

# HiSPEC<sup>®</sup> Fuel Cell GRADE PRODUCTS

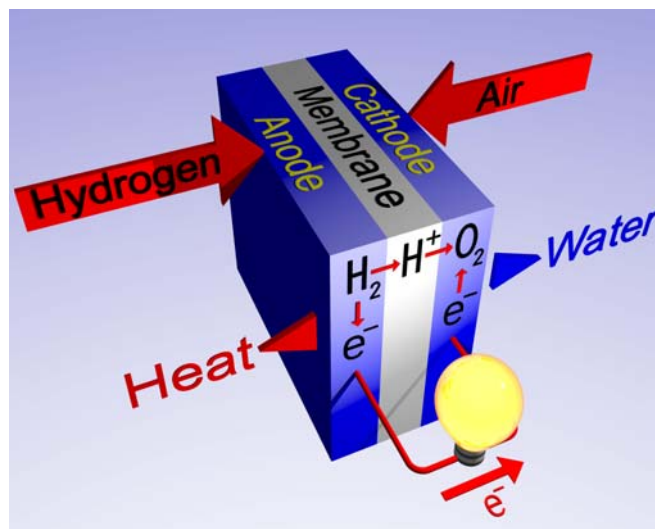


Johnson Matthey has dedicated many years to developing fuel cell technology and continues to make significant investments in its fuel cell business. Johnson Matthey Fuel Cells (JMFC) is a world leader in the design and fabrication of catalysts, catalytic components and subsystems for fuel cells and fuel processors. The focus is on low temperature fuel cell components, notably proton exchange membrane fuel cells (PEMFC) and direct methanol fuel cells (DMFC).

JMFC's HiSPEC<sup>®</sup> catalysts consist of single and bimetallic, highly dispersed supported and unsupported catalysts used on anodes and cathodes in PEMFC and DMFC. HiSPEC<sup>®</sup> catalysts are highly active and are designed and manufactured to the highest quality standards for maximum performance and durability. Products are available in several precious metal loadings and on a range of carbon supports. Large production volumes are commercially available.

## HiSPEC<sup>®</sup> Products Include:

- Pt black and PtRu black (non-supported)
- Pt and PtRu on standard carbon support
- Pt and PtRu on high surface area carbon support



As the research chemicals arm of Johnson Matthey, Alfa Aesar is pleased to offer HiSPEC<sup>®</sup> catalysts from stock in quantities from gram to kilo-scale. A world leader in precious metal supply and catalyst manufacturing, we are always in a position to offer competitive prices on quality fuel cell products.

## Alfa Aesar Worldwide Sales Offices

### NORTH AMERICA

Tel: 1-800-343-0660 or  
1-978-521-6300  
Fax: 1-800-322-6350  
Email: info@alfa.com

### GERMANY

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### CHINA

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Email: sales-china@alfa.com

# HiSPEC<sup>®</sup> Fuel Cell GRADE PRODUCTS



## Pt black and PtRu black (non-supported)

- 12755 Platinum Black**  
HiSPEC<sup>®</sup> 1000 S.A. nominally 27 m<sup>2</sup>/g,
- 41171 Platinum Ruthenium black, nominally Pt 50%, Ru 50% (Atomic wt%)**  
HiSPEC<sup>®</sup> 6000 Pt:Ru; 50:50 atomic %,

## Pt and PtRu on standard carbon support

- 43876 Platinum, nominally 10% on carbon black**  
HiSPEC<sup>®</sup> 2000
- 35849 Platinum, nominally 20% on carbon black**  
HiSPEC<sup>®</sup> 3000
- 42204 Platinum, nominally 40% on carbon black**  
HiSPEC<sup>®</sup> 4000
- 43989 Platinum, nominally 50%, on carbon black**  
HiSPEC<sup>®</sup> 8000
- 44171 Platinum, nominally 60%, on carbon black**  
HiSPEC<sup>®</sup> 9000
- 40473 Platinum, nominally 20%, Ruthenium, nominally 10% on carbon black**  
HiSPEC<sup>®</sup> 5000
- 43990 Platinum, nominally 30%, Ruthenium, nominally 15% on carbon black**  
HiSPEC<sup>®</sup> 7000
- 44172 Platinum, nominally 40%, Ruthenium, nominally 20% on carbon black**  
HiSPEC<sup>®</sup> 10000

## Pt and PtRu on high surface area carbon support

- 44830 Platinum, nominally 40% on high surface area advanced carbon support**  
HiSPEC<sup>®</sup> 4100
- 44728 Platinum, nominally 60% on high surface area advanced carbon support**  
HiSPEC<sup>®</sup> 9100
- 44840 Platinum, nominally 70% on high surface area advanced carbon support**  
HiSPEC<sup>®</sup> 11100
- 44738 Platinum, nominally 40%, Ruthenium, nominally 20% on high surface area advanced carbon support**  
HiSPEC<sup>®</sup> 10100

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