

F116 Flogas and Metallisation Arc 528 Systems

Flogas Brings Corrosion Protection In-house

Flogas UK Ltd, one of the UK's largest LPG suppliers, has moved the application of its corrosion protection of LPG bottles to its in-house facility at Staveley. Using Metallisation's Arcspray 528 Systems, which they have recently purchased, they can spray around 4,000 bottles per week.

The facility at Staveley has been updated and, with the addition of new machinery, Flogas can now refurbish and repaint 100% of its cylinders within a timescale to suit their customers' needs. The cylinders are all LPG, propane gas or butane gas bottles, and range in size from 3.9kg to 47kg, with over 13 different variants.

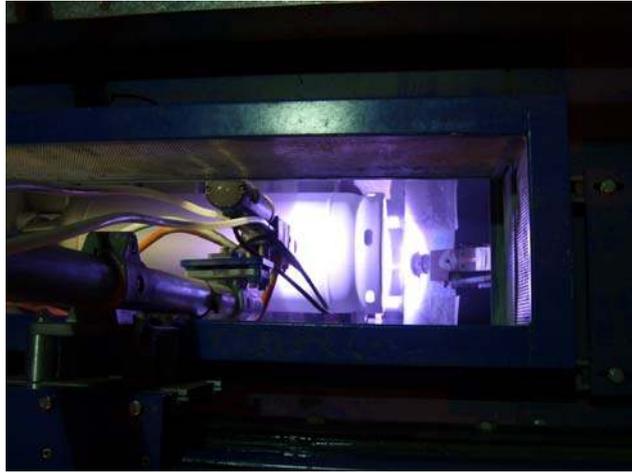
Flogas opted for the Metallisation Arc 528 System as it provides a consistently high quality metallic zinc coating and can spray zinc at a rate of up to 103kg per hour. An additional feature of the Arc 528 is that it is easily configured, enabling it to integrate well with existing production systems.

When bottles arrive at the Staveley plant they are pre-sorted and checked for dents, defects or damage of any kind. They are then de-gassed and de-valved before being put through a hydraulic pressure test. Each bottle is then subjected to an internal inspection with a boroscope before being transferred to the coating plant. There the bottles are prepared for spraying by being grit blasted, to industry standards, in the new mechanical blast booth.



With the bottles still in their horizontal position following the grit blast process, they are transferred from the blast room to the spray booth. Zinc is applied by three Metallisation Arc 528 systems: Two Arc 528/S250 amp systems apply a coating of 75 microns to the base of the cylinder and 50 microns to the top, while an Arc 528/S450 system traverses along the bottle and applies a 50 micron coating to the sides.

The automation was provided by the main contractor, EMS Surface Technology Ltd, based in Reading, UK. Working closely with Metallisation, Flogas were supplied a fully integrated metal spray cell including dust and fume extraction system. The metal spraying of the bottles is automatically controlled by the



machine and simple adjustments can be made to accommodate different bottle sizes or coating requirements. The experience that Metallisation and EMS has regarding bottle spraying is significant and design features that minimise the influence of dust on reliability have been incorporated into the machine.

The zinc wire for metal spraying is also supplied by Metallisation in 250kg, fibre drums. This enables long periods of spraying without the need stop to perform wire changes and metal dispensing cones on top of the drums prevent contamination of the wire. The metal spray systems include sensors to detect when wire has run out and the machine automatically stops and awaits an operator to re-load the next batch of wire.



The bottles then exit the spray booth and are returned upright, base down and carried through to the wet paint section via conveyors. Painting of the bottles is an automated process, where two-pack epoxy paint, in Flogas colours, is applied before oven drying. Once dry the Flogas logo, safety data, new tare weight and test dates are all applied by screen printing and the application of a metal data disc. The bottles are then purged and re-valved and despatched to on or off site filling plants.

Simon Eldridge, Cylinders Supply Chain Manager, says: “Our decision to extend our painting facility and bring the zinc spraying treatment of our gas bottles in-house was based on a number of key strategic decisions. Whilst there are some economical considerations, the major benefit is that we can now manage the refurbishing and repainting process to suit the demands of our customers. We are much more in control of timescales and customer deadlines, which is very important to us.”

For more information on Metallisation equipment contact Stuart Milton, Sales and Marketing Manager on +44 (0) 1384 252 464 or visit www.metallisation.com