

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

NANOPLEX HDC FACTS

- Up to 4x More Energy Storage
- More Power in the Same Footprint
- Up to 2x Smaller Capacitor Footprint
- 100% US-engineered and manufactured
- Over 20 Global Patents

NANOPLEX™ HDC - ULTRA HIGH-POWER FILMS

Peak 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:

**Mobile Grid Solutions****Motor Start Applications****Laser Fusion Reactors &
Inertial Confinement Fusion****Aircraft EMALS & Directed
Energy Systems****Peak NanoPlex Metamaterial Manufacturing Leadership**

Peak Nano is the global leader in nanolayered metamaterials that are transforming capacitor performance. Our patented NanoPlex platform is made with advanced rheological control including the physics of flow and deformation of complex materials that enables us to precisely stack up to **4,096 nanolayers** into a single high-performance film. 100% US-engineered and manufactured, NanoPlex gives engineers and researchers new capabilities to advance energy, defense, and optics by replacing conventional materials with breakthrough functionality.



NANOPLEX™
HDC

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	780	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	125	125
*Thickness	n/a	Micron	8,12	8,12
Roll Width	n/a	Millimeters	620, 740	620, 740
Film Length	n/a	Meters	500-5000	500-5000

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

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