The impact of non-original BAC fill on a crossflow open cooling tower (Series 3000)

Using generic, non-BAC fill in a BAC crossflow certified open cooling tower will have consequences for your cooling equipment.

Not only will it directly **impact the thermal performance** of your cooling tower, it will also have **financial** implications with **higher operation costs** and it will lead to **hygiene risks**.

DESCRIPTION

2 twin cell S3000 open cooling towers // designed for the HVAC installation of the building thermal capacity 11,9 MW // wet bulb temperature 19.8°C //
Original BAC fill has been replaced with a generic product (glued blocks)

IMPACT ON INSTALLATION USING GENERIC REPLACEMENT FILL

PERFORMANCE

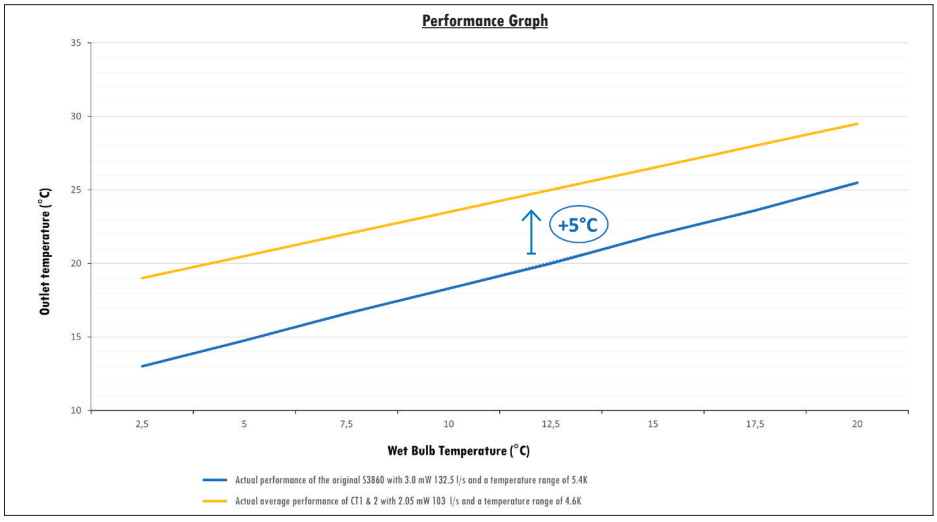
- ✓ significant drop of thermal performance (- 40%)
- ✓ lower engine speed motors

OPERATION

- ✓ fill doesn't fit as they are not designed for crossflow towers
- ✓ water flow restricted by blocked orifices

HYGIENE

- ✓ water splashes out of the fill, instead of flowing through it
- ✓ high drift losses
- ✓ non-compliance to hygiene legislation

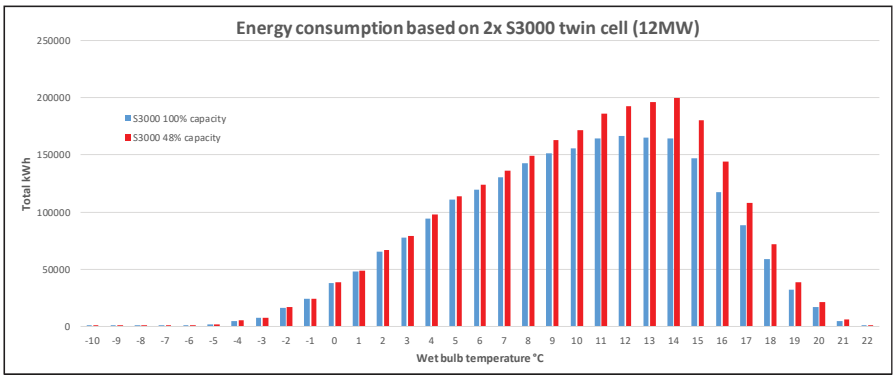


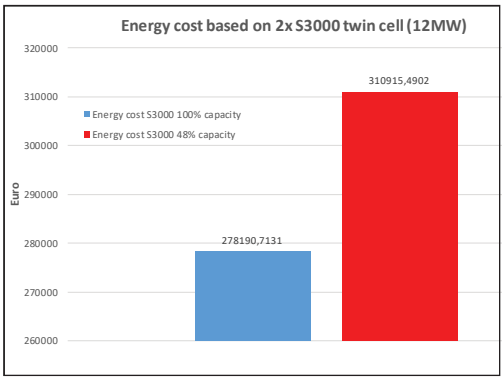
Performance tests done by BAC to confirm **the lack of performance,** as shown in the graphic.

Replacing original BAC fill with non-original glued blocks results in the exiting water temperature being **significantly higher** (+5°C average!), although the heat load was reduced from 3 to 2 MW per cell.

FINANCIAL IMPACT

Based on simulations the use of generic fill results in a HVAC load profile that requires an **excessive electricity consumption**, compared to original BAC fill.
This results in a **yearly additional operational cost of 50.360 euro** for a 12 MW installation.





In this particular case the extend of labor necessary to replace the fill and revert the installation back to its original condition proved too much. Instead, a replacement was made with Series 3000 open cooling towers, see Project Report 2101 for more details.

BENEFITS OF ORIGINAL BAC FILL

Provide your cooling equipment with original BAC fill and you can have **maximum confidence in the reliability and performance** of your BAC cooling tower.

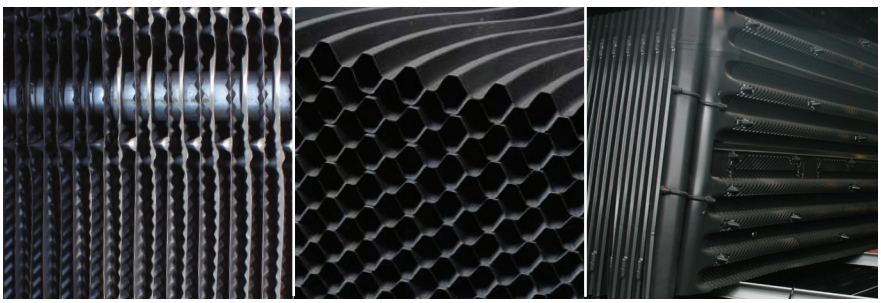
- ✓ orginal performance for the lowest system operating cost
- ✓ minimum downtime and maximum lifetime
- ✓ operational safety
- ✓ easy maintenance and cleaning
- ✓ easy inspection

365 **YEAR-ROUND RELIABLE OPERATION**

YouTube ORIGINAL CROSSFLOW REPLACEMENT FILL

TECHNICAL FEATURES OF BAC FILL

- ✓ **BAC patented** sheet design with **maximum air** and **water contact**
- ✓ Integrated **drift eliminators**
- ✓ Self-extinguishing PVC **material**, **impervious** to rot and **biological growth**
- ✓ Suitable for **in-situ cleaning** thanks to nestable fill sheet design



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BLUE by nature
GREEN at heart

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