Fill Media Selection Guide

For Counterflow Cooling Towers

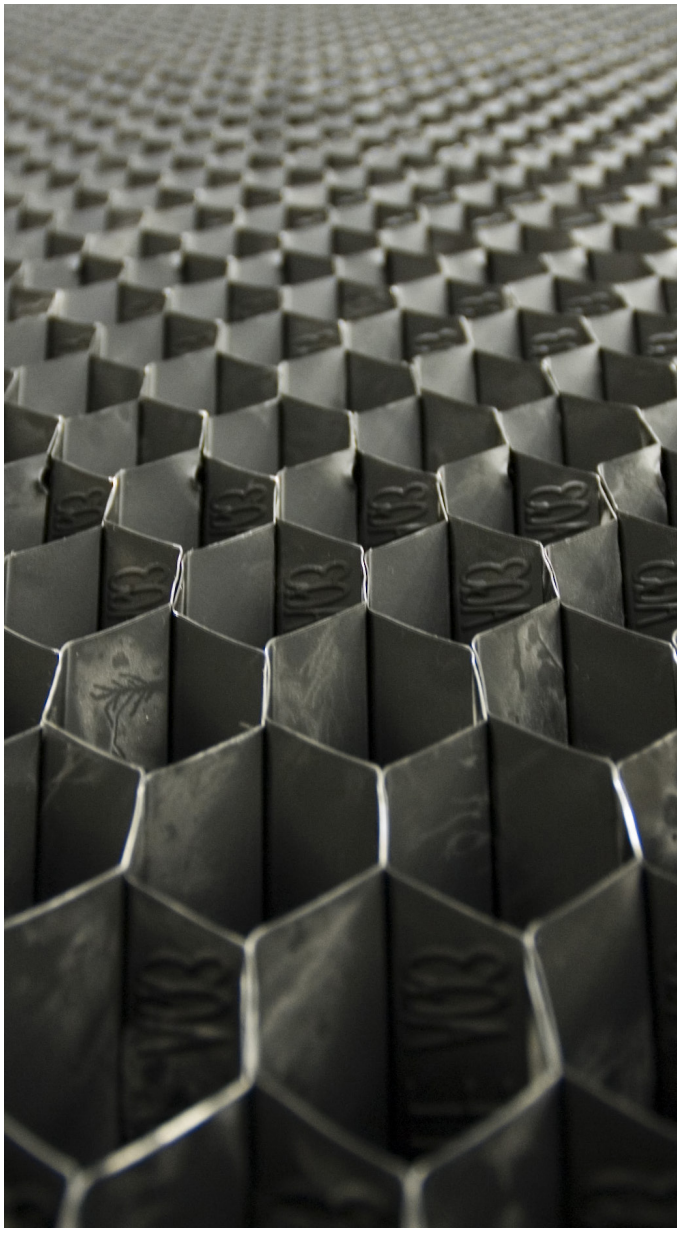
MARLEY®



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This selection guide provides an easy tool to evaluate various Marley counterflow heat transfer fill types to determine the most efficient solution for your application.

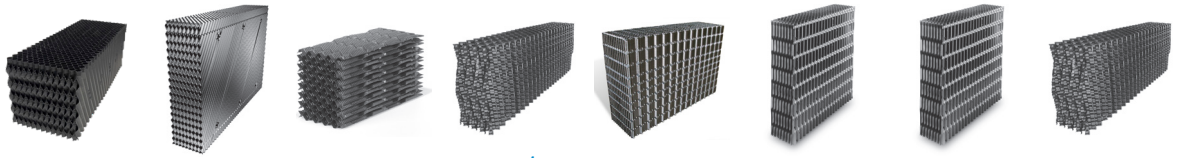


PVC “fill” media is at the heart of the cooling tower’s heat transfer system and thermal performance. Within a fill pack, water is spread over the PVC sheet’s surface area to provide maximum exposure to air flow. Film fills provide much more water/air exposure per cubic foot than splash-type fill.

Marley counterflow fill media is thermoformed from PVC with a flame-spread rating less than 25 per ASTM E-84 and is considered self-extinguishing. Combined with Marley XCEL® TU eliminators and louvers, these products enhance cooling tower performance while working to prevent water loss (drift) and evenly distribute air flow.

When selecting counterflow heat transfer fill, it's important to weigh several factors, especially thermal performance and water quality/clog resistance. Marley offers a range of PVC fill types and configurations to meet the specific requirements of your specific application.

REPLACEMENT COUNTERFLOW FILL COMPARISON CHART



Most Efficient[1] | Most Clog Resistant

Marley Fill Options		MC120S	MC75	FB20	DF254	MVC20/ AAFNCS	MCR16	MCR12	DF381
Common Application		HVAC		Industrial/Power					
Fill Characteristics		Cross-corrugated	Cross-corrugated	Vertical-flute	Open, Angular Cross-corrugated	Vertical-flute	Vertical-flute	Vertical-flute	Open, Angular Cross-corrugated
Sheet Spacing		0.45" (11 mm)	0.75" (19 mm)	0.80" (20 mm)	1.0" (25 mm)	0.8" (20 mm)	0.75" (18 mm)	1.0" (25 mm)	1.5" (38 mm)
Standard Sheet Thickness[2]		12	15	15	20	15	15	20	20
Support Style		Bottom Supported	Hanging or Bottom Supported	Bottom Supported	Bottom Supported	Bottom Supported	Hanging or Bottom Supported	Hanging or Bottom Supported	Bottom Supported
Water Quality[3]	Aerobic Bacteria (HPC)	10,000 CFU/ml	10,000 CFU/ml	100,000 CFU/ml and TSS £ 50 ppm OR 10,000 CFU/ml and TSS £ 150 ppm	100,000 CFU/ml	100,000 CFU/ml	100,000 CFU/ml	100,000 CFU/ml and TSS £ 50 ppm OR 10,000 CFU/ml and TSS £ 150 ppm	100,000 CFU/ml
	Total Suspended Solids (Tss)	50 ppm	50 ppm		150 ppm	250 ppm	150 ppm		250 ppm
	Oil and Grease	1 ppm	1 ppm	1 ppm	5 ppm	25 ppm	5 ppm	5 ppm	25 ppm
	Sulfides	0.5 ppm	0.5 ppm	1.0 ppm	1.5 ppm	2 ppm	1.5 ppm	1.5 ppm	2 ppm
	Ammonia	10 ppm	10 ppm	15 ppm	25 ppm	25 ppm	25 ppm	25 ppm	25 ppm
Tower Operation		Continuous or long shutdowns			Frequent short shutdowns				
Flow Rate		Normal or high; consistent			Low or variable				

Due to ongoing research, the information displayed is subject to change without notice.

[1] Efficiency vs clog-resistance is not always a one for one trade-off, this is simplified comparison for visual purposes. For more detailed information on a specific fill, please reach out to your Marley representative.
[2] The majority of fill designs are offered in multiple sheet thicknesses; contact your Marley represenative for available sizes.
[3]Bacteria counts listed above relate to maintaining fill thermal efficiency only. Sulfides and ammonia promote bacterial growth which can cause fill fouling; conformance to the limits above will assist in controlling bacteria to the recommended levels. **Biocidal treatment is required for all cooling tower installations to prevent Legionella and other potentially health-threatening bacteria. Consult a competent water treatment expert or service company.**

Any amount of oil or grease may adversely affect thermal performance. Suspended solids can lead to deposits in fill, resulting in fouling, and in basins, resulting in under-deposit corrosion. Maintenance programs should be employed to prevent buildup of solids in basins. Filtration and/or basin sweeper systems can be used to reduce buildup.

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