

Case Study

Rush Manufacture Catalyst Support Grid

Challenge

A prominent Gulf Coast manufacturer and leader in separations technology in the refining industry received an urgent request from their key client to replace a catalyst reaction vessel.

The vessel design included a 63 inch diameter (multi-piece) stainless steel wedge-wire media retention support grid. The multi-piece support grid construction was a requirement driven by the larger vessel design and manhole size.

Within the vessel manufacturing timeline, the support grid media retention assembly was required in 3 weeks.

Solution

A design review with client engineers detailed operational and material requirements, as well as dimensional constraints imposed by the vessel design, allowing a final drawing and spec sheet to be submitted for approval.

Key criteria for the vessel design included:

- Buckling and collapse resistance under high load – grid must support the catalyst media, operating liquid weight and pressure differential
- Corrosion resistance – material selection offers an opportunity to extend service life while reducing maintenance costs
- Wedge-wire specifications and layout - ensure specific flow characteristics through the grid

“Delta’s responsiveness was one of the main reasons we have stayed with Delta.”

“Delta’s staff are very technical, you have an impressive facility, and you are also able to technically assist our clients, which is important to us.”

(General Manager)

“Increasing catalyst bed life increases overall profitability by increasing up time, reducing catalyst replacement cost and aligning shut-downs to plant wide maintenance schedules.”

(Excerpt from customer website)

Rush Manufacture Catalyst Support Grid



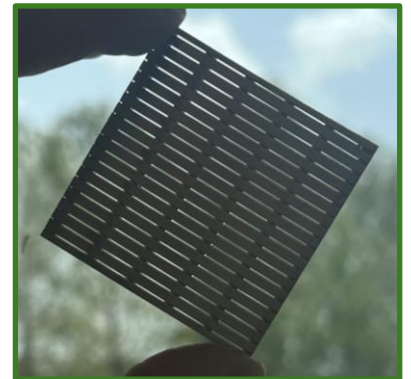
Result

The 63 inch multi-piece assembly was delivered in the required 3 weeks for installation into the vessel, as per the manufacturing plan.

The experience of the collaborative design review with Delta's manufacturing engineering experts highlighted opportunities going forward for upgrading and modernizing aspects of designs incorporating wedge-wire filtration.

The 100% Made in USA feature of Delta products will be a consideration for future work.

Delta Screens & Filtration proudly continues to fabricate filtration / separation screens for this valued customer.



Wedge wire filters are made with precision gap (slot) size to meet the desired flow requirements and solids particulate filtration.

We can provide from 0.002" (50 micron) gaps with best-in-class tolerance of +0.002"/-0.001".