

HiSPEC™ Fuel Cell Catalysts

HiSPEC Catalyst Type:	1000	2000	4000	5000	6000	9100	10000	10300	12100	13100
Product Description	Pt Black	Pt / XC72R	Pt / XC72R	Pt-Ru / XC72R	Pt-Ru Black	Pt / AC01	Pt-Ru / XC72R	Pt-Ru / Denka black 50% compressed	Pt-Ru / AC01	Pt / AC01
Product Ref/ Part Number	S128511	S1209	S128514	S128515	S128516	S128529	S128520	S128532	S128526	S128538
Appearance	Black Powder	Black Powder	Black Powder	Black Powder	Black Powder	Black Powder	Black Powder	Black Powder	Black Powder	Black Powder
Platinum, wt% (dry basis)	>95	9.5 – 10.5	38.0 – 41.0	18.0 – 21.0	57.0 – 61.0	55.5 – 58.5	37.0 – 41.0	37.0 – 41.0	46.0 – 50.0	70.0 – 73.5
Ruthenium, wt% (dry basis)	n/a	n/a	n/a	9.0 – 11.0	29.0 – 31.0	n/a	18.0 – 21.0	18.0 – 22.0	23.5 – 25.0	
Platinum Atomic % (from total metal)				47.0 – 53.0	48.0 – 52.0		45.0 – 55.0		48.0 – 52.0	
Ruthenium Atomic % (from total metal)	n/a	n/a	n/a	47.0 – 53.0	48.0 – 52.0	n/a	45.0 – 55.0		48.0 – 52.0	
Maximum Moisture, wt%	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Maximum Hydrolyzable Chloride, ppm		300	500	500	300	300	1000	500	500	500
Minimum Metal Surface Area (CO chemis.), m ² /g	n/a	105	60	n/a	n/a	85	n/a	n/a		60
Maximum XRD Crystallite Size in nanometers	n/a	3.0	4.5	3.5	4.0	2.8	4.0	4.0	3.0	4.6
Maximum Lattice Parameter in nanometers	n/a	n/a	n/a	0.390	0.389	n/a	0.390	0.389	0.387	0.393
Maximum Total Impurities (ppm wt catalyst) (Al+Ca+Co+Cr+ Cu+Fe+Mg+Ni+Pb – acid leach, AA/ICP)	320	500	500	500	1000	500	1000	600	400	500
Loss on Reduction, wt%	1.9 to 3.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Maximum Total Chloride, wt%	0.08	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

The following HiSPEC™ catalysts can still be made, dependant upon minimum order quantities: HiSPEC 3000, 4100, 5100, 7000, 8000, 8100, 9000, 10100, 11100

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We also have representatives in other Asia Pacific locations, including Hong Kong, Seoul and Taipei. Please email for details.

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