

Certificate of Analysis

HySA-V40 Pt(38.71wt%)/Vulcan® XC72R

Specification	HySA-V40
Batch No.	FCU4007
Pt Loading and Moisture Analysis*:	
Moisture (mass%)	2.82 ±0.10
Pt Loading on Moist Sample (mass%)	38.71 ±0.01
Dry Pt Loading (mass%)	39.84 ±0.05
Hydrolysable Chloride (ppm):	<50
Total Trace Metal Impurities (ppm): (Al, Ca, Co, Cr, Cu, Fe, Mg, Mn, Mo, Ni, Pb, Ti, V, Zn)	360
XRD Pt Crystallite Size - Scherrer Pt(220) (nm):	3.3
TF RDE Pt Surface Area - H _{ads} Charge (m ² /g Pt):	85.3 ±2.7

*Moisture content of catalyst may vary depending on environment in which it is used and stored.

**Full descriptions of measurement protocols available upon request.