

AF2-HLE8-50-X vs. AF2-HLF8-50-X Comparison

Parameter	Conditions	Unit	AF2- HLE8-50	AF2-HLF8-50
			Value	Value
Thickness	Nominal	μm	50	45.0
Tensile Strength	Ambient, MD	MPa	63	50.8
	Ambient, TD		87	55.8
Elongation at Break	Ambient, MD	%	71	59.6
	Ambient, TD		56	77.3
Elastic Modulus	Ambient, MD	MPa	500	509.6
	Ambient, TD		502	471.0
Water Uptake	22 °C	wt%	39	23.20
	80 °C		45	28.23
Z-Expansion	22 °C	%	36	29.14
	80 °C		50	29.37
Linear Expansion	22 °C, MD	%	4.5	3.08
	22 °C, TD		4.5	3.02
	80 °C, MD	%	3	2.43
	80 °C, TD		3	1.73
In-Plane Cl ⁻ Conductivity	22 °C Liquid water	mS·cm ⁻¹	7.4	6.5
Through-Plane Cl ⁻ Conductivity	22 °C Liquid water	mS·cm ⁻¹		5.2

Ex-situ permselectivity

Parameter	Conditions	Unit	AF2- HLE8-50 Historical Average		Reference Data ¹		Test Data	
			Value	Stdev	Value	Stdev	Value	Stdev
Permselectivity	0.1/0.5 M KHCO ₃ at RT	%	85	5	63	0.8	95.8	2.5

¹ Test data collected from reference material X37-50 Grade T