Possilpark Shotblasting
73 Dunn Street
Glasgow
G40 3PE

Case Study 2 – Bedplate Fabrication

A client required us to blast and paint a bedplate to their own specification as shown below:

Coat	Manufacture	Product	W.F.T. (Microns)	D.F.T. (Microns)	Colour	Notes
1.	International Paints	Interzinc 52	102	60	Grey	N/A
2.	International Paints	Interzone 505	220	200	Off-White	Full Coat
3.	International Paints	Interzone 505	220	200	Light Grey	Full Coat
4.	International Paints	Interfine 691	113	60	Grey (00-A-01)	Top Coat

As well as being required to blast and paint the bedplate we were required to do various inspections throughout the processes and add them to a Quality Assurance pack to meet our client's requirements. The inspections that were required were:

1. Salt Test – performed after the steel has been blasted; establish the salt content within the blasted steel.
2. Textex – performed after steel has been blasted; establishes the blast profile.
3. Holiday Testing – performed after the steel work has had its 3rd coat; establishes if there are any pinholes or cracks in the paintwork which could lead to breakdown areas.
4. Independent final inspection with a NACE qualified paint inspector

The bedplate was delivered in a 'black steel' state after it had been fabricated by the client.

The bedplate was then moved in our blasting chamber where it was blasted to a Swedish Standard SA 2 ½. Once blasted the blasters cleaned down (Removed any loose shot from the surfaces) and checked the bedplate for any areas that were missed during the blasting process, once the blasters were happy the bedplate was checked by a supervisor.

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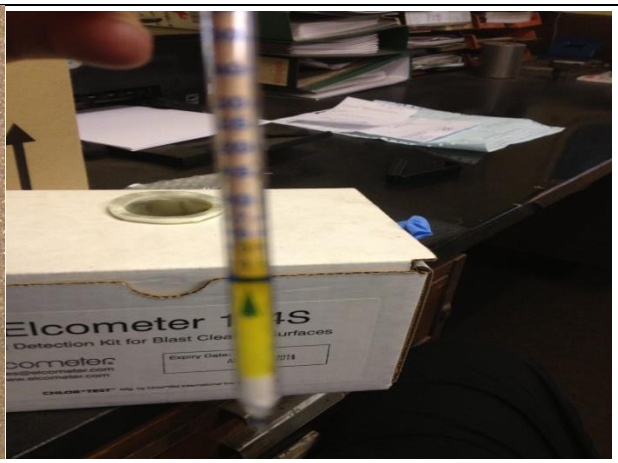
After the blasting had been completed and checked some QA testing was required:

1. Salt Test – This test was performed using an Elcometer 134S which requires filling up a latex sleeve with a sterile solition and applying the sleave with the solition to the blasted steel for a period of 2 minutes. Once the sleave was removed from the blasted surface a Titration Tube was incerted to the solution for a period of 90 seconds and the reading was recorded.



2. Testex – This involves using a pad and applying to the blasted surface, once applied the pad needs to compressed into the blasted surface. Once compressed against the blasted surface a reading of the profile was taken using a Elcomentre 124 and these readings were then recorded.

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After the blasting had been completed and the necessary checks and tests had been carried out satifactorily the bedplate was ready to be primed. This involved the painter cleaning the surface from dust using compressed air to clean out the bedplate. Once the bedplate was clean the bedplate was primed using a metallic rich epoxy primer.

Once the primer had been applied and was given the required time to cure the next coat was applied, this was a high build glass flake epoxy (Interzone 505). This was applied with the appliaction of 2 full coats, we used contrasting colours of Off White and Grey as by doing so it is easier for the painter and inspector to identifiy any misses between coats. Due to the nature of the fabraiction all the welds and difficult areas were required to be stripe coated before full appliaction. A stripe coat is where areas receive a brush before reciceveing a full coat by airless spray, this is to ensure full coverage of the welded or difficult area.

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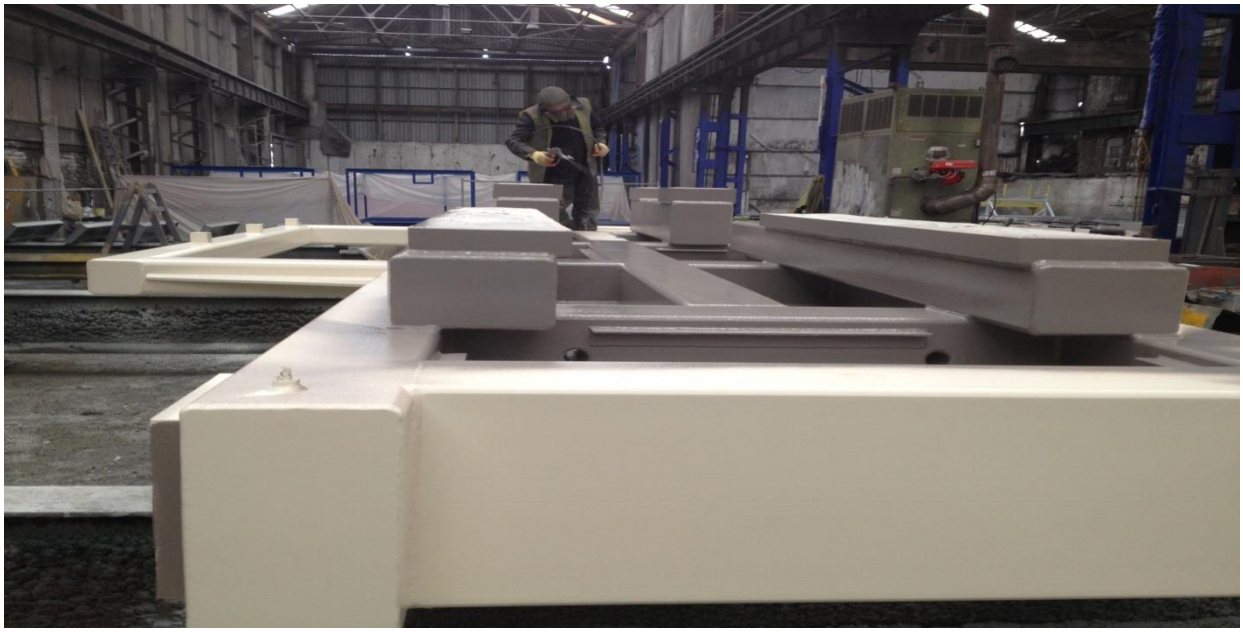

During the appication of Interzone 505 various checks take place. These checks include the following:

1. Visual checks – this is where the bedplate is checked for any missed areas between coats aswell as for any runs and sags which require to be rubbed back.
2. Dry Film Thickness (DFT) checks – is where a gauge is used to measure the thickness of DFT of the paint, when areas are found to be low they are built up with more paint and when areas are grossly over thickness they are rubbed back.

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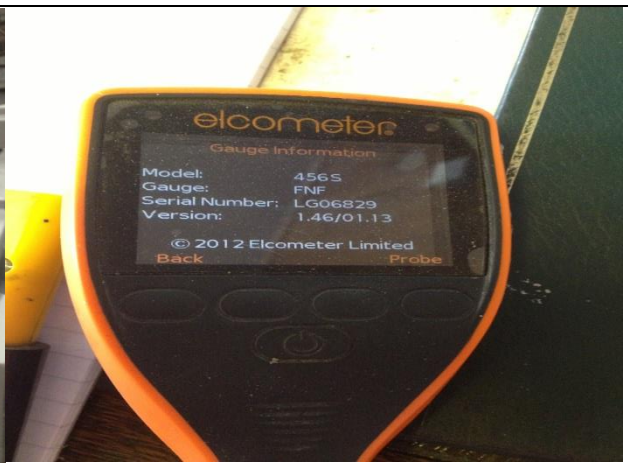
3. Hoilday Testing – is where a gauge is used to detect pin holes and cracks in the paint. This works by applying an electrical current through the metal and brushing over the bedplate with a probe, when a pin hole is detected the the gauge will beep, these areas are then marked up and remedial action will be taken to rectify the problem.



Appliction of the final coat expoy acrylic isocyante free (Interfine 691) is carried out once the material is of a suitable standard; free from runs and sags and up to the required thickness. The top coat is again stripe coated into the difficult areas by brush prior to the full application of the coat using airless spray.

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