



CASE STUDY

Superior Challenged to Develop and Qualify a Premium Woven Mesh Filter Product for Thermal Applications.

SUPERIOR'S RESPONSIVE DESIGN ENGINEERING TEAM FULLY QUALIFIED ECONOFLO™ THERMAL SCREEN IN FOUR MONTHS.

Superior Completion Services was approached by a major international oil company (IOC) late in 2013 with a challenge to deliver reliable sand control in a heavy oil environment. This occurred when all other standalone sand control methods did not meet expectations and the industry was nearing a cusp of a major downturn. The existing methods either plugged or required continuous cleanout to get back online with production.

The client challenged Superior to develop and qualify a premium woven metal mesh filter product for thermal applications that closely matched the price point of their standard slotted liner or one of their regular supplier's offering of a multi-pore geometry screen product.

Within four months from initial request, Superior's responsive design engineering team rose to the challenge and fully qualified a product, EconoFlo, for thermal applications.

EconoFlo was designed to reduce raw material and manufacturing cost. This was accomplished in the EconoFlo design by:

- Fabricating the weave directly onto the base pipe
- Applying industry proven resistance welding techniques to affix the multi-layer weave in place during fabrication
- Use of lower cost raw material such as 1018 carbon steel for the outer protective shroud with 316Lss end rings for the swaging process
- Offering electrical resistance welded API-5CT base pipe when it is less expensive than seamless
- Using industry proven techniques for swaging the assembly together

CHALLENGES

- » Develop a premium woven metal mesh filter product for thermal applications that closely matched the price point of the existing solution
- » Deliver a reliable sand control screen in horizontal open-hole heavy oil environments
- » Client's existing methods caused problems
 - Plugged or produced enough sand to damage the Electrical Submersible Pump
 - Required continuous cleanout to get back online with production

SUPERIOR ENERGY SOLUTION

- » Superior's responsive design engineering team fully qualified EconoFlo in four months
- » EconoFlo was designed to reduce material and manufacturing cost
- » Based on feedback from the client and after a nine-month field trial, EconoFlo had proven results:
 - No measurable sand production and no appreciable decline in total liquid production
 - The same could not be said of the other competing products
- » EconoFlo became a standard offering for thermal producers in their heavy oilfield

VALUE

- » Superior has a lower cost option for stand-alone screen completions in an open-hole heavy oil environment