

The fill section is the heart of any cooling tower. Sometimes called packing, filling, or baffles, this is the area where water and air mix to achieve the cooling effect. A cooling tower can only perform if the fill material is in good condition, providing the greatest possible heat transfer surface.

M-106 is a film-type cooling tower fill. Water flowing down the fill sheets forms a thin film on the surface of the sheets. This type of fill provides much more water surface exposure per cubic foot than does splash-type fill.

Film fill offers greater cooling efficiency, so you can get colder water from your present system without increasing fan horsepower. Or, if you choose, you can use this improved efficiency to save horsepower and produce the same cold water temperature.

M-106 fill is also available with highly efficient drift eliminators molded right into the fill sheets. Compared with older designs, these eliminators reduce water carryover (drift) from the tower by a factor of ten or more! You save on your water bills because you're not throwing water into the air. You'll also save on water treatment chemicals that used to leave the tower in the drift. And, you'll virtually eliminate the nuisance caused by drift spotting on adjacent buildings and property.

To save you even more, the drift eliminators discharge air straight toward the fan. You can choose eliminators for either horizontal discharge towers or for vertical discharge towers. Since the air is going the right direction when it leaves the eliminators, you'll save on fan horsepower.

M-106 is thermoformed from PVC sheets with a maximum flame spread rating of 25 per ASTM E-84. Therefore, your risk of fire damage is minimal.

You'll enjoy long service life with minimal maintenance because M-106 PVC fill won't rot, is impervious to corrosion and decay, and its wide sheet spacing prevents clogging.

M-106 is easy and inexpensive to install in almost all crossflow cooling towers. It requires minimal structural modification because it is bottom supported. The integral drift eliminators don't need extra frames or retainers. M-106 gives you more cooling capacity and improved drift elimination in one easily installed pack.

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—125°F

PVC Sheet Thickness—20 mils (.020")

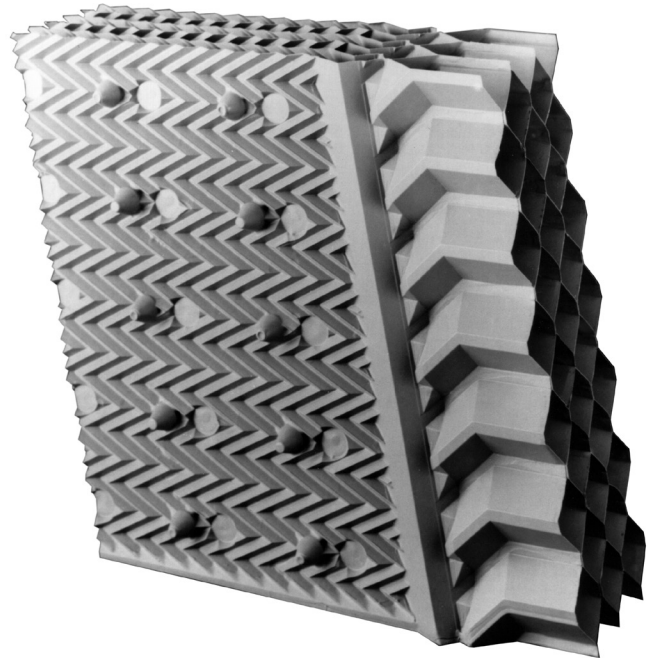
Sheet Spacing—1.0g"

Weight per Cubic Foot of Completed Fill Packs—1.75 lb

Heat Transfer Area (Wetted Surface)—376 ft²/ft³

Drift Eliminator Configuration—3 pass

Typical Drift Rate .005% of circulating gpm at 550 FPM fill velocity at 1.50 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 M-106 or approved equal to meet the design performance. The fill will consist of 20 mil .020 thick polyvinyl chloride sheets. Flame spread rating of the material must not exceed 25 per ASTM E-84.

The fill sheets must be thermoformed with an "M" pattern and adhesive bonded into six sheet packs. The fill sheets must be spaced on minimum 1.06" centers

Configuration

The fill must be designed specifically for crossflow cooling tower applications. It must contain a minimum of 375 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.

The tower's fill section will consist of multiple fill packs. The packs may be installed in one or more passes in the air travel direction.

The array of fill packs nearest the cooling tower fan plenum will incorporate high efficiency three-pass drift eliminators molded integrally with the fill sheets.

Supports

The fill must be bottom supported from the existing structure, or the subcontractor must submit design calculations for the structural reinforcement to be used to hang the fill from the top.

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 upon review, the supplier will establish the requirements for additional fill supports and air seals.

Hot Water Distribution

Fill supplier will review the details of the existing hot water distribution system. Based upon review, the supplier will define any necessary changes to assure uniform water distribution to all areas of the fill section.

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SP-M106-B | ISSUED 01/2017

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