Cokebusters

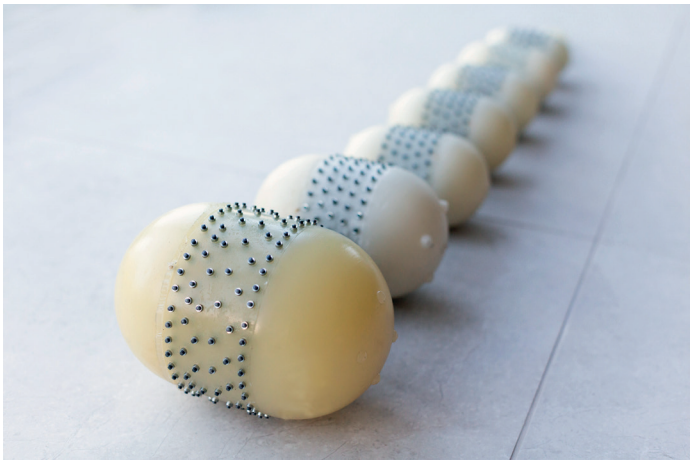
Case Study: Deploying Bespoke Pigs

Decoking with bespoke pigs

Controlled by an experienced team of operators, Cokebusters' patented scraper pigs have been shown to cut through coke with a unique combination of speed and efficiency, saving customers time and money.

Despite rapid growth in popularity of mechanical pig decoking, misgivings remain in the industry about tube u-bend damage and the questionable ability of soft core pigs to fully remove hard coke without skidding over resistant patches.

Cokebusters' scraper pigs are neither solid bodied, nor soft core. This sets the technology apart from other pigs currently in use by achieving an optimum combination of strength, durability and flexibility.



In order to ensure the exact blend, pigs are of a complex laminated construction, with each pig being produced through multiple casting processes.

Background

Cokebusters was contacted by a refinery who had identified a coke build-up of up to 25mm in 6" tubes of its crude charge heater.

The heater contained a vertical radiant section and a separate horizontal convection section which had a combination of 6" and 8" tubes with plug headers in the radiant section. The plug headers had a reduction in throat dimension of ¾" in the 8" and 1 ¼" in the 6" version.

All previous quotes from other decoking companies requested that the refinery cut out the plug headers and replace them with return bends before they attempted a mechanical decoke, as their line size decoking pigs would not be able to navigate through the reduced throat section of the plug headers.

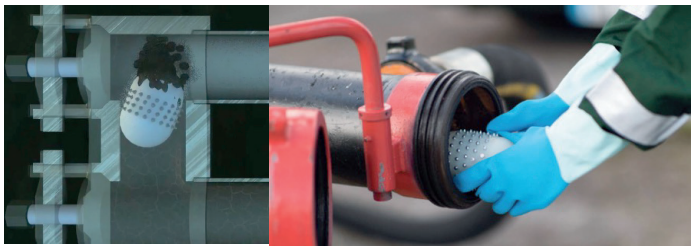
The Cokebusters' solution was to supply custom pigs that would compress sufficiently to navigate the plug headers, but still be hard enough to remove the coke deposits, thus eliminating the requirement to cut the tubes and replace the plug headers with return bends, saving time and expenditure.

Cokebusters' patented scraper pigs are manufactured at the companies UK Technology Centre. This guarantees consistent quality control and provides valuable opportunity to cast pigs to suit particular client requirements.

Decoking results

When decoking operations were completed, the refinery conducted radiography on the heater. The results showed the coke build up was removed from all but two of the radiant tubes. In these two tubes they identified small patches of residual coke. The subsequent flow test carried out on the heater indicated a 22% improvement.

Single-bodied pigs can navigate plug headers without modification



Conclusion

Cokebusters can design and manufacture bespoke pigs in-house, thus offering the ability to effectively clean a wider variety of furnaces without modification, reducing costly downtime and additional mechanical works.

Cokebusters welcomes customers to oversee the manufacture and witness trials on the companies test loop.

Cokebusters Ltd
Chester UK
Cokebusters Inc
Houston TX

+44 (0)1244 531 765
+1 281 537 7475
www.cokebusters.com
enquiries@cokebusters.com