

DEXcell™ BRAND Roof Board

National Gypsum Company® (“National Gypsum”) has provided the following Product Recommendations and Limitations as guidance for the recommended use, installation and storage of its DEXcell™ BRAND Roof Board products, including without limitation, DEXcell™ Glass Mat Roof Board, DEXcell™ FA Glass Mat Roof Board, and DEXcell™ Cement Roof Board. DEXcel roof products typically constitute one component of a multi-component roof assembly and it is possible that for any given project, the project’s roof design professional, the roof system manufacturer, or any applicable design or construction code requirements may require practices that do not conform to the recommendations and limitations below. National Gypsum makes no representations or warranties

regarding best practices in the design or installation of roof assemblies. However, it is understood that failure to follow the recommendations and limitations below (including using a DEXcell product for a non-recommended use) may void the product warranty. For a copy of the DEXcell Limited Warranty, please see nationalgypsum.com.

Design Recommendations

DEXcell roof boards form one component among many components in a properly designed roof assembly. National Gypsum does not warrant the design, quality or workmanship of any other components in any roof assembly in which the DEXcell products may be used or of the roof assembly as a whole. Specifically,

National Gypsum offers no recommendations regarding the following aspects of a roof assembly:

- The type of roof assembly to be used (single ply, modified bitumen, built-up roof, etc.)
- The specifications of the other components in the roof assembly
- Whether to use a separator sheet or vapor barrier between DEXcell roof boards and any other component of the roof assembly
- Priming requirements

However, different DEXcell products are designed for different applications. Refer to the chart below for National Gypsum’s recommendations of which DEXcell products are best suited for various applications.

Application Limitations

The performance of any DEXcell product may be negatively impacted by excess moisture, heat or pressure. The recommendations and limitations below are intended to lower the risk of excess moisture, heat and loads. Failure to observe these recommendations and limitations may void the warranty.

Adhesives and Primers

DEXcell FA – Glass Mat Roof Board and DEXcell Cement Roof Board are the preferred products for use in fully adhered roof systems, subject to the following limitations:

Solvent-Based Adhesives and Primers. Solvent-based adhesives and primers should be used in accordance with the manufacturers’ procedures.

Installers must allow sufficient time for solvents and primers to evaporate after application to avoid potential damage to the DEXcell products or other components. Excessive use of solvent-based adhesives increases the risk of blisters. For water-based adhesives, follow manufacturer’s recommendations. Confirm any priming requirements of DEXcell products with the membrane manufacturer.

Cold Adhesives. Cold adhesives should be applied uniformly as necessary for good bond. Excessive use of cold adhesives increases the risk of blisters.

Torch Down Roofing. When applying a membrane using a “torch down” application method, all products must be dry prior to beginning the installation. Use proper torch technique and limit the amount of heat placed on the DEXcell roof boards by aiming the torch flame directly at the roof membrane roll and not at the DEXcell roof boards. Avoid overheating the membrane or DEXcell product surface. Check with the roof system manufacturer or roof design professional for their attachment requirements for each project.

Roof System Applications	DEXcell FA – Glass Mat Roof Boards	DEXcell Glass Mat Roof Boards	DEXcell Cement Roof Boards
Single Ply - Fully Adhered	Recommended	Not Recommended	Recommended
Single Ply - Mechanically Attached	Acceptable*	Recommended	Recommended
Single Ply - Self Adhered	Recommended	Not Recommended	Recommended
Modified Bitumen - Hot Mop	Not Recommended	Not Recommended	Recommended
Modified Bitumen - Cold Adhesive	Recommended	Not Recommended	Recommended
Modified Bitumen - Torch	Recommended	Not Recommended	Recommended
Modified Bitumen - Self Adhered	Recommended	Not Recommended	Recommended
Built-Up Roof (BUR)	Not Recommended	Not Recommended	Recommended
Spray Polyurethane Foam	Recommended	Not Recommended	Recommended
Thermal Barrier	Acceptable*	Recommended	Recommended
Fire Barrier	Acceptable*	Recommended	Recommended
Substrate for Vapor Barrier	Recommended	Acceptable*	Recommended
Substrate for Parapet Wall	Recommended	Not Recommended	Recommended
Vegetative “Green” Roof System	Acceptable*	Not Recommended	Recommended
Photovoltaic Roofing System	Acceptable*	Not Recommended	Recommended
Standing Seam Metal Roof System	Acceptable*	Recommended	Acceptable*
Wood Shake Underlayment	Acceptable*	Recommended	Acceptable*

*Indicates product applications that may be used successfully, but may not be optimal in terms of cost or performance as compared to the recommended product.

Note: In situations where prolonged excessive membrane surface temperatures may be experienced, such as dark-colored membranes in southern climates, roof surfaces that experience reflected sunlight or photovoltaic installations, DEXcell Cement Roof Board is the preferred DEXcell product.

Hot Mop Applications. DEXcell Cement Roof Board is recommended for hot mop applications. When hot mopping, follow the manufacturer's recommendations with respect to ambient temperature and humidity, optimal temperature for the asphalt, and appropriate handling of the material. For application temperatures in excess of 450°F and/or mopping type IV asphalt, ribbon mopping, spot mopping or installing a venting base sheet are recommended.

Flood Mopping. Flood mopping DEXcell FA – Glass Mat boards or DEXcell – Glass Mat boards to a substrate and then flood mopping a membrane to the DEXcell product is *not recommended*. To avoid excess heat and moisture, spot mopping, ribbon mopping, or installing a venting base sheet are recommended.

Always allow time to cool between applications of hot asphalt or torching.

Additional Limitations

Avoid Excess Loads. Subjecting any DEXcell product to excessive loads or foot traffic may void the warranty. Appropriate protective measures should be taken to avoid any concentration of weight that may damage or fracture the roof boards. For example, extra caution should be used when placing steel-wheeled equipment on installed DEXcell roof boards or when installing DEXcell roof boards on plaza decks.

Avoid Excess Moisture. Keep DEXcell products dry at all times. The presence of moisture on the surface or within the core of any substrate (including DEXcell products) or anywhere in the roof assembly can negatively impact performance by causing blisters to form during torching or hot mopping or by weakening the structural stability of the roof system. This can significantly decrease wind uplift resistance in the roof system. It is recommended to evaluate the moisture content of DEXcell roof boards with a high quality moisture meter.

Do not apply fully adhered membranes (solvent-based, water-based, cold adhesives, peel and stick, torched, hot mopped) to wet or dampened DEXcell products. All components of a roof assembly must be thoroughly dry prior to installation of the roof membrane. DEXcell products should not be installed during rain, heavy fog, or any other conditions that could deposit moisture on the surface of the roof boards.

To reduce the impact of environmental moisture, DEXcell roof boards must be covered by the roof system membrane the same day they are installed. Install only as many DEXcell roof boards as can be covered by the final roof covering in the same day.

Appropriate moisture control measures should be taken when installing DEXcell products on new poured concrete or lightweight concrete roof deck, or when re-roofing over an existing concrete roof deck, in accordance with recommendations by roof design professionals, roof system manufacturers, and any applicable design or construction code requirements. Re-roof or re-cover applications must be thoroughly dry prior to installation of DEXcell products.

Installation Recommendations

National Gypsum Company makes no representations or warranties regarding best practices in the design or installation of roof assemblies. Refer to the applicable roof system manufacturer's written instructions, industry best practices, local code requirements and FM Global® (FM) and/or UL® requirements for proper installation techniques. In addition to the limitations regarding heat, moisture and loads in the sections above, DEXcell products are subject to the following installation recommendations and limitations:

Only mechanical fasteners approved by FM or UL should be used with DEXcell products and such fasteners should be installed in strict compliance with the roof system manufacturer's installation recommendations and

the most current applicable FM Loss Prevention Data Sheets. Proper fastener spacing is essential to achieve the proper wind-uplift performance.

Install only as many DEXcell roof boards as can be covered by the roof membrane system during the same day. Locate joints parallel to the deck ribs on the ribs of the steel roof deck. See the product data table for maximum flute span when panels are installed directly over steel roof decking. Stagger end joints of adjacent lengths of DEXcell roof board. In typical installations, butt board edges and ends loosely. The design authority should calculate the appropriate spacing between roof boards to allow for thermal expansion based on typical post-installation roof temperature and accounting for installation conditions, in each case based on published DEXcell product properties data.

For vertical parapet applications, only 1/2" or 5/8" DEXcell FA – Roof Board Boards or DEXcell Cement Roof Boards should be used. Maximum framing spacing is 24" o.c. for 5/8" DEXcell FA Glass Mat Roof Boards and 16" o.c. for both the 1/2" DEXcell FA Glass Mat Roof Board and 7/16" DEXcell Cement Roof Board.

Storage Recommendations

Keep DEXcell products dry at all times before, during and after the installation of the roof system. Upon receipt by the customer, all plastic packaging must be removed from the DEXcell roof boards immediately, and the DEXcell roof boards must be fully covered with a breathable, waterproof covering. Failure to immediately remove the plastic packaging may result in condensation or moisture being trapped on or in the product and may void the warranty.

DEXcell roof board must never be stored on the ground and must always be stocked flat. Air must be allowed to circulate around and under the stored bundles of DEXcell roof board to avoid build-up of moisture.

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