FUELCELL Store

1 (855) 251-0016

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Gas Diffusion Layer Comparison Table

Gas Diffusion Layer	Material Type	PTFE Treatment	Microporous Layer	Thickness	Basic Weight	Air Permeability	Electrical Resistivity - Through Plane
Units				(microns)	(g/m²)	(s)	(mΩcm²)
Carbon Cloth Wet Proofed	Woven Carbon Fiber (cloth)	Yes	No	360	125	< 6	< 5
Carbon Cloth with MPL (W1S1011)	Woven Carbon Fiber (cloth)	Yes	Yes	410	200	<55	<13
Carbon Cloth with MPL (W1S1010)	Woven Carbon Fiber (cloth)	Yes	Single Sided	365	175 +/- 5	< 27	< 14
Carbon Cloth without MPL (W0S1009)	Woven Carbon Fiber (cloth	No	No	330	120	< 10	< 5
ELAT Hydrophilic Plain Cloth	Woven Carbon Fiber (cloth)	No	No	406	130	2.156 L/(m²*sec*Pa)	340 @ 400 lb load using a 100 cm² sample
ELAT LT1400	Woven Carbon Fiber (cloth)	Yes	Single Sided	454	170	0.104 L/(m²*sec*Pa)	0.17 @ 400 lb load using a 100 cm² sample
ELAT LT2400	Woven Carbon Fiber (cloth)	Yes	Both sides	490	250	10 ml/(cm²-sec)	2 (bulk)
Panex PW03 Carbon Fiber Fabric	Woven Carbon Fiber (cloth)	No	No	406.4			14
Panex PW06 Carbon Fiber Fabric	Woven Carbon Fiber (cloth)	No	No	508			14
AvCarb Plain Carbon Cloth 1071	Carbon Fiber Cloth	No	No	356	132 g/m² (3 oz, 9 yds)		
AvCarb EP40	Carbon Paper Substrate	No	No	200	36	4.5	8
AvCarb EP40T	Carbon Paper Substrate	Yes	No	200	43	7.5 sec/100cc	8
AvCarb EP55	Carbon Paper Substrate	No	No	262	51	5.0 sec/100cc	
AvCarb55T	Carbon Paper Substrate	Yes	No	270	57	4.0 sec/100cc	
AVCarb G475A	Soft Graphite Battery Felt	No	No	4700			< 200 @ 6.3 psi & 0.5 amps/cm²
AvCarb G300A	Soft Graphite Battery Felt	No	No	3400			
AvCarb GDS1120	Carbon Fiber Paper	Yes	Single Sided	184	79		
AvCarb GDS2120	Carbon Fiber Paper	Yes	Single Sided	248	101		< 14
AvCarb GDS2185	Carbon Fiber Paper	Yes	Single Sided	252	154		22
AvCarb GDS22100	Carbon Fiber Paper	Yes	Single Sided	330	185		< 17
AvCarb GDS2230	Carbon Fiber Paper	Yes	Single Sided	275	98		< 14
AvCarb GDS2240	Carbon Fiber Paper	Yes	Single Sided	275	110		< 14
AvCarb GDS2255	Carbon Fiber Paper	Yes	Single Sided	276	151		20
AvCarb GDS2300	Carbon Fiber Paper	Yes	Single Sided	260	100		11
AvCarb GDS3250	Carbon Fiber Paper	Yes	Single Sided	225	75		< 14
AvCarb GDS3260	Carbon Fiber Paper	Yes	Single Sided	210	80		<14
AvCarb GDS5130	Carbon Fiber Paper	Yes	Single Sided	283	70		11
AvCarb MB30	Carbon Fiber Paper	Yes	Single Sided	205	55		< 12
AvCarb MGL 190	Molded Graphite Laminate	No	No	190	0.44		75
AvCarb MGL 280	Molded Graphite Laminate	No	No	280	0.44		75
AvCarb MGL 370	Molded Graphite Laminate	No	No	370	0.46		75
AvCarb P50	Carbon Paper Substrate	No	No	170	150	35 sec/100cc through plane	
AvCarb P50T	Carbon Paper Substrate	Yes	No	180	62	50 sec/100cc through-plane	11.7
AvCarb P75	Carbon Paper Substrate	No	No	245	75	15 sec/100cc through plane	7.8
AvCarb P75T	Carbon Paper Substrate	Yes	No	255	85	25 sec/100cc through plane	13.4
Freudenberg H14	Carbon Fiber Paper	No	No	150	65	570 l/m² • s	4
Freudenberg H14C10	Carbon Fiber Paper	Yes	Single Sided	170	97	1.4 µm² (@ 1MPa)	5
Freudenberg H14Cx653	Carbon Fiber Paper	Yes	Single Sided	185	94	1.0 µm² (@ 1MPa)	6

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Freudenberg H15	Carbon Fiber Paper	No	No	155	65	600 l/m² • s (at 200Pa pressure drop)	5.5
Freudenberg H15C13	Carbon Fiber Paper	Yes	Single Sided	195	93	2.7 µm² (@ 1MPa)	9
Freudenberg H15C14	Carbon Fiber Paper	Yes	Single Sided	191	91		7.3
Freudenberg H23	Carbon Fiber Paper	No	No	210	95	400 l/m² • s (at 200Pa pressure drop)	4.5
Freudenberg H23Cx653	Carbon Fiber Paper	Yes	Single Sided	250	130	1.4 µm² (@ 1MPa)	7
Freudenberg H23C2	Carbon Fiber Paper	no	Yes, with 40% PTFE binder	255	135	70	10
Freudenberg H23C6	Carbon Fiber Paper	Yes	Single Sided	250	135	70	8
Freudenberg H23C8	Carbon Fiber Paper	Yes	Single Sided	230	135	90	8
Freudenberg H23I2	Carbon Fiber Paper	Yes	No	210	115	160 l/m² • s (at 200Pa pressure drop)	7
Freudenberg H23C3	Carbon Fiber Paper	Yes	Single Sided	290	150	35	9
Freudenberg H23C9	Carbon Fiber Paper	Yes	Single Sided	250	135	30	8
Freudenberg H24C5	Carbon Fiber Paper	None	Single Sided	270	130	40	9
Freudenberg H24Cx483	Carbon Fiber Paper	Yes	Single Sided	250	135	1.5 µm² (@ 1MPa)	8
CT GDS090S	Carbon Fiber Paper	No	No	90	50	< 50	< 6
CT GDL340	Carbon Fiber Paper	Yes	Yes	340	125	< 200	< 10
CT GDL240	Carbon Fiber Paper	Yes	Yes	240	90	< 85	< 15
CT GDL 210SHT	Carbon Fiber Paper	Yes	Yes	210	85	< 225	< 10
CT GDS180SHT	Carbon Fiber Paper	No	No	180	50	< 10	< 5
CT GDL120S	Carbon Fiber Paper	Yes	Yes	120	80	< 100	< 15
CT GDS210	Carbon Fiber Paper	No	No	210	50	< 10	< 6
CT GDS230	Carbon Fiber Paper	No	No	230	65	< 10	< 6
CT GDS250	Carbon Fiber Paper	No	No	250	65	<10	< 6
CT GDS310	Carbon Fiber Paper	No	No	310	80	< 10	< 5
CT GF065 Graphite Felt	Graphite Felt	No	No	6500	590		
CT GF100 Graphite Felt	Graphite Felt	No	No	10,000	500 - 800		
CT CF120 Carbon Felt	Carbon Felt	No	No	12,000	800		
CT GF020 Graphite Felt	Graphite Felt	No	No	2000			
CT GF030 Graphite Felt	Graphite Felt	No	No	3000			
CT GDS180S	Carbon Fiber Paper	No	No	180	50	< 10	< 7
CT GDL210S	Carbon Fiber Paper	Yes	Yes	210	85	< 225	< 15
Sigracet 22 BB	Carbon Fiber Paper	5%	Single Sided	215			< 10
Sigracet 25 BC	Carbon Fiber Paper	5%	Single Sided	235	86 +/- 10 g/m²	1.00 +/- 0.60 cm³/(cm²*s)	< 12
Sigracet 28 AA	Carbon Fiber Paper	No	No	190	55 +/- 10 g/m²		< 4
Sigracet 28 BC	Carbon Fiber Paper	5%	Single Sided	235			
Sigracet 29 AA	Carbon Fiber Paper	No	No	180	32 +/- 7		< 5
Sigracet 36 AA	Carbon Fiber Paper	No	No	225			< 4

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Units				(microns)	(g/m^2)	(s)	($m\Omega cm^2$)
Sigracet 36 BB	Carbon Fiber Paper	5%	Single Sided	280			< 12
Sigracet 38 AA	Carbon Fiber Paper	No	No	280			< 5
Sigracet 38 BC	Carbon Fiber Paper	5%	Single Sided	325		0.2 - 0.4 $cm^3/(cm^2*s)$	< 11
Sigracet 39 AA	Carbon Fiber Paper	No	No	280	50 +/- 10		< 5
Sigracet 39 BB	Carbon Fiber Paper	5%	Single Sided	315			< 13
Spectracarb 2050A-1550	Carbon Fiber Paper	No	No	381	175	35 cfm/ft^2	15
Toray Carbon Paper 030, Wet Proofed	Carbon Fiber Paper	5 wt%	No	110			80
Toray Carbon Paper 060, Wet Proofed	Carbon Fiber Paper	5 wt%	No	190			80
Toray Carbon Paper 060 with MPL	Carbon Fiber Paper	Yes	Yes	250			
Toray Carbon Paper 090, Wet Proofed	Carbon Fiber Paper	5 wt%	No	280			80
Toray Carbon Paper 090 with MPL	Carbon Fiber Paper	Yes	Yes	340			
Toray Carbon Paper 120, Wet Proofed	Carbon Fiber Paper	5 wt%	No	370			80
Toray Carbon Paper 120 with MPL	Carbon Fiber Paper	Yes	Yes	430			