significant that the investment is commercially viable for industry segments that have never previously been able to justify platinum protection. It involves a minimal risk, as the original fused cast material underlies the thin platinum layer.

The ACT® alternative is cost effective compared to platinum/rhodium linings or molybdenum shields. ACT® requires less metal, which will then be recovered at the end of the campaign, ready for the next rebuild or to be converted into cash flow.

Fused cast ceramics are coated using flame deposition. They can be supplied as a single item, or as a set of three to five blocks. A medium size throat can involve between 15 and 20 Kg of platinum or 10% rhodium/platinum alloy. The average thickness varies between 400 and 500 microns.

The ACT® process is flexible, enabling coated layers of different thickness. The alloy is fully bonded to the block. There is no chance of sagging and no welds or straps are needed. Johnson Matthey will recommend designs and will assist during the installation if required.

This technology applies to all types of glass, including soda lime, crystal, borosilicate and opal glass.

Johnson Matthey offers full PGM recovery with typical metal returns of greater than 95%* for all ACT® coatings.

ACT® Platinum Coated Ceramics

Glass type	All types
	Soda lime
	Crystal
	Borosilicate
	Opal
Benefits	100% shape retention for the lifetime of the coating

Design

Coating thickness	An average of 400-500 microns
Alloys	Platinum (up to 1350°C) 10%RhPt (up to 1600°C)
Typical metal return	Greater than 95%*

* Based on estimated returned weight

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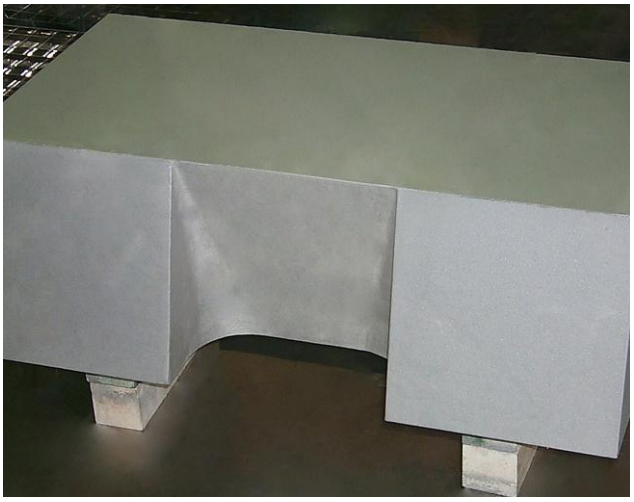

Furnace throat, ACT® coated with a platinum/rhodium alloy, one block

Fused cast block, fully protected by ACT® during a two-year opal campaign

Furnace throat, ACT® coated with a platinum/rhodium alloy, set of three blocks

If you require more information on Johnson Matthey Noble Metals products please contact our technical support team.

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