

NANOPLEX HDC



DATA SHEET 

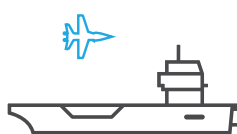
PEAK NANOPLEX™
HDC - HIGH-POWER
CAPACITOR FILMS



UP TO **4x**
 MORE
 ENERGY STORAGE
 THAN BOPP

NANOPLEX™ HDC - ULTRA HIGH-POWER FILMS

NanoPlex HDC-based films can create energy and power storage solutions, offering up to 4x more energy storage capacity in half the footprint with significantly improved thermal stability and an extended device lifetime. We enable capacitor customers to build smaller, lighter, and more robust energy storage solutions with up to 4x energy storage, resulting in smaller, lighter devices with enhanced thermal operational limits across a wider variety of applications, including:



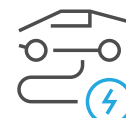
Aircraft
EMALS



Power
Grids



Laser Fusion
Reactors



EV's

NANOPLEX HDC FACTS

- Up to 4x More Energy Storage
- More Power in the Same Footprint
- Up to 2x Smaller Capacitor Footprint
- 100% U.S. Manufacturing
- Over 20 Global Patents

Peak NanoPlex Metamaterial Manufacturing Leadership

NanoPlex films require not only new product science but also new manufacturing science. Peak is a global leader in the science of rheology, a branch of physics that deals with the formation and flow of matter, especially the non-Newtonian flow of liquids and the plastic flow of solids. Our advanced capabilities in this area allow us to deliver up to 4096 layers in our metamaterial.

NanoPlex HDC Specifications

PROPERTY	METHOD	UNITS	4125	3125
Dielectric Constant	ASTM D150	1 kHz, 25°C	4.9	3.8
Dissipation Factor	ASTM D150	in % at 1 kHz, 25°C	1.0	0.4
Breakdown Strength @ 25°C	ASTM D149	kV/mm	760	840
Shrinkage MD/TD	JIS K7133	% at 130°C	<0.1/<0.1	<0.1/<0.1
Shrinkage MD/TD	JIS K7133	% at 150°C	0.75/0.63	2.1/0.53
Tensile Strength, MD/TD	ASTM D638	MPa	63/57	57/55
Young's Modulus MD/TD	ASTM D638	Mpa	2300/2500	2200/2500
Elongation at Break MD/TD	ASTM D638	%	56/76	20/31
Coefficient of Friction (Static)	JIS K7125	roll face to air face	0.45	0.45
Coefficient of Friction (Dynamic)	JIS K7125	roll face to air face	0.35	0.35
Density	ASTM D792	g/cc	1.5	1.36
Maximum Temperature	n/a	° Celsius	105	105
*Thickness	n/a	Micron	8,12	8,12
Roll Width	n/a	Millimeters	620	620
Film Length	n/a	Meters	500-5000	500-5000

*Available in Other Thicknesses Upon Request Note: Metallization & Slitting Available Upon Request

