

CC-Max[®] 9 Substrate Support Mat

Introduction

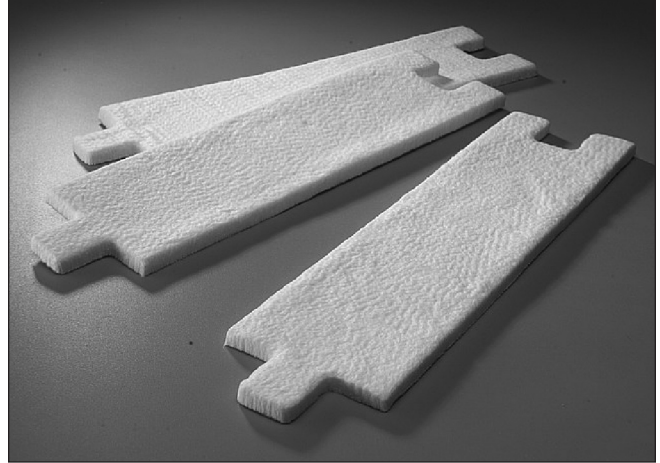
Unifrax is pleased to introduce CC-Max[®] 9, the latest member to the CC-Max non-intumescent support mat product family.

The CC-Max product line is a revolutionary non-intumescent support mat system specifically developed by Unifrax for mechanical support of ceramic substrates used in catalytic converters. As a manufacturer of fibers used in a variety of support mat mounting systems, Unifrax has successfully utilized furnacing expertise and state-of-the-art processing technology to produce a unique non-intumescent mat product with superior performance properties.

While most non-intumescent support mat systems utilize high binder content for handling and processability, CC-Max 9 employs a unique needling technology for fiber entanglement. The low binder content eliminates potential issues with OBD sensors at initial heat up due to binder outgassing. In addition, by minimizing the binder content, performance of CC-Max 9 is maximized but potential fiber irritability issues are still contained.

CC-Max 9 offers excellent holding force at all temperature ranges from room temperature up through 1000°C inlet gas temperature and has superior erosion resistance.

CC-Max 9 low binder support mat system can be used in a wide range of emission control devices, including diesel oxidation catalysts (DOC), diesel particulate filters (DPF), selective catalyst reduction units (SCR) and underbody converters (gasoline, diesel and ethanol flex fuel).



Product Availability

Basis Weight	Nominal Thickness*	Nominal Installed Gap
(g/m ²)	mm	mm
1450	8.5	4.0

*Thickness measured @ 0.725 kPa

Additional basis weights available upon request.

Typical Composition & Properties

Fibers	≥ 98.5%
Loss on Ignition	< 1.5%

Canning Performance

CC-Max 9 is typically installed at a nominal gap bulk density (GBD) of 0.35 g/cm³. The room temperature compression behavior of CC-Max 9 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.

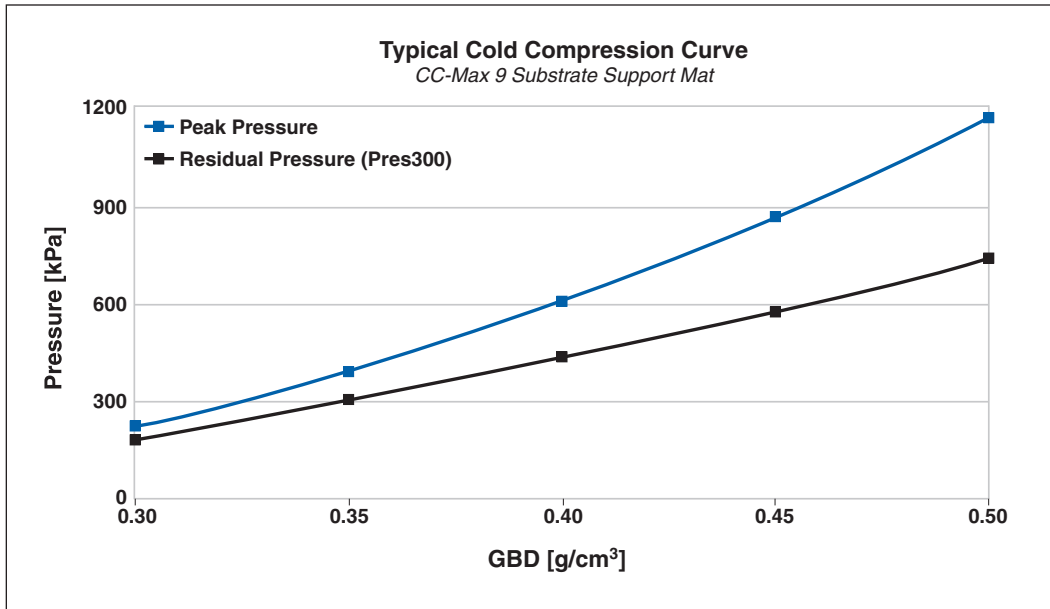


Figure 1: Typical Cold Compression Curve for CC-Max 9 support mat.

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. CC-Max 9 has been designed specifically to present a low erosion profile. Figure 2 presents comparative erosion resistance for different support mat types as a function of GBD.

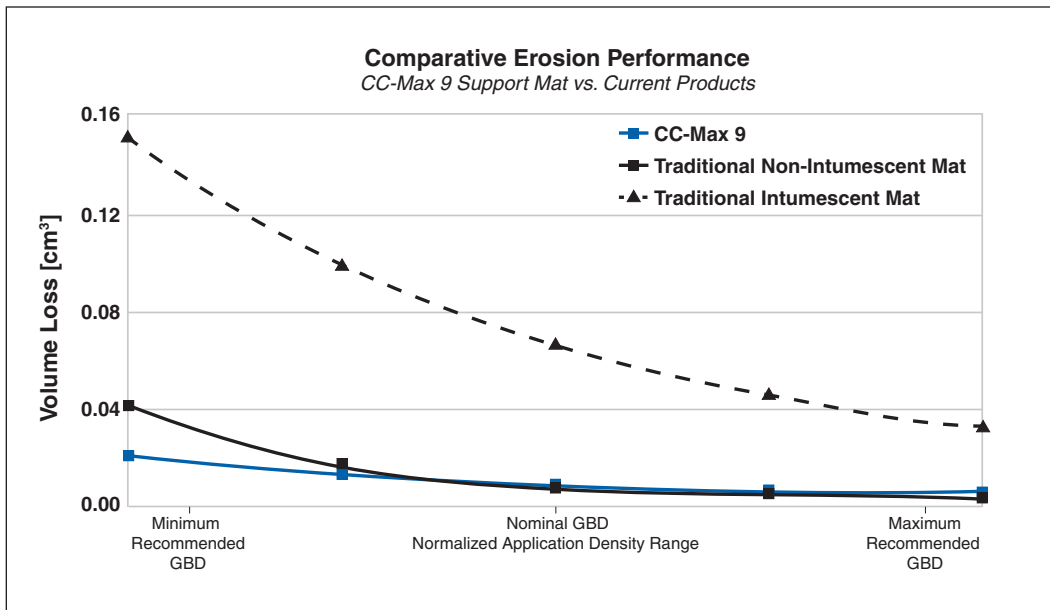


Figure 2: Comparative erosion data for CC-Max 9 support mat.

Support Mat Aging Performance

CC-Max 9 is designed to present robust performance at operating temperatures above 1000°C. Figure 3 presents a typical aged mat performance for CC-Max 9 compared to a traditional non-intumescent mat 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 CC-Max 9 under specific operating conditions.

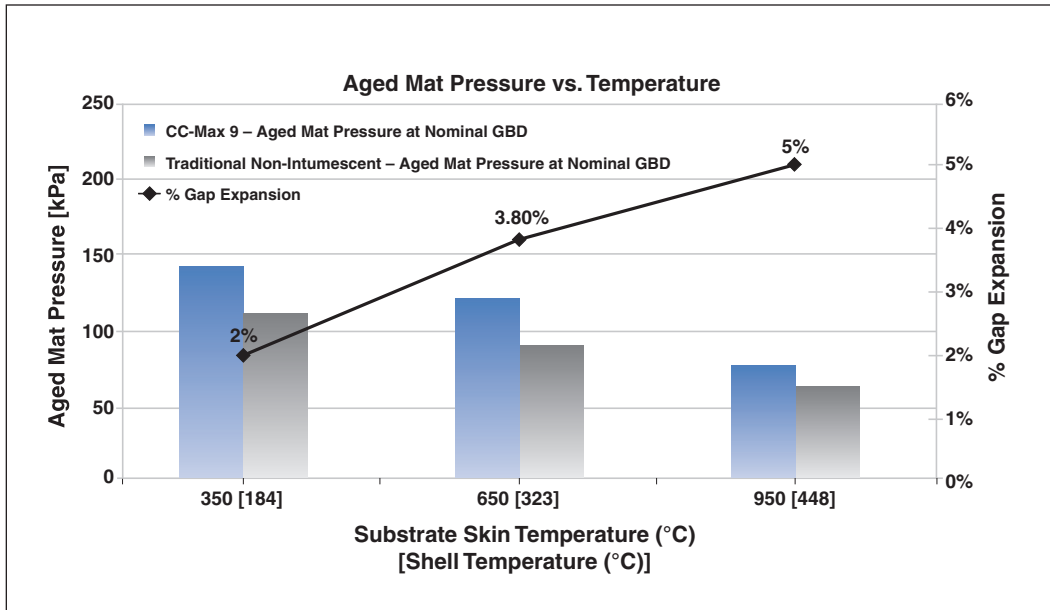


Figure 3: CC-Max 9 comparative support mat aging test as a function of temperature.

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 CC-Max 9 or any of our catalytic support mats, please contact the Unifrax 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 product safety information.

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The following is a registered trademark of Unifrax: CC-Max.

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