

# NOBLE METALS



## ACT® Stirrer Cell Stirrer, Channel and Cover Block

### ACT® Platinum Coated Ceramics for the Glass Industry

Maintaining stirring efficiency is essential for glass manufacturers. Performance of consumable ceramics has improved, but further dimensional stability and durability are still required.

ACT® platinum coated ceramics consist of a thin layer of platinum or 10% rhodium/platinum applied to the surface of the ceramic. Thickness varies between 200 and 400 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. The stirring efficiency is constant and the dissolution of ceramic particles into the finished product is eliminated.

Sintered ceramics such as zircon mullite and sillimanite are coated using a mix of flame and plasma deposition. They can be supplied as single items, or sets of forehearth consumables. For maximum quality and durability, Johnson Matthey recommends the ACT® stirrer cell, which includes an ACT® stirrer, ACT® channel and ACT® cover block. This is of particular importance when producing high quality glass.

The coating process is flexible, enabling manufacturers to consider the use of complex shapes. Virtually any form of stirrer can be protected from simple pins to helical or paddle stirrers. Different coating configurations are available, providing protection at the glass line and against corrosive vapour condensates. Electrical suppression, as well as integrated thermocouples, is optional.

ACT® coatings apply to all type of glass including soda lime, crystal, borosilicate and opal. They can be used in forehearths to mix colouring frits.

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

**Stirrers, traditional design, ACT® coated with platinum**

### ACT® Platinum Coated Ceramics

Glass type	All types
	Soda lime
	Crystal
	Borosilicate
	Opal
Benefits	100% shape retention of the substrate for the lifetime of the coating
Typical service life*	Stirrers: 6/20 months

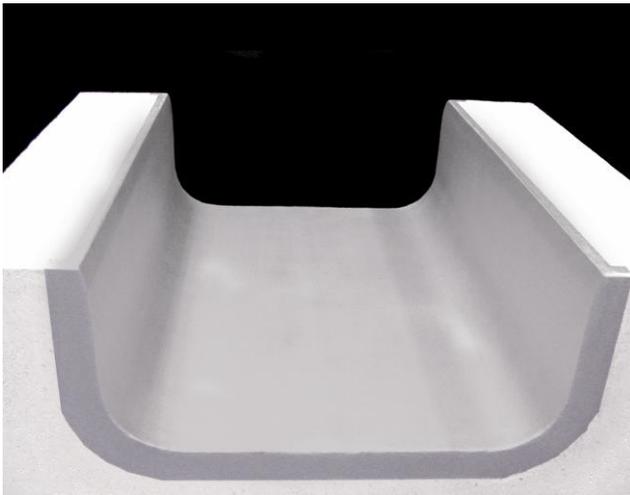
### Design

Full coating	Extending above the glass line to cover the complete glass contact area
Coating thickness	Between 200 and 400 microns
Alloys	Platinum (up to 1350°C) 10%RhPt (up to 1600°C)
Typical metal return	Greater than 95%**

\* Depending on the glass \*\* Based on estimated returned weight

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## ACT<sup>®</sup> Stirrer Cell Stirrer, Channel and Cover Block



**Channel block, ACT<sup>®</sup> coated with platinum/rhodium**



**Ceramic stirrer returned for refining, fully protected by ACT<sup>®</sup> during a two-year campaign**

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

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