



CASE STUDY:

Specialized Splash Fill Solution for Large Power Plant



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Location: Alabama, USA

Products Installed: Kelly Bar (70 mil), Wire Hanging System, Splash Clips, XF150MAx, XF Column-Mount Drift Eliminator Supports, Water Diverters

Results: Improved tower performance

Overview

A 2,800MW power plant located in Alabama utilizes a crossflow, natural draft tower as part of its electrical generation process. After many years of operation, the tower was due for fill and drift eliminator replacement.

Problem

The splash fill being used at the power plant had reached end of life and was starting to fall out of the tower because the wire hanging system and fill bars were failing. To solve this problem, the owner contacted a reputable cooling tower contractor to devise a plan for replacing the fill.

Solution

The contractor reached out to Brentwood and the two companies worked together on a specialized solution for the tower. Brentwood produced a splash bar in a thicker gauge for this project, particularly 70 mil Kelly Bar. This bar-type splash fill was chosen for its durability and fouling resistance, to handle the tower's water quality.

The thicker gauge enabled the Kelly Bars to span further distances, reducing the number of supports needed while also reducing costs and installation time on the job site. Brentwood achieved this by creating a new tool and completing span testing to ensure the solution would work under the plant's specific operating conditions.

Additionally, Brentwood supplied heavy-gauge XF150MAx drift eliminators and XF column-mount supports, which are designed specifically for applications where the drift eliminators are installed vertically on concrete columns. Lastly, Brentwood developed a water diverter to route accumulated water from the drift eliminators back into the wet section of the cooling tower, thereby reducing drift flooding and enhancing performance.

Results

In the end, over 6 million feet of product was supplied for the power plant project, all of which was delivered on time, on budget, and successfully installed by the contractor. The installation not only restored the tower's capability but improved performance and further reduced costs through Brentwood's ability to produce custom products for this unique application, meeting both the owner's and contractor's needs.

Brentwood Inside: Products Installed at the Large Power Plant

Kelly Bar

Kelly Bar is a durable, high performance splash bar that features an inverted V stiffener for strength and support. It is highly fouling resistant and reduces water streaming between fill layers.



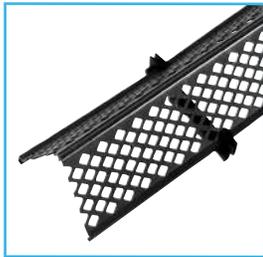
Wire Hanging System

Brentwood's wire hanging system is designed and constructed for use in the harsh environments inside cooling towers. The hangers are made from hot-dip galvanized (HDG) steel and coated in PVC to ensure long life and performance of the splash bars.



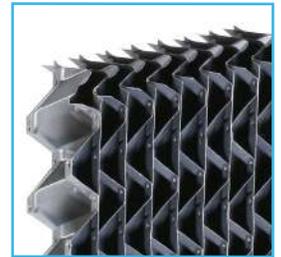
Splash Clips

Brentwood splash clips snap the Kelly Bars in place for easy installation. They also prevent wear on the both the wire hanger and the fill itself.



XF150MAX

XF150MAX provides a cost-effective solution with drift loss of 0.001%. Its high surface area and nesting design provide maximum performance at minimum pressure drop.



XF Column-Mount Supports

The XF Column-Mount Support is designed to be installed on vertical columns in large, round concrete towers and provides built-in drainage for each lift of drift eliminators.



Water Diverter

Brentwood's Water Diverter is a rigid PVC extrusion designed at a 135° angle to manage water within cooling towers. It directs water away from unwanted locations, such as access doors and drift eliminator trays.



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