



Marley MBX fill is a high performing, bottom supported PVC pack fill with integral louvers and drift eliminators, specifically designed for the aftermarket. This fill will make installation easier and faster, while at the same time offering great cooling efficiency without major tower modifications.

MBX fill incorporates highly efficient cellular drift eliminators, integrally molded within the fill sheets. These eliminators may reduce drift emissions from the tower by a factor of 10 or more.

Louvers are also integrally molded within the fill sheets preventing water from escaping and ensuring precise air distribution throughout wide variations in airflow.

MBX fill packs are available in various heights and air travels from 61 cm to 122 cm and can be installed in almost any crossflow cooling tower regardless of tower age or manufacturer. Retrofit kits including MBX fill packs, fiberglass supports, stainless steel hardware and installation instructions are available.

MBX fill is manufactured from inert material, thus ensuring a long operating life with minimal maintenance. The wide sheet spacing prevents clogging and the integral drift eliminators do not require extra frames or retainers.

MBX is thermoformed from PVC with a flame spread rating less than 25 per ASTM E-84 and is considered self-extinguishing. Therefore, the risk of fire damage is minimal.

PROPERTIES

Base Material—polyvinyl chloride (PVC) sheets

Material Properties:

Tensile Strength—6,300 psi (at room temperature)

Tensile Modulus—325,000 psi

Specific Gravity—1.50

Maximum Continuous Hot Water Temperature: 115°F at 122" of fill height with standard PVC and 125°F with HTPVC material
125°F at 85" of fill height with standard PVC and 135°F with HTPVC material

PVC Sheet Thickness—20 mils (.020")

Sheet Spacing—0.75" typical (0.625 available for select tower models)

Weight per Cubic Foot of Completed Fill Packs—2.49 lb/ft³ @ 20 mil

Heat Transfer Area (Wetted Surface)—51.2 ft²/ft³

Drift Eliminator Configuration—3 pass

Typical Drift Rate _____ % of circulating gpm at _____ FPM fill velocity at _____ L/G

SUGGESTED SPECIFICATION

The fill material will be installed in a crossflow cooling tower.

Construction and Materials

The fill will be film type, Marley MBX or approved equal. Louvers and eliminators shall be thermoformed integrally with each fill sheet. The fill will consist of 20mil (0.020") thick polyvinyl chloride sheets. Flame spread rating of the material must not exceed 25 per ASTM E-84.

Configuration

The fill must be designed specifically for crossflow cooling tower applications. It must contain a minimum of 51 square feet of wetted heat transfer surface per cubic foot of fill material.

The fill supplier will determine the total volume of fill required to achieve the specified thermal performance.

Air inlet faces of the tower shall be free of water splash-out. Drift eliminators shall be triple-pass, and shall limit drift losses to no more than .005% of the design gpm flow rate. Air from the drift eliminators will discharge at a minimum angle of 45° from the horizontal.

Supports

Fill shall be bottom supported on a fiberglass grate that sits on corrosion resistant steel or fiberglass supports and shall be elevated at least 50 mm above the floor of the cold water basin to facilitate cleaning. This fiberglass grate is designed to allow 83% open area under the fill. The fill supplier will review the details of the existing tower structure, either by review of detailed dimensional tower drawings or by physical inspection. Based on this review, the fill supplier will provide fill support and sealing design details appropriate for the existing tower structure.

Hot Water Distribution

The fill supplier will define any necessary changes to assure uniform water distribution to all areas of the fill section.

Fill Depth (air travel)

The fill depth will be chosen to provide the proper thermal performance. If a fill height greater than the maximum height of available fill packs is required, a second layer of fill packs may be added, but no more.

Performance

The vendor will guarantee fill performance as installed.

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