

Strip search

Stoves, a manufacturer of tubular furniture, searched for an environmentally-friendly stripping system and came up with one that was business-friendly as well.

Rajiv Johar of AR Industries (Printek) reports.

“Paint jigs come out as clean as new and are turned around in one hour flat. A vast improvement, and in safety too” - Stoves, manufacturer of tubular furniture, refer to the Fluidclean 'hot sand' Fluidbed stripping system they now use. But, says the supplier of the 'Fluidbed' jig cleaning unit - A R Industries (Printek) - the comment underlines the importance Stoves rightly attach to the subject of jig cleaning and how productive the unit has proved to be in operation.

It has not always been that way, though. Its predecessor, a pyrolysis burn-off oven, was a nightmare, reports Ted Cahill, senior project engineer. Because it took nine



hours for one batch it just didn't have enough capacity. It was also inefficient, prone to exploding, and the end result was often questionable. Blackened ash frequently needed chipping off the jigs.

Working with clean jigs is obviously important to Stoves whose quality of powder coating – something they are rightly proud of – relies on good metal-to-metal contact for the electrostatic action.

The Fluidbed system strips the jigs in a medium of hot, active sand, hence the term 'fluidised bed'. The beauty of the system is that it is largely self-powered, and therefore works out very economical. The energy from the paint degradation process is absorbed by the sand particles. In most cases the cost savings against a burn-off oven are substantial. In one recent case the savings were around £65,000 per year.

Though not turbulent enough to be abrasive, the sand scours the surface leaving the metal completely paint-free and undamaged. In fact, the occasional reject part treated this way can be fed straight back for recoating. Maintenance is virtually nil and the sand merely requires the occasional top-up.

Shaped like a deep bath measuring 3m x 0.8m x 0.8m, Stoves' machine is large enough to take, if necessary, any of their reject panels. The great advantage, though, as well as this versatility, is the speed of throughput. One hour instead of nine, as before, makes a colossal difference in capacity. And through this, the knock-on gains are seen in the better control, more stable quality, paint shop flexibility and, ultimately, savings. "It has brought a marked improvement in paint plant efficiency," said Ted Cahill.

Sited immediately outside the paint plant – one advantage of its inherent safety – an operator can slip out to load/unload and switch the immersion baskets that go into the vessel.

The operation is fundamentally clean. Apart from background heat (which makes the area popular in the winter!), working conditions are excellent. There is no odour and no risk. The paint is thermally degraded within the sand bed and the toxic gases are then oxidised at the bed surface using a 'flameshield'. Inorganic particles are abraded by the sand particles and blown out of the sand bed and captured in a filter system. Because the unit is inherently safe, it can be sited close to the paint shop, thereby minimising handling.

For Stoves it represents a sound, long term investment benefiting both their performance and the standards of finished quality that their customers expect of them.

The Fluidbed system is sold by AR Industries (Printek).
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