Marley MX75 Fill specifications

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

Construction and Materials
The fill will be film type, Marley MX75 or approved equal. Integral louvers and eliminators shall be thermoformed integrally with each fill sheet. The fill will consist of 15 mil (0.015”) thick polyvinyl chloride sheets. Flame spread rating of the material must not exceed 25 per ASTM E-84.

The fill sheets must be self-spacing on a minimum 0.75” centers.

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.

Fill shall be suspended from structural tubing supported from the upper tower structure, and shall be elevated at least 2” above the floor of the cold water basin to facilitate cleaning. Structural tubing material shall be appropriate for the application. 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

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 supply a fill characteristic line based on the CTI method of analysis to demonstrate the fill capability at the required design conditions. The vendor will guarantee fill performance as installed.

XCEL TU Eliminator Specifications

Drift eliminators shall be of cellular type, Marley XCEL TU or approved equal. The eliminators shall be thermoformed from 17 mil (.017″) PVC (polyvinyl chloride) material into a configuration providing at least three changes of air direction and solvent welded into multiple sheet packs. Flame spread rating of the material must not exceed 25 per ASTM E-84.

Eliminators used in crossflow towers must provide a discharge angle (as defined by the angle of the last section of the eliminator itself) of at least 42° from the horizontal when installed.

The mass drift quantity, determined by the CTI Drift Test Code ATC-140 shall not exceed 0.005% of the total gpm (2400 gpm per tower cell) and shall be guaranteed for all operating conditions.

The eliminator packs shall be able to span 66" unsupported for counterflow configurations and 72" for crossflow, with minimal deflection at design conditions. Eliminators shall be FM approved.

Eliminator packs shall measure up to 24" wide, 5.75" in depth and up to 12'-0" long.