

FREUDENBERG GAS DIFFUSION LAYERS – FUEL CELL

TECHNICAL DATA

PROPERTIES	UNIT	H15C13	H15C14	H14C10	H14CX483	H14CX653	H23C2	H23CX653	H24CX483	H23C6	H23C8	H24C5	H23C3
HYDROPHOBIC TREATMENT		•	•	•	•	•		•	•	•	•		•
MICROPOROUS LAYER		•	•	•	•	•	•	•	•	•	•	•	•
Thickness @ 0.025MPa (Internal*)	µm	195	190	170	180	185	255	250	250	250	230	270	290
Thickness @ 1MPa (Internal*)	µm	155	150	141	142	145	215	210	210	210	200	215	230
Area Weight (DIN EN ISO 29073-1)	g/m ²	93	91	97	87	94	135	130	135	135	135	130	150
Compression Set @ 1MPa (Internal*)	µm	10	11	3	11	11	8	13	11	8	3	15	25
TP Electrical Resistance @ 1 MPa (Internal*)	mΩ·cm ²	9	7	5	6	6	10	7	8	8	8	9	9
IP Electrical Resistance (Internal*)	Ω	1.1	1.1	1.1	1.1	1.0	0.8	0.7	0.7	0.7	0.8	0.7	0.6
TP Air Permeability acc. to Gurley (ISO 5636-5)	s	27	0.6	70	1	15	70	10	2	70	90	40	35
IP Air Permeability @ 1 MPa (Internal*)	µm ²	2.7	3.1	1.4	1.2	1.0	2.5	1.4	1.5	1.9	1.5	2.5	1.5
Tensile Strength (DIN EN ISO 29073-3)	N/50mm	> 70	> 70	> 70	> 70	> 70	> 80	> 70	> 70	> 70	> 70	> 70	> 70
Dry Diffusion Length (Internal*)	µm	560	510	640	540	730	800	950	700	800	770	1,000	1,400

* Freudenberg internal measurement standard

** @ 200 Pa pressure drop

TP = through-plane

IP = in-plane

(Rev. 13 – 08.02.2021)

All values represent averages, which are subject to usual production tolerances. The values do not represent specifications.
Any warranty and liability is subject to Freudenberg Performance Materials SE & Co. KG's General Terms of Delivery and Payment applicable at the date of delivery.

For info, please contact us: fuelcell@freudenberg-pm.com

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FREUDENBERG ELECTROLYSIS ELECTRODE MATERIAL

TECHNICAL DATA

PROPERTIES ***	UNIT	E20	E20H	E35	E35H
HYDROPHOBIC TREATMENT			•		•
Thickness @ 0.025 MPa (internal*)	µm	210	214	321	327
Thickness @ 1 MPa (internal*)	µm	170	184	272	283
Area weight (DIN EN ISO 29073-1)	g/m ²	95	113	164	187
Compression Set @ 1MPa (internal*)	µm	2.0	4.6	1.9	6.9
TP electrical resistance @ 1MPa (internal*)	mΩ·cm ²	4.5	5.7	8.5	8.8
IP electrical resistance (internal*)	Ω	0.8	0.7	0.4	0.4
TP Air permeability** (DIN EN ISO 9237)	l/m ² ·s	400	168	179	89
IP air permeability @ 1MPa (internal*)	µm ²	4.2	1.9	3.5	1.7

* Freudenberg internal measurement standard

** @ 200 Pa pressure drop

TP = through-plane

IP = in-plane

*** preliminary data

(Rev. 01 – 18.11.2019)

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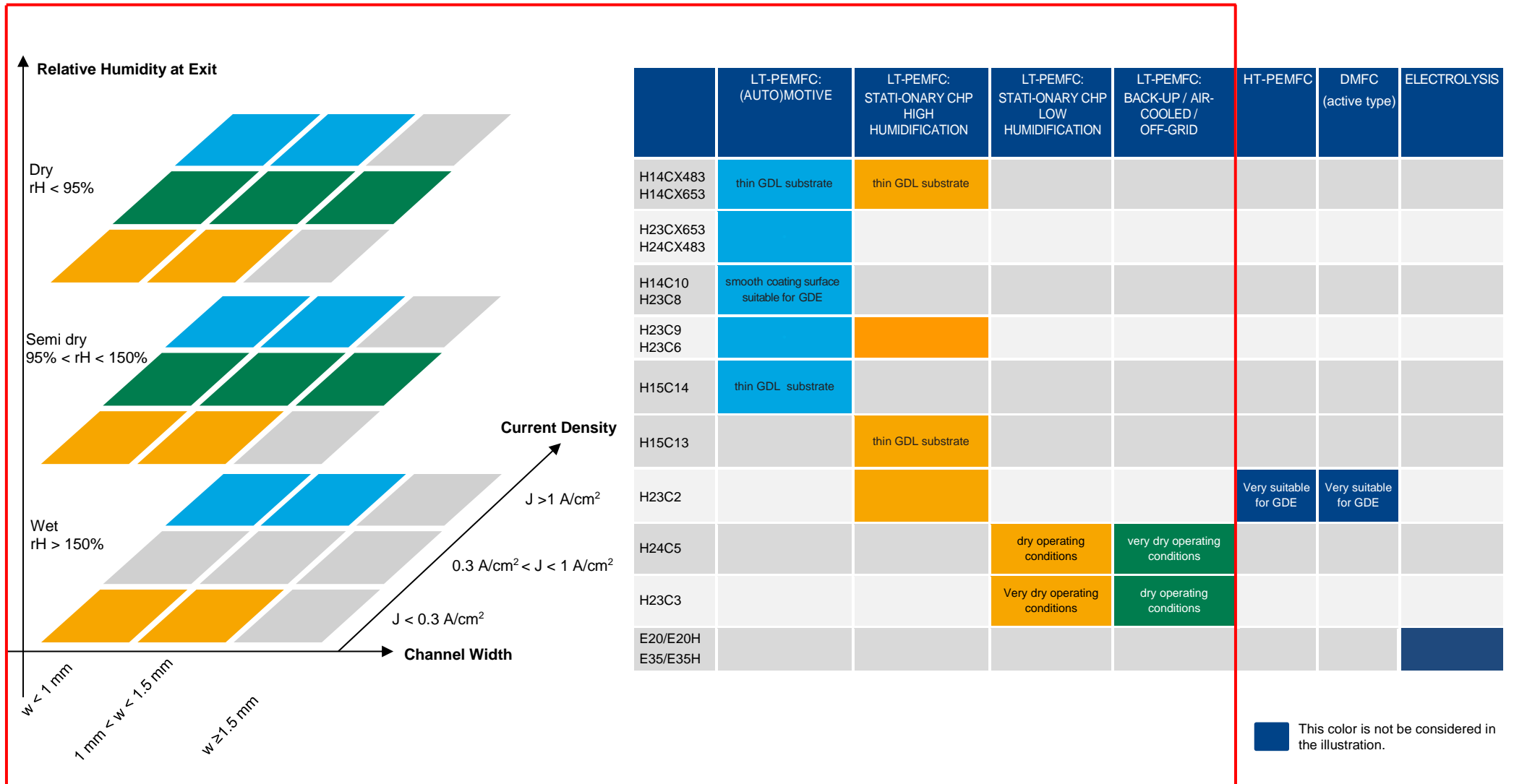
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GDL RECOMMENDATION FOR LT-PEMFC APPLICATIONS



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