

# TECHNICAL DATASHEET

# ZOLTEK™ PXFT CARBON FELTS

## DESCRIPTION & TYPICAL PROPERTIES

ZOLTEK PXFT carbonized felts are produced from 100% ZOLTEK OX felts, being continuously carbonized and supplied in roll form. ZOLTEK PXFT carbonized felts can be used in many applications, including: stationary energy storage batteries, fire protective insulation, high temperature furnace linings, acid gas mist eliminators and in carbon composite materials. Customers can apply their own post treatments and the carbonized felt is easy to cut and process for specific end-use applications.



MATERIAL OVERVIEW	PXFT FT-1750		PX35 FT1035-100		PXFT FT-540		PXFT FT-450		PXFT FT-305		PXFT FT-50	
	SI	US	SI	US	SI	US	SI	US	SI	US	SI	US
Fiber Precursor Type	PAN											
Areal Weight	1750 g/m <sup>2</sup>	51.6 oz/yd <sup>2</sup>	1035 g/m <sup>2</sup>	30.5 oz/yd <sup>2</sup>	540 g/m <sup>2</sup>	15.9 oz/yd <sup>2</sup>	450 g/m <sup>2</sup>	13.3 oz/yd <sup>2</sup>	305 g/m <sup>2</sup>	9.00 oz/yd <sup>2</sup>	50 g/m <sup>2</sup>	1.47 oz/yd <sup>2</sup>
Thickness at 0.02 MPa Compression	16.5 mm	0.65 in	12.0 mm	0.47 in	6.0 mm	0.24 in	4.8 mm	0.19 in	4.0 mm	0.16 in	1.0 mm	0.039 in
Felt Bulk Density	0.11 g/cc	0.00397 lb/in <sup>3</sup>	0.09 g/cc	0.00325 lb/in <sup>3</sup>	0.09 g/cc	0.00325 lb/in <sup>3</sup>	0.09 g/cc	0.00325 lb/in <sup>3</sup>	0.08 g/cc	0.00289 lb/in <sup>3</sup>	0.05 g/cc	0.0018 lb/in <sup>3</sup>
Roll Width	98 cm	39 in	98 cm	39 in	98 cm	39 in	98 cm	39 in	98 cm	39 in	80 cm	31.5 in
Roll Length <sup>1</sup>	45 m	50 yds	45 m	50 yds	45 m	50 yds	45 m	50 yds	80 m	87 yds	250 m	273 yds
Fiber Diameter	7 - 9 μm											
Fiber Density	~1.78 g/cc (0.064 lb/in <sup>3</sup> )											
Carbon Content	~95%											
Electrical Resistivity <sup>2</sup>	2.2 Ω mm		6.3 Ω mm		3.9 Ω mm		4.0 Ω mm		5.8 Ω mm		66 Ω mm	
BET Surface Area	~1 m <sup>2</sup> /g											
Open Porosity <sup>3</sup>	94%		95%		95%		95%		96%		97%	
Tensile Strength in MD / XMD direction <sup>4</sup>	0.30 MPa / 0.30 MPa		0.19 MPa / 0.34 MPa		0.43 MPa / 0.41 MPa		0.28 MPa / 0.48 MPa		0.67 MPa / 0.36 MPa		1.47 MPa / 0.51 MPa	
Elongation in MD / XMD Direction <sup>4</sup>	18.6%/26.0%		41.5%/39.5%		19.3%/18.1%		18.5% / 18.3%		13.2% / 16.0%		7.9% / 25.5%	
Trace Metals	Fe < 20 ppm, Na < 30 ppm, Ca < 20 ppm											

\*All data provided are typical properties and are not to be considered specification values.



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- 1 - Areal weights are determined from 100 x 100 mm square samples.
- 2 - Thickness is determined via ISO 9073-2, at a compression level of 0.5 kPa.
- 3 - Due to the manufacturing process, individual roll lengths will vary.
- 4 - Z-direction electrical resistivity is determined at 1 A current with 30 x 30 mm samples, at 20% compression, in the thickness direction.
- 5 - Open porosity is calculated as  $1 - \frac{w_a}{d \cdot \rho_c}$  where  $w_a$  is the felt areal weight,  $d$  is the felt thickness and  $\rho_c$  is the fiber density.
- 6 - Tensile and Elongation properties are tested according to ASTM D 5035-06.

The properties listed in this datasheet do not constitute any warranty or guarantee of values. This information should only be used for the purposes of material selection. Please contact us for more details.



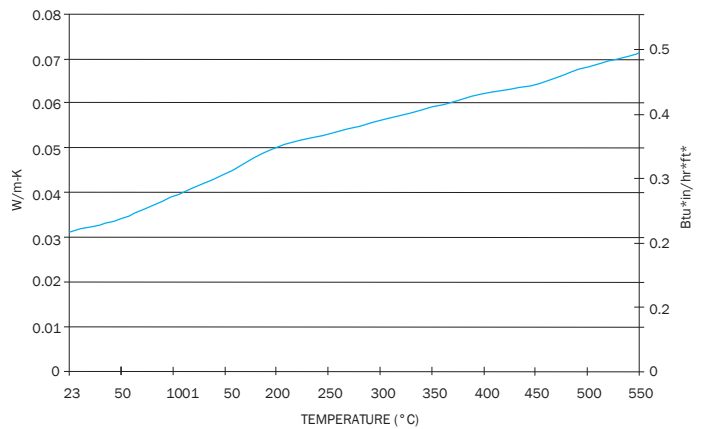
## TYPICAL PACKAGING

Wound on cardboard cone, sealed in polyethylene bag, and placed in cardboard box.

## SAFETY

Obtain, read, and understand the Material Safety Data Sheet (SDS) before use of this or any other ZOLTEK product.

## THERMAL CONDUCTIVITY



1 - All data provided as typical properties and are not specification values. (Revision Date 03.04.20)

