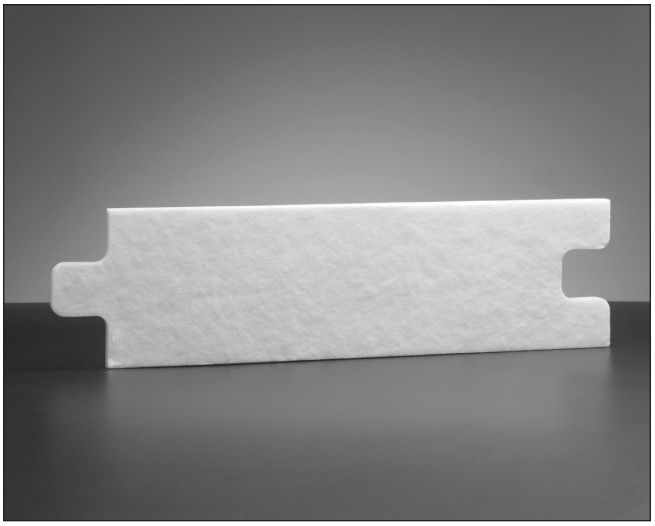
Product Information Sheet

IsoMax® 1 Support Mat System



Introduction

Unifrax is pleased to introduce IsoMax® 1, a “true green” non-intumescent support mat system.

IsoMax 1 utilizes our patented Isofrax® 1260°C fibers, which are certified as “Not Classified” according to European and German regulatory guidelines. As a result, IsoMax 1 does not require any additional labeling or special handling practices.

Isofrax fibers have a proven 5-year history in support mat systems and exhibit excellent chemical stability and resistance to attack from most corrosive agents including combustion by-products associated with gasoline and diesel fuels. By combining fiber-making expertise with a state-of-the-art paper manufacturing process, IsoMax 1 is the newest member to the Unifrax family of “true green” support mat systems.

IsoMax 1 offers superior performance from room temperature through 750°C substrate skin temperature – continuous operation. IsoMax 1 also possesses excellent thermal stability capable of withstanding the high-temperature excursions associated with diesel particulate filter regenerations.

As a result, IsoMax 1 is an ideal solution for a wide range of emission control devices, including large diesel oxidation catalysts (DOC), diesel particulate filters (DPF), selective catalyst reduction units (SCR), NO_x traps and catalysts, as well as gasoline oxidation catalysts including ethanol or flex fuel underbody converters.

Product Availability

Basis Weight	Nominal Thickness	Nominal Installed Gap
(g/m^2)	mm	mm
1350	5.8	2.5
2100	9.0	3.9
2250	9.6	4.2
3250	13.9	6.0

Typical Composition & Properties

Isofrax Fibers	92-96%
LOI Loss on Ignition	4-9%

Canning Performance

IsoMax 1 is typically installed at a nominal gap bulk density (GBD) of 0.54 g/cm^3. The room temperature compression behavior of IsoMax 1 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 you with a support mat recommendation for your specific converter design.

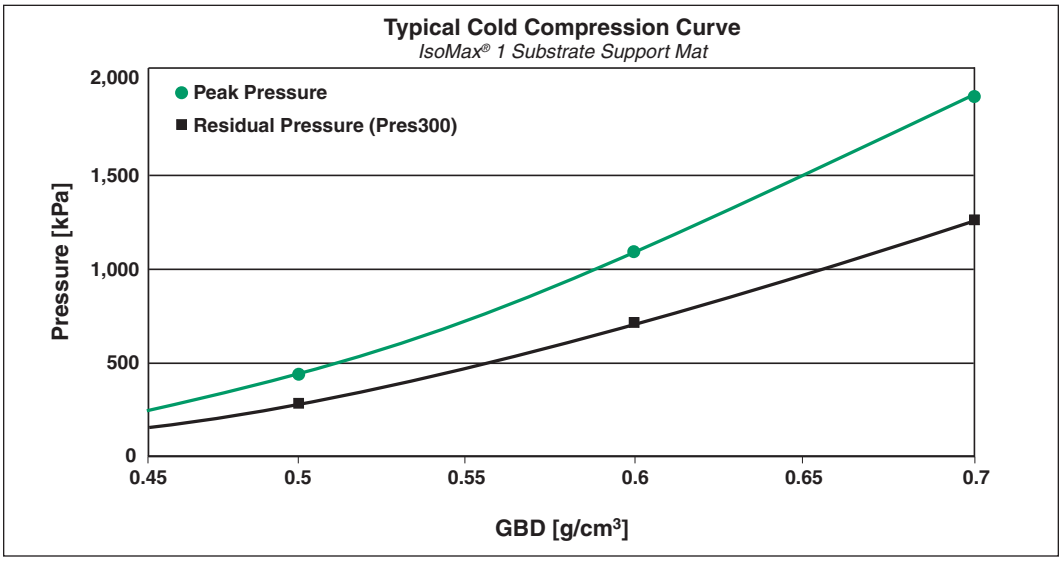


Figure 1: Typical cold compression curve for IsoMax 1 support mat.

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. IsoMax 1 can be properly designed in order to present a low erosion profile. Figure 2 presents comparative erosion loss for IsoMax 1 versus a non-intumescent mat as a function of GBD.

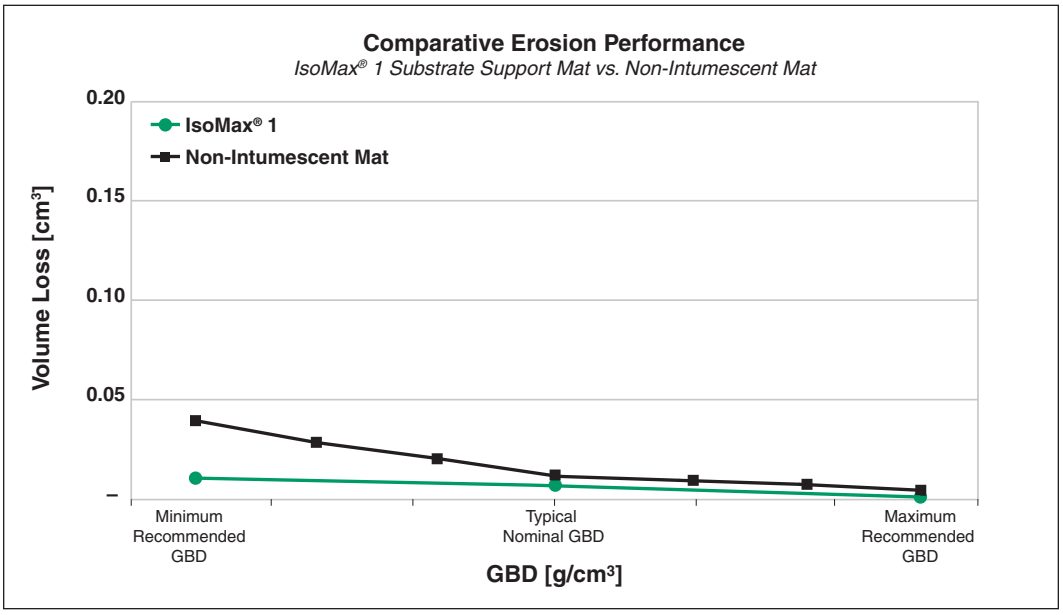


Figure 2: Comparative erosion data for IsoMax 1.

Support Mat Aging Performance – Typical Curve For IsoMax 1

IsoMax 1 is designed to present robust performance over a broad temperature range. Figure 3 presents a typical aged mat performance curve for IsoMax 1 as a function of temperature. 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 IsoMax 1 under specific operating conditions.

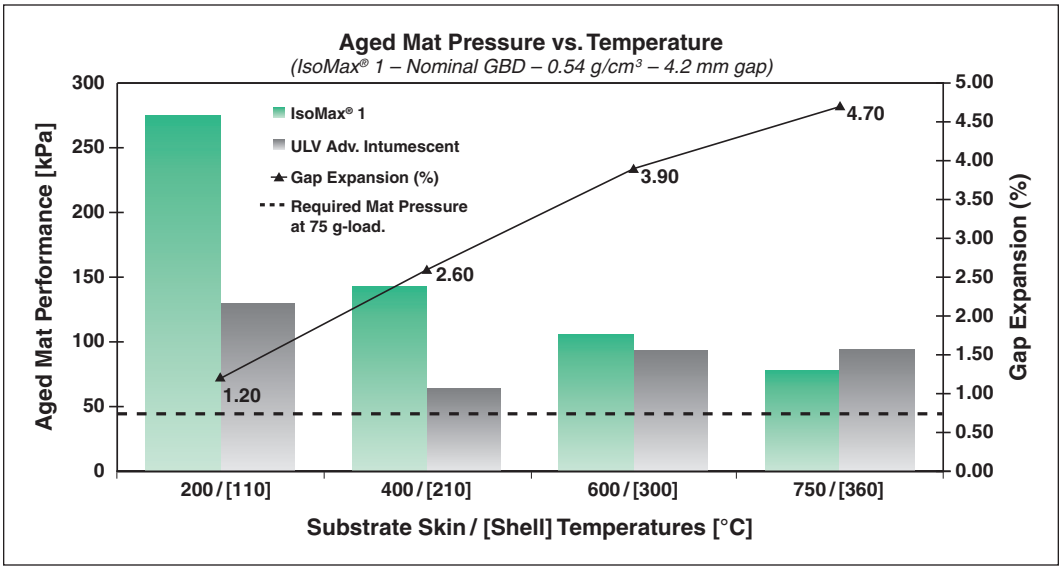


Figure 3: Typical aged mat pressure for IsoMax 1 as a function of temperature.

Isofrax Fiber – Health and Safety Information

Isofrax fibers have been tested pursuant to EU protocol ECB/TM/26 Revision 7, Nota Q. Directive 97/69/EC, with results below regulatory thresholds. As a result, Isofrax 1260°C fibers are officially classified as "Not Classified" and therefore do not require additional labeling, further testing, or special handling practices.

In addition, Intratracheal Instillation Biopersistence Testing per the German Hazardous Substances Ordinance has been conducted on Isofrax fibers with results that are below German regulatory thresholds. Requirements of the German Hazardous Substances Ordinance [October 26,1993 as amended June 18, 1998] do not apply. Certifications are available upon request.

Isofrax's designation as "Not Classified" is not a temporary status. "Temporary Not Classified" status is granted to untested fibers with unknown results.

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 IsoMax 1 or any of our emission control products, please contact the Unifrax's Emission Control Application Engineering Department at 716-278-3983.

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 Material Safety Data Sheet (MSDS) for recommended work practices and other safety information.

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