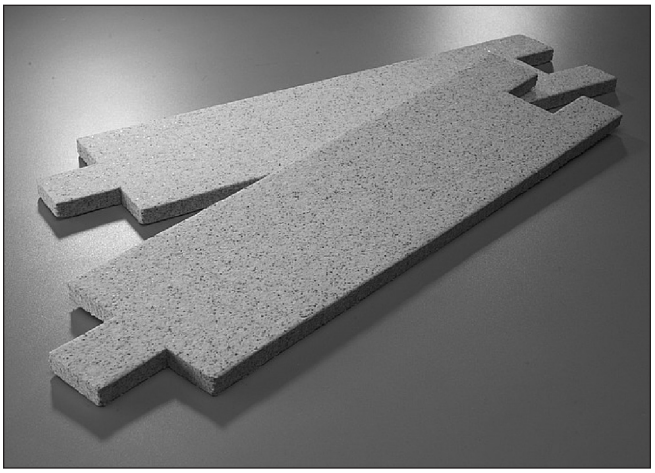
Product Information Sheet

XPE®-AV4 Substrate Support Mat



Introduction

Unifrax is pleased to introduce XPE®-AV4 the latest member to the XPE® intumescent support mat system product family.

XPE-AV4 is an advanced intumescent with improved low-temperature performance and is designed to function as a mechanical support and exhaust gas seal for ceramic substrates.

Support mat durability is critical to assure a robust design for high-efficiency emission control systems. Currently, the market employs a variety of mechanisms to improve cold holding performance and erosion resistance. However, these techniques add cost as well as extra production steps to the system.

XPE-AV4 eliminates these costs by offering improved cold holding at substrate skin temperature below 300°C, while maintaining high temperature performance above 950°C. XPE-AV4 also offers excellent erosion resistance and is not affected by gasoline, diesel, water or urea condensates, making it ideal for a wide range of exhaust after-treatment systems including low temperatures under body converters or flex-fuel systems.

XPE-AV4 has been designed to provide robust performance without the need for wire mesh ring protection (for erosion) or heat treatment for additional holding force at low temperatures.

Product Availability

Basis Weight	Nominal Thickness	Nominal Installed Gap
(g/m^2)	mm	mm
3500	7.8	3.9
3750	8.3	4.2
4500	10.0	5.0
5400	12.0	6.0

Typical Composition & Properties

Fibers	42-54%
Vermiculite	40-50%
Loss on Ignition	6-15%

Canning Performance

XPE-AV4 is typically installed at a nominal gap bulk density (GBD) of 0.90 g/cm^3. The room temperature compression behavior of XPE-AV4 is shown in Figure 1. The GBD range for each specific application will be defined according to the requirements for holding force and substrate strength. Unifrax provides a global network of application engineering services and will provide a support mat recommendation specific to your system design.

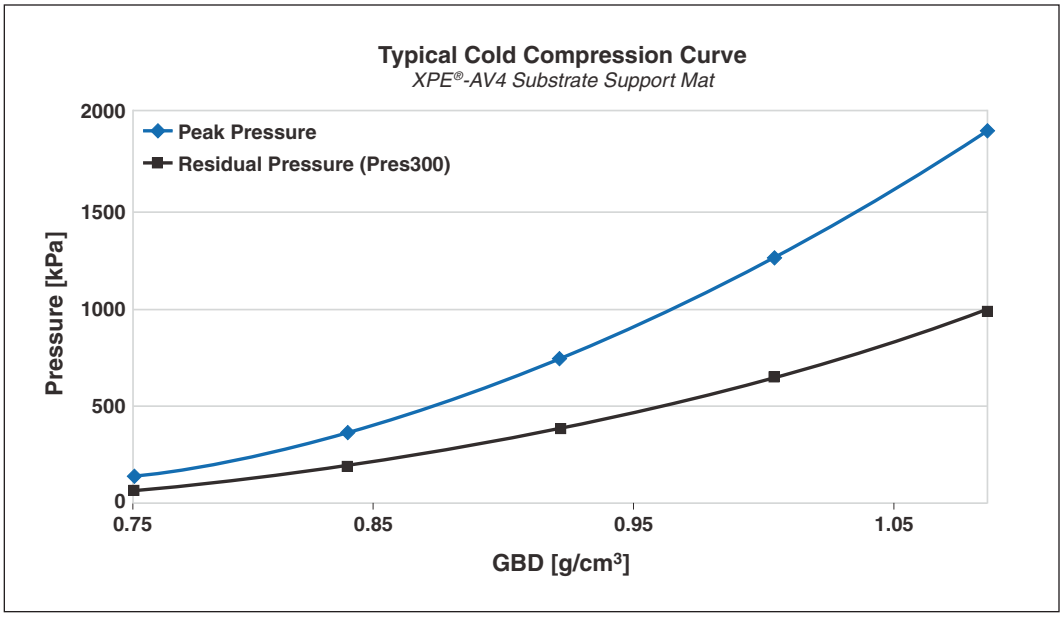


Figure 1: Typical Cold Compression Curve for XPE-AV4 support mat.

Erosion Resistance

Support mat erosion may occur as a result of improper support mat installation or due to lack of holding force of the fiber matrix. Different types of support mat are more susceptible to erosion than others. XPE-AV4 has been designed specifically to present a low erosion profile. Figure 2 presents comparative erosion loss for different support mat types as a function of GBD.

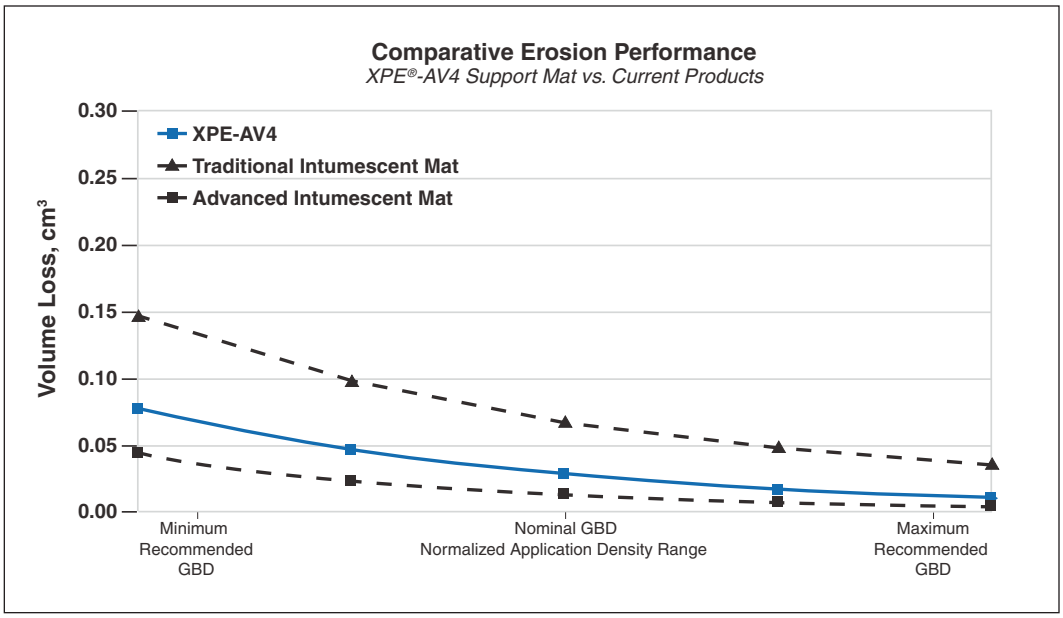


Figure 2: Comparative erosion data for XPE-AV4.

Support Mat Aging Performance

XPE-AV4 is designed to present robust performance at operating temperatures below 300°C. Figure 3 presents the aged mat pressure of XPE-AV4 when installed at its nominal GBD. Factors such as design nominal gap and thermal shell expansion also influence support mat performance. Please contact our Application Engineering Department for additional information regarding the performance of XPE-AV4 under specific operating conditions.

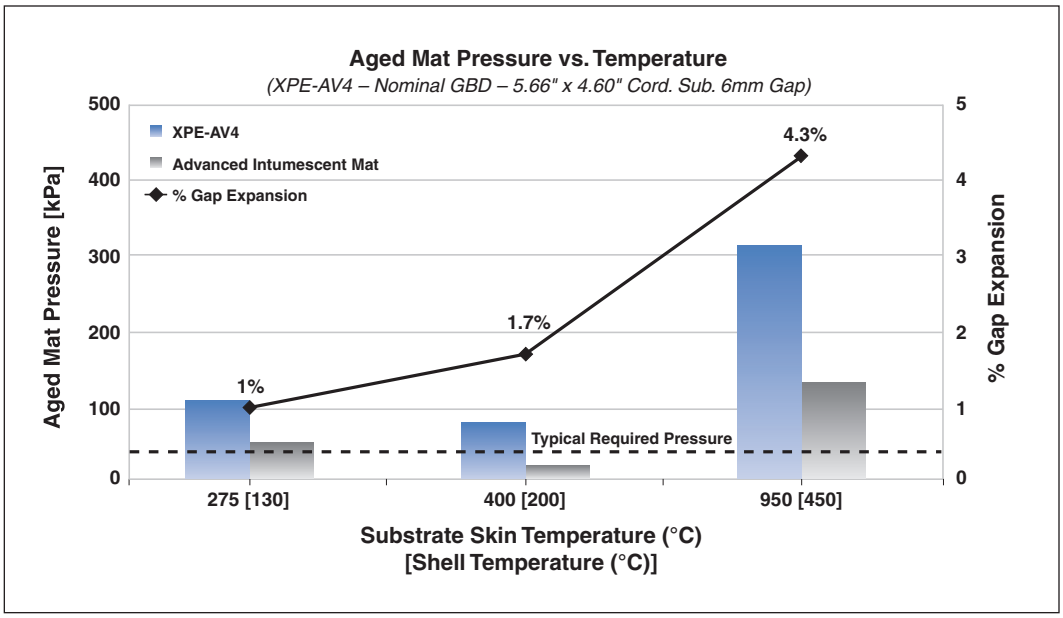


Figure 3: XPE-AV4 comparative support mat aging test as a function of temperature.

Worldwide Technical Support

Unifrax is a worldwide sales and service organization with several international locations and representatives. The services that we provide include thermal modeling, system design engineering assistance, and failure analysis as well as technical exchange programs. For additional information regarding XPE-AV4 or any of our catalytic support mats, please contact the Unifrax Emission Control Application Engineering Department at 716-768-6461 or aecoordinator@unifrax.com.

Data are average results of tests conducted under standard procedures and are subject to variation. Results should not be used for specification purposes.

Refer to the product Safety Data Sheet (SDS) for recommended work practices and other product safety information.

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The following is a registered trademark of Unifrax: XPE.

The test data shown are average results of tests conducted under standard procedures and are subject to variation. Results should not be used for specification purposes.

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