

PPG PolyGrid® expanded PEEK film for high performance filtration & separation applications

Description

Expanded Polyether Ether Ketone (PEEK) PPG POLYGRID® is now available for critical filtration and separation applications where a high performance polymer is essential. Thin, versatile expanded films made with PEEK polymer provide a superior combination of mechanical strength, along with chemical and high temperature resistance. These characteristics make it the perfect choice for the next generation of high performance filters as a support membrane or backing material or a stand alone primary filter.

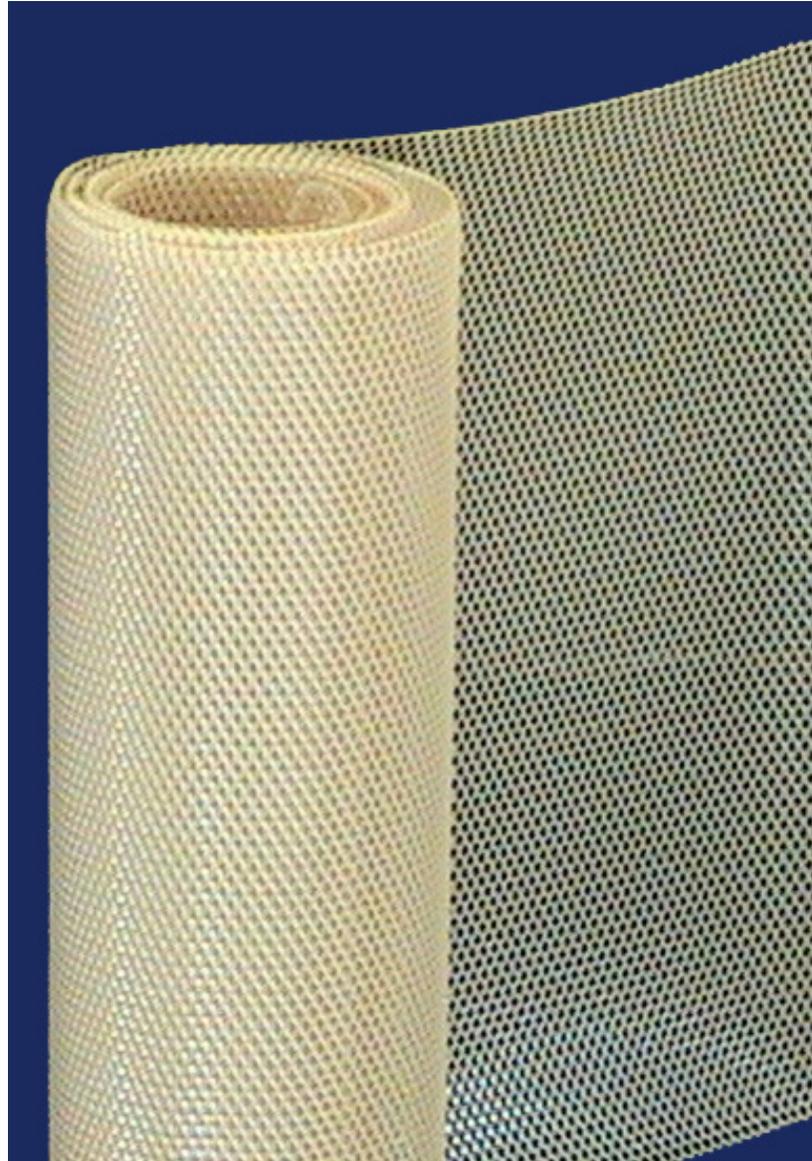
Applications requiring high temperatures to filter caustic gases or fluids, such as in the semi-conductor, chemical processing, and petroleum/gas industries, typically utilize expanded polytetrafluoroethylene (PTFE), perfluoroalkoxy (PFA), and ethylene chlorotrifluoroethylene (ECTFE) as a support material. All these materials provide excellent temperature and chemical resistance but none match the mechanical strength provided by the expanded PPG *PolyGrid* PEEK films.

With the continual increase in demands on filter performance, look to expanded PEEK PPG *PolyGrid* to meet critical performance challenges. Our unmatched precision expanding process coupled with the exceptional material properties combine to enhance performance and increase functionality of your end product.

Expanded PEEK film's versatility and high performance satisfy the increasing demand for higher temperature performance, lightweight, durability and eco-friendly application design in a broad range of markets including electronics, acoustics, aerospace, automotive, oil, gas, industrial and alternative energy.

Features

- Thickness from .050 mm (.002") to .750 mm (.0295")
- Nominal pore sizes down to 100 micron and ability to achieve 750+ Openings/cm²
- Widths available up to 610 mm (24 inches)



Advantages

- Better dimensional stability on opening size under high flow, high pressure situations
- Increased strength essential to assuring media integrity and pleat spacing under dynamic flow
- Can utilize thinner support materials to increase the working surface area of the filter
- Low outgassing, low extractables as well as low moisture absorption.

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Film properties

- Low smoke & toxic gas emission
- Environmentally-friendly
- High strength & toughness
- Electrical stability
- FDA food contact certified
- Radiation resistance
- Hydrolysis resistance



Key features

- High heat resistance
- Excellent wear properties
- Low moisture absorption
- Purity
- Outstanding acoustics properties
- Broad chemical resistance

Key benefits

- Reduced weight: low specific gravity and very low thicknesses
- Thin: flexible format to facilitate miniaturization
- Longevity: toughness, durability and reliability to enhance performance and extend application lifetime

PEEK - comparison with competitive films	Mechanical Properties at 200°C (392°F)	Low moisture absorption	Chemical resistance	Abrasion / wear resistance	Radiation resistance	Low outgassing & extractables
Polyether Ether Ketone (PEEK)	Very Good	Very Good	Very Good	Excellent	Excellent	Excellent
Polyimide (PI)	Very good	Fair	Poor	Good	Very good	Good
Polyetherimide (PEI)	Good	Fair	Fair	Fair	Good	Good
Polytetrafluoroethylene (PTFE)	Poor	Excellent	Excellent	Poor	Poor	Very good

PEEK - comparison with competitive films	Basic character	Low permeation properties	Recyclable	Dielectric properties	RTI rating	Flame resistance
Polyether Ether Ketone (PEEK)	Melt processable	Very good	Yes	Very good	220°C (428°F)	Very good
Polyimide (PI)	Non melt processable	Very good	No	Very good	200°C (392°F)	Excellent
Polyetherimide (PEI)	Melt processable	Fair	Yes	Good	180°C (356°F)	Excellent
Polytetrafluoroethylene (PTFE)	Limited melt processable	Good	Limited	Excellent	180°C (356°F)	Excellent

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This document has been reviewed by the PPG's Aerospace Export Control Department and has been determined to contain only EAR99 controlled data.

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