

Table 1 Projection imaging conditions of BL20B2 beam line

Photon energy [keV]	13
Effective pixel size [$\mu\text{m}/\text{pixel}$]	3.94
Distance between sample and detector [mm]	55
Exposure time [ms]	70
Number of projection [/ 180°]	1500/180

Table 2 Specifications for GDLs
(Simultaneous oxygen diffusivity measurement and visualization)

GDL type	Local PTFE content / mass%	Area of hydrophobic region / %	Porosity	Thickness / μm
Carbon Paper GDL (uniform)	-	-	0.78	370
	6	100	0.76	
	23	100	0.72	
Dot Hybrid GDL	8	50	0.76	
	14	46	0.75	
	16	41		
	24	54	0.73	
	43	59	0.70	
Stripe Hybrid GDL	7	54	0.76	
	15	45	0.75	
	18	57	0.74	
	31	54	0.72	
	43	42		
	41	51	0.71	
	43	46		
46	55	0.70		

Table 3 Specifications for GDLs
(Oxygen diffusivity measurement and SEM observation)

GDL type	Local PTFE content / mass%	Area of hydrophobic region / %	Porosity	Thickness / μm
Carbon Paper GDL (uniform)	-	-	0.78	370
	6	100	0.76	
	23	100	0.72	
	33	100	0.68	
Dot Hybrid GDL	18	42	0.75	
	16	52		
	24	30		
	22	45	0.74	
	31	36		
	33	34		
	26	52	0.73	
	27	47		
		55		
	31	45	0.72	
	45	34		
	47	37		
52	29	0.71		
Stripe Hybrid GDL	16	52	0.75	
	21	47	0.74	
	30	43	0.73	
	32	43		
	32	46		
	46	38	0.72	
	45	39	0.71	
	48	33		
	45	41		