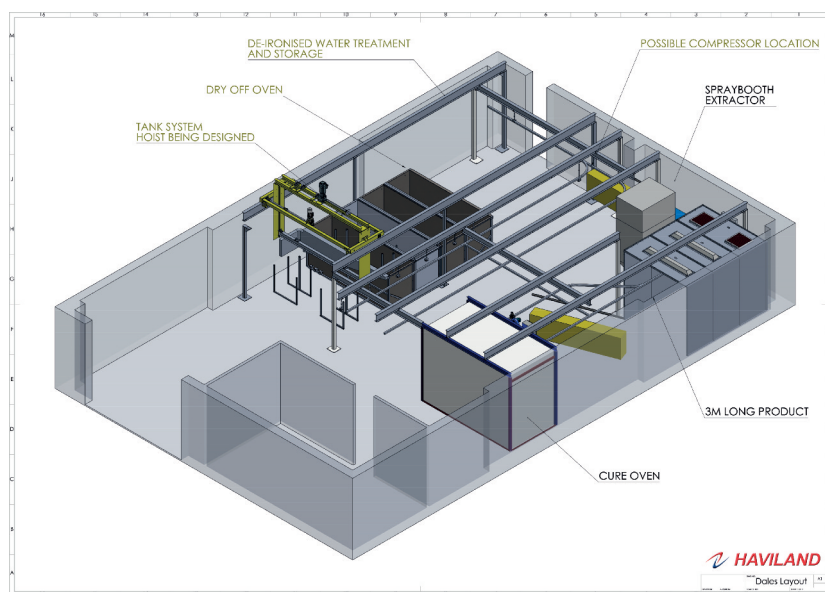


20 COMPANY PROFILE

Haviland's answer to Dales Fabrications' request for aluminium powder coating plant to Syntha Pulvin's 25-year guarantee standards



Gardacid® and Okemcoat-4500®. Finally, products enter a low temperature electrically heated air recirculated top loading process oven for drying. Haviland provided the services to the system, which included mains water, a demineralised water plant with a holding tank, electrical services and mains drainage.

splits in a "Y" section to enable flight bars to be presented in the oven at 90°, this enables the oven hot zone to be completely filled.

The oven is a Saracen gas fired oven and incorporates air recirculation system pressurised ventilation and is manufactured from Aluzinc coated steel. To improve heat transfer the gas flame is entrained within a stainless-steel heat exchanger. The Saracen oven, manufactured since 1979, has undergone continuous improvement where today we consider it is undoubtedly the most efficient unit available. The new control system utilising HMI which allows pre-programming.

In the spring of 2018 Dales Fabrications Ltd of Ilkeston, manufacturer of aluminium rainwater goods, fascia, soffits and external building shades, contacted Haviland with a view to upgrading their powder coating facility. The brief was to provide a pre-treatment system and powder coating facility with a specification that could satisfy the industry-respected approval standards of Syntha Pulvin, this being the standard that Dales set to establish the suitability of their third-party powder coaters. The constraints were to fit the whole of the plant within a footprint of 1442m, this being a new facility adjacent to their existing production plant. Over the next few months various layouts were developed culminating in the one shown. A concept incorporating dip tanks with powered overhead gantry system, progressing baskets of components through an Okemcoat-4500® wet pre-treatment with oven dry, and from there, transferred to an overhead conveyor provided with flight bars

to marshal products into the powder booth and gas fired oven for eventual unloading adjacent to despatch.



Dales products consists of a number of aluminium extrusions, large contoured panels and bracketry, the maximum length of which to be processed was agreed at 3m. These products arrive in the WIP area to unload on pallets and then loaded into a basket which enables products to be loaded at an angle to help drainage when passing from one tank to the next.

A gantry system was designed specifically for the process connects to the baskets. Operators can then progress the product through heated Gardacid® etch/de-grease, towns water rinse, de-mineralised water rinse and then Okemcoat-4500®. Chemetall, part of the BASF group, manufacture and provide both of the pre-treatment chemicals relating to this project,

Product Marshalling

From the pre-treatment to powder booth a push/pull overhead conveyor system was installed, this enabled the products to be transferred onto specially manufactured flight bars. The flight bars transferred to the powder coating booth with the conveyor mounted centrally at high level.



The booth was designed to be operated with low level extraction at the rear, provided by a fabric extraction system. The booth was also designed to accommodate larger complete fabrications. Lighting within the enclosure is provided by LED strip lighting. Operators have access to both sides of the conveyor. The powder application system incorporating a GEMA Optiflex gun.

On completion of the powder coating the flight bar is progressed to the powder coating oven, here the conveyor system



After curing, the system automatically shuts the burner down and runs the fan for a pre-set time before shut off. Operators can remove the product to the unload area which in the layout is adjacent to the working area at the beginning of the cycle.

On completion of the project Dales organised an open day inviting their local MP Maggie Throup and all who were involved with the plant design. The Managing Director, Karl Prosser expressed his thanks to Haviland Ltd in providing a cost-effective solution, professionally designed and installed; Haviland Ltd wish Dales Fabrications all the best in the future.



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