

Scottish Galvanizers offers the largest galvanizing facility in Scotland, with a fast turnaround, unrivalled customer service, top quality product and superb value for money. The Glasgow based business is part of the UK wide Wedge Group Galvanizing LTD. The company's experienced team is always ready to provide free advice about galvanizing requirements and to assist with steelwork design for optimum galvanizing quality. In addition the Glasgow facility offers a state of the art in-house blasting facility offering pre-galvanizing treatment and well established links with highly reputable powder coaters or painters for post galvanizing treatments. All works undertaken is hot dip galvanized strictly in accordance with BS EN ISO 1461:2009 and under the control of ISO 9001.



Excellence in Galvanizing

**WEDGE**

Business Improvement Academy Project

John Hamilton, QA Manager at Scottish Galvanizers, works closely with the network of 14 plants across the UK within the Wedge Group. As the largest galvanizing plant in Scotland the site has a throughput of approximately **500 tonnes** of steelwork per week. This has steadily increased over the last few years resulting in a record tonnage of 24k tonne galvanized last year. Galvanizing is a corrosion protection process that has been around for over 150 years, the galvanized coating will protect products from 25 years up to 100 years depending upon the harshness of the environment in which its situated.

The site can galvanize a piece of steel from a 1kg bracket up to a 20 metre 10 Tonne beam section. The process has many stages:

1. Ensuring the material is fabricated for galvanizing and is vented properly before entering the production line.
2. The pre-treatment process which consists of a heated alkaline degrease tank which removes oils and grease from the steel.
3. Hydrochloric acid tanks that remove rust and mill scale from the material.
4. Washing excess acid off in a water rinse tank.
5. Heated flux tank which heats the job and coats the material with a thin layer of chemical which is needed for the final step.
6. Material is dipped into a molten zinc bath that is kept at a temperature of 450°C, this creates a hassle free coating on the product that can also be aesthetically pleasing.

Often waste goes unnoticed within the company "**Scotoma**". Those who have been working at Scottish Galvanizers for a long period of time have become blind to it because they are so used to it. Recognising that this happens, John took a step back and looked at the processes from a different perspective and identified a number of areas of waste involved in the galvanizing process:

**Re-Work** - Work that has come through the process but once galvanized is not up to the EN ISO 1461 standard

**Chemical Waste** - Incorrect storage causing damage and stock waste and not in the area where it is used, wasting time

**Renovation** - Extra work required after the galvanizing process to keep jobs within the standard. This could be filing, grinding or renovation of small localised uncoated areas. All time wasted.

And finally the:

**Zinc** - This is the biggest cost to the company so minimising waste in any way is vital.

Areas of Wastes



## Making Improvements

**A new 8D improvement initiative** has been introduced with full use of the defect system and improvement team on site. With robust measurement on process compliance the company has introduced 5S thinking to process areas that had not been looked at before. A new chemical storage area was created moving from one side of the factory to the other for better process flow, easier access and less movement during additions to process tanks.

Defects are now recorded for all material requiring additional work after galvanizing or when work is rejected and reprocessed for that defect reason. All information is recorded within the 8D system and graphs are produced to highlight areas for root cause analysis. John chose avoidable uncoated areas for his 8D project during the academy and created Ishikawa diagrams to focus on all potential root causes. This was followed up with 5 Why analysis to drill down on each opportunity and get to the true root cause of each issue. The aim of the project is to reduce avoidable uncoated areas by 50% in this financial year.

New weekly measures have been introduced with a view to improving process compliance. Since introduction, compliance measures have **improved from 56% to 86%** which was slightly short of the 90% target. Also re-galvanising has **reduced from 1.18% to just under 0.86%** over the financial year with the yearend target set for 0.51%

The chemical storage area now has a better layout following a Kaizen approach and is stored in the correct location reducing the chance of damaged stock. As a result of the 8D, new dosing systems have been introduced to the chemical process, along with higher concentration tanks to reduce uncoated areas. As the company develops more improvement teams the workforce is more engaged and are more interested in what is going on around the business.

## Business Benefits

- Unavoidable uncoated errors **reduced by 50%**
- Increased resource for Value Add processing
- Reduced Re-galvanised product
- Improved flow through to customers
- Improved Process compliance
- Reduced rejects
- Improved workforce participation and morale.

[www.wedge-galv.co.uk](http://www.wedge-galv.co.uk)

*“The course was highly enjoyable and gave me the chance to learn new things that I can use back in the business. Working alongside delegates from other companies was a bonus as we all face similar challenges in the workplace”*

John Hamilton, QA Manager