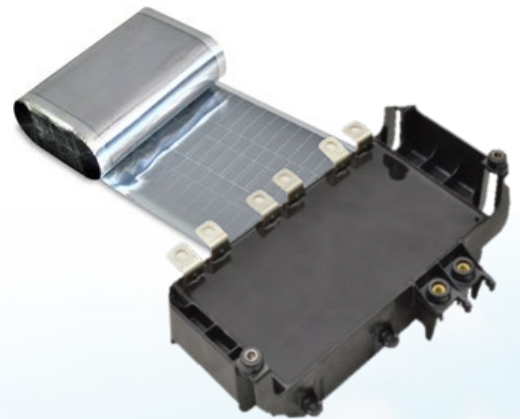


# HOTTER TEMPERATURES HIGHER EFFICIENCY LOWER LOSSES

## GET MORE WITH ELCRES™ HTV150 DIELECTRIC FILMS FOR CAPACITORS AT 150°C

SABIC's ELCRES HTV150 dielectric film offers high temperature solutions for professional grade DC-Link power capacitors, addressing future high voltage industry requirements. ELCRES HTV150 dielectric film exhibits stable performance at -40°C to +150°C and frequency up to 100 kHz, including stable capacitance, good insulation resistance, stable dielectric constant (Dk) and low dissipation factor (Df). SABIC's HTV150 dielectric film has been validated by customers with both film-foil and metalized electrodes, including flat aluminum, heavy edge/light body and fused/patterned electrode designs. ELCRES HTV150 dielectric film can be processed on existing metallization, slitting, capacitor winding and squashing/flattening equipment. Capacitors made with HTV150 films meet damp heat aging requirements (85°C & 85%RH for 1750 hours) with little or no change in dielectric performance.



### KEY FEATURES & BENEFITS

- High Dk and low Df up to 150°C and 100 kHz
- High breakdown strength from -40°C to 150°C
- Good self-healing up to 150°C
- Excellent metal adhesion (Al, Zn)
- Decreasing dielectric losses at higher temperatures
- 3 and 5 µm gauge (+/- 5% gauge uniformity)
- Empowers wide-band-gap (WBG) semiconductors

### POTENTIAL APPLICATIONS

- xEV traction inverter
- xEV on board charger
- xEV electrical compressor
- Renewable energy
- Mass transportation
- Motor drive and control
- Deep well drilling

A blue circular callout containing white text.

MEETS 85°C  
AT 85% RH  
REQUIREMENT



## TYPICAL PROPERTIES\*

	Test method	Unit	Value (5µm)	Value (3µm)
Electrical	Breakdown Strength (BDS) 23°C	ASTM D149	V/µm	765
	Breakdown Strength (BDS) 150°C	ASTM D149	V/µm	725
	Dielectric Constant (Dk) at 27°C, 1 kHz (metallized film)	ASTM D150		2.9
	Dissipation Factor (Df) at 27°C, 1 kHz (metallized film)	ASTM D150		0.0017
	Clearing Counts @ 200 V/µm	Bosch Test	Counts/m <sup>2</sup>	1.5
	Clearing Counts @ 250 V/µm	Bosch Test	Counts/m <sup>2</sup>	2.5
	Clearing Counts @ 300 V/µm	Bosch Test	Counts/m <sup>2</sup>	5.5
Thermal	Shrinkage at 170°C/0.5 hours (MD/TD)	JIS K7133	%	-0.34 / -0.25
	Glass Transition Temperature (Tg)	ASTM D3418	°C	206
	Density	ASTM D792	g/cm <sup>3</sup>	1.12
	Water Absorption, Equilibrium at 23°C, 24 hours	ASTM D570	%	0.30
	Surface Roughness	JIS B0601	µm	0.24
Mechanical	Coefficient of Friction (COF) -Dynamic - Metal/Bare film	JIS K7125		0.44
	Tensile Strength at Break (MD/TD)	JIS Z1702	MPa	66/64
	Tensile Elongation at Break (MD)	JIS Z1702	%	39
	Tear Strength (MD/TD)	JIS K6781	N/mm	100 / 97

\*These are typical properties and are not intended for specification purposes. BDS and COF values are based on 5 µm thickness.

## PROPERTY COMPARISON

	BOPP	PET	PEN	PPS	PC	ELCRES™ HTV150 Film
Intrinsic BDS 23°C (V/µm)	690	800	660	530	660	850
Intrinsic BDS 150°C (V/µm)	NA	NA	NA	465	NA	700
Dk at 1 kHz	2.2	3.3	3.0	3.0	2.7	2.9
Df at 1 kHz	0.0007	0.0040	0.0040	0.0005	0.0022	0.0017
Temperature Range (°C)	-40 to +105	-40 to +125	-40 to +140	-40 to +150	-40 to +125	-40 to +150
Self-Healing 23°C	...	•	•	•	••	••
Self-Healing 150°C	•	•	•	•	•	••
Metallization	REQUIRES PLASMA	••	••	•	••	••
Solder Reflow Capable	NO	NO	YES	YES	NO	Not Tested
Available Thickness* (µm)	>2.0	>0.5	>1.2	>1.2	>2.0	3 and 5
Cost	•••	••	•	•	•	•
Certainty of Supply	•••	•••	•	•	•	•••
Overall Performance at 150°C	•	•	•	•	•	••

••• Excellent •• Good • Moderate • Poor • None

## CONTACT INFORMATION

### SABIC SPECIALTIES BUSINESS

#### AMERICAS

E: Specialties.Americas@sabic-hpp.com

T: +1 800 845 0600

#### ASIA PACIFIC

E: Specialties.Asia@sabic-hpp.com

T: +86 400 833 1033

#### EUROPE

E: Specialties.EMEA@sabic-hpp.com

T: +36 1 288 3040



**SABIC MATERIAL FINDER**  
Find the right Specialties material  
for your application ►



MOBILITY

DISCLAIMER: ANY SALE BY SABIC, ITS SUBSIDIARIES AND AFFILIATES (EACH A "SELLER"), IS MADE EXCLUSIVELY UNDER SELLER'S STANDARD CONDITIONS OF SALE (AVAILABLE UPON REQUEST) UNLESS AGREED OTHERWISE IN WRITING AND SIGNED ON BEHALF OF THE SELLER. WHILE THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right. SABIC and brands marked with ™ are trademarks of SABIC or its subsidiaries or affiliates, unless otherwise noted.

© 2025 Saudi Basic Industries Corporation (SABIC). All Rights Reserved. Any brands, products or services of other companies referenced in this document are the trademarks, service marks and/or trade names of their respective holders.