

A Message From Our Managing Director

Welcome to this year's first edition of Corrocoat News. Whilst I appreciate that business may have been very slow in the last year, I'd like to firstly start by thanking all of our partners who were able to contribute content for this Newsletter.

We have lots of exciting case studies to share; from corrosion repair on stoplog gates for the Ministry of Defence, in the UK (page 3), to our partners in Qatar and their recent contract for the country's sole transmission and distribution system owner and operator for electricity and water; repairing and restoring a portable split case pump (page 4).

We've all heard our clients say how adamant they are that particular components are "unrepairable". As we all know even the most severely damaged piece of capital equipment can usually be refurbished at a fraction of the replacement cost and the case study from our Kuwaiti partners, Al-Sabaiea National, on page 7 is a great example of this.

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Although we've all been through a very tough time with the global pandemic, there have been a number of contracts won with major clients around the globe. Our Saudi Arabian licensee, Altrad, won a major contract with a leading producer within the field of energy and chemicals (page 3). Whilst on page 7, the case study showcases a project with another international high profile client in the oil and gas industry and the coating of over 300 new Pipespools, by the team in the UK.

Our Czech partners – Corrotech, feature on page 6 with a case study for a project where they provided corrosion protection and abrasion resistance for two gas ducts of 630m², for customers in the power generation industry. This is followed by a story from our partners in India (page 5) and their remarkable achievement on a turnkey coating project, at major refinery in the state of Punjab, in Northern India.

It is these exciting projects and new innovations such as Fibrecoat (more information on this page), throughout even the toughest of times, which uphold our global reputation and position as leaders in the industry. As we continue to operate from a unique position offering corrosion engineering and long-term protection to all, we push forward as always with real momentum.



Graham Greenwood-Sole
Managing Director

Product Showcase

New Trials for Fibrecoat

Material type:

Corrocoat Fibrecoat is a glass fibre reinforced vinyl ester glass-flake coating, developed for use as a high-performance lining and rehabilitation material for thinned/corroded pipes and where additional properties are required.

Designed to be applied by the Corrocoat Agmec airless spray equipment, recent modification to the Agmec small bore pipe sprayer now allows the material to be successfully applied in pipe diameters down to only 150mm in diameter.

Trials also showed that small holes can be successfully covered and sealed using only two coats of Fibrecoat.

The new equipment will allow smaller bore pipework to be fully refurbished without the need for expensive excavation and disassembly, generating significant savings in cost and time.

The product has great structural properties for a severely damaged pipe, Fibrecoat will create a pipe within a pipe.



System Benefits:

- High performance vinyl ester pipe lining containing both glassfibre and glassflake.
- Rehabilitation and lining for thinned and corroded pipes
- Provides additional tensile strength.
- Highly abrasion resistant, suitable for pipes carrying solids such as sewage works.
- Can be applied in a single pass up to 3000 microns per coat, saving time on curing between multiple coats.
- Airless spray application by Agmec pipe sprayer on pipes between 6-24 inch in diameter and on pipe runs up to 100m.
- Expensive excavation and disassembly of pieces avoided. In many cases pipes can be grit blasted and coated in situ, meaning substantial cost and timesaving, and less downtime.



Stoplog Gate Corrosion Repair for the M.O.D

Corrocoat UK recently won a contract with the Ministry of Defence to provide corrosion protection for 2 stoplog gates, 53 brackets and 2 column pipes. The equipment would be subject to salt-water conditions at ambient temperatures, therefore the coating system used, required excellent resistance under aggressive immersed conditions.

With this in mind, the Polyglass VEF coating system was recommended for all of the external components, due to its superb performance properties in immersed environments. Polyglass VEF boasts excellent resistance to solvents, acids and de-mineralised water, as well as exceptional flexibility undercutting resistance and sliding abrasion resistance, making it an ideal coating system for the job.

Firstly, the bronze trim and any areas not requiring coating application were masked to be protected. Abrasive blasting of external surfaces in

accordance with ISO 8501 – 1 Sa 2½ surface cleanliness was carried out to achieve a minimum surface profile of 50 microns. A final blow down, sweep and thorough vacuum clean was then completed to remove any dust, and finish the preparation of the equipment ahead of coating application.

Polyglass VEF (black) was applied to the minimum DFT to 1250 microns to all of the internal surfaces. This was done via airless spray with relative humidity <85% and steel temperature 3°C or greater than the moisture dew

point. A single coat of Plasmert ZF was applied to the externals of the two column pipes, and thickness testing and spark test at 17kv, following the adequate cure of the coating.

The team exceeded the client's expectations completing the project and reinstalling the gates ahead of the agreed schedule. As a result of the work carried out to protect the components from future corrosion, the service life of the equipment is estimated to have been extended greatly.

Stoplog Gate



Column Pipes



Brackets





Corroglass Treatment of MCW Pump Impeller

As part of a sub-contract with long term client Sulzers, Corrocoat UK recently worked on a project to repair and coat a main cooling water pump impeller, which they had previously coated 15 years ago when the impeller was brand new and first put into service.

The pump was returned for maintenance and repair, and despite 15 years of service operating in water with high sand content, the damage to the impeller was impressively minimal, with just a few areas of mechanical damage and slight water damage and discolouration along the vein tips and edges.

To begin, the impeller was flash blasted with fine grade abrasive. A fine grade was selected to avoid damaging the original coating, which had remained in excellent condition. Once clean, the surface was 100% spark tested to

identify any damaged areas. DFT's were taken all around and found to be around 1.5mm, which was the original specified thickness. There were 8 small damaged areas in total, which were blasted to Sa 2½ cleanliness and a surface profile of 50 microns.

They were then repaired with Corroglass 600 series, using 632 to prime the bare steel and then 602 was applied in multiple coats to build up to the required thickness and re-profile to the existing coating. On completion of the Spark/DFT inspection, a topcoat of 652 white was applied to the full impeller.

Also, following the blasting process, the ring element of the pump was found to be severely damaged. In order to address this, the impeller was returned to Sulzers and a new stainless-steel ring was applied to add additional protection to this part of the component and limit future damage.

Impeller Before Repair



Impeller After Repair



The impeller was then sent back to the Corrocoat workshop to be coated with Corroglass 600.



Corrosion Protection for Qatar's Sole Electricity and Water Distributor

Kahramaa is the sole transmission and distribution system owner and operator for the electricity and water sector in Qatar. They recently required internal corrosion protection of a potable split case pump, which had been in operation for several years. Upon inspection by Alhuda Corrosion Treatments (our partners in Qatar), substantial corrosion was found on the internal pump body, alongside general pitting and metal erosion.

In order to repair and extend the life of the pump, Alhuda Corrosion started with abrasive blasting on the internal pump surface. Chloride testing was conducted before and after the blasting to ensure salt water levels met the required low specification in the substrate, ahead of application. Corroglass Lamination

Resin 600 and multi axial fibre cloth was applied on the pitted and eroded areas, reconstructing and restoring them back to the original size and shape.

Following completion of the lamination process, Polyglass VEF was applied by air less spray to 1000 micron on the internal surface of the pump. Polyglass VEF is suitable for many chemical environments within the full pH range.

A quality control thickness check was carried out to ensure compliance to the written specification with coating integrity assured by a high voltage holiday test. Polyglass VEF will protect the cast iron substrate and offer good resistance to abrasion for many years, considerably extending the service life of the pump.

Pump Before Repair



Pump After Repair





Remarkable Achievement on Turnkey Coating Project by Kirloskar Corrocoat Pvt. Ltd.

Kirloskar Corrocoat has become the only Indian company to successfully coat the internal surface of a steel chimney stack, standing at an enormous height of 130m. The chimney stack, located at a major refinery in Northern India, was repaired in situ during a scheduled shutdown at the refinery, within a specified timeline of just 28 days.

This full turnkey project required a suspended winch platform to enable the coating team to manoeuvre up and down the chimney internal, whilst carrying out the required work. The team cleaned the internals with high-pressure water jetting, to remove the dust inside. The project was completed during the winter months, with temperatures ranging from

5-15°C and foggy throughout. The team used dehumidifiers to control the environment during the application.

The chimney will be operating without flue gas desulfurization for a few years, at a temperature in the range of 135-150°C and it was confirmed by the client that if the preheater failed, the temperature could rise as high as 300°C for between 15 to 30 minutes. With this in mind, Corrothane XT was the coating system selected for this project. This three-pack cold cured vinyl ester urethane polymer alloy with high performing glass flake is an ideal choice for coating both steel and concrete surfaces, where good chemical and high temperature resistance is required. The coating was manufactured and supplied directly by Kirloskar Corrocoat.

Despite extremely tight timescales and undesirable cold and foggy weather conditions, the project management team along with internal and external stakeholders were able to complete this project on schedule and to exacting standards.



Coating over 300 new Pipespools ahead of shipping to Angola

Corrosion protection was required on over 300 carbon steel bilge pipespools, which would be subject to seawater service conditions on a FPSO. The client, Aker Solutions who are leaders in the oil and gas industry, required the pipespools to be coated ahead of being shipped to Angola, to protect and extend their service life.

Measuring only 2" in diameter, the internal surfaces of these small pipes were coated with Polyglass VEF. For straight lengths, pipe spinning methods were used to ensure uniform thickness and for any pipes with bends flood and drain methods were used to coat the internal

surfaces. For the externals, the edges were dressed and welds prepared to comply with Corrocoat spec. 6/10, Weld finish, which is extremely important for long term coating performance. The external surfaces were stripe coated with 2 coats of Plasmatec ZF and a single coat of Corrothane AP1.

Each spool was assigned a spool identification number by the client and this number needed to be reassigned and noted on the packaging of the spool once it had been coated and prepared for dispatch. The pipes were air-freighted to Angola.





Protection for the Power Generation Industry

Our Czech partners, Corrotech, as part of their ongoing relationship with customers in the power generation industry, were approached to provide corrosion abrasion protection for two flue gas ducts.

Each carbon steel duct was 630m² and required the removal of coarse sediments as well as the previous coatings and the decontamination of soluble salts from the surface. Following the first stage, surface preparation to ISO 8501-1 with cleanliness Sa 2½, an application of primer Polyglass PPA (our peroxide catalysed, glass flake polyester primer) was applied. The primer was selected to provide sufficient time for the internals of each duct to be blasted and coated.

Stripe coating of Polyglass VEHA was then carried out, with Corrofill VE being used with the paint system to compensate for the unevenness and profiling of all welds. Lamination

Resin 600 and Quadraxial fibreglass cloth 600g/ m² were then applied to the whole surface, covering the fixtures and fittings of the internal surfaces and offering reinforcement to the inner sides of the manways.

The ducts were finished with an application of abrasion resistant Polyglass VEFWR and quality assurance procedures were completed as per the designed inspection and test plan. This project was carried out alongside another job on site to repair and protect an absorber, which was completed by 4 engineers over a period of 8 days.



Polyglass VEF Aids Leading Global Energy and Chemicals Producer

Saudi Aramco is a leading producer of energy and chemicals that drive global commerce and enhance the daily lives of people around the globe by continuing to deliver an uninterrupted supply of energy to the world. They pride themselves on being part of the global effort towards building a low carbon economy. Saudi Aramco recently put out a tendering contract for corrosion protection on a number of components and ongoing work. Our Saudi Arabian licensees, Altrad, won the contract and are now working with the company on a number of different projects over a period of two years.



As part of a series of initial projects, a number of pipespools required repair and restoration from corrosion damage at a seawater injection plant. The project ran over 9 months and Polyglass VEF was the primary coating system used throughout. Polyglass VEF was the ideal coating system for this project, protecting the spools from future corrosion damage from seawater and in turn extending their service life considerably.



Repairing the “Unrepairable”

A petroleum client in Kuwait deemed one of their impellers “unrepairable” due to corrosion from salt water and an accelerated rate of corrosion as a result of extreme hot weather - Kuwait is recorded as one of the hottest countries in the world, with temperatures averaging as high as 54°C. The instruction was given for our Kuwaiti partners, Al-Sabaiea National, to “completely replace it with a new impeller” as the equipment specialist stated it was unrepairable and would not be able to function properly.

With the application of Corrocoat’s Polyglass series, the Corrocoat team were able to refurbish and fully restore the impeller back to working condition, despite the testing weather conditions, which made it extremely difficult for the team to work in the exhausting heat and humidity. When presented to the client the impeller was unrecognizable, almost like new.

Needless to say, the client was extremely impressed with the ability of Al-Sabaiea National and the product used to repair the impeller from the condition it was in previously. They were also very impressed with the costs saved from not having to buy a completely new impeller and the fact that the repaired and newly coated impeller would now outlast the service life of a brand new one.

Surface Preparation



Surface Primed



Coated with Polyglass



Up Coming Events...

Engineering and Technology Solutions Exhibition 2021

We will be showcasing our high quality and high performance products and services at the Engineering and Technology Solutions Exhibition taking place at Babcock Devonport Royal Dockland, Plymouth on 7th October 2021.

We will be exhibiting at the Offshore Wind North East 2021 Conference and Exhibition, which is taking place on the 1st and 2nd December, in Sunderland.

Offshore Wind North East (OWNE) is a leading event that explores themes and opportunities in the offshore wind sector. This year they anticipate over 500 attendees.



New Appointment

We recently welcomed **Nadia Burgess** to the company. Based at our **Leeds Head Office**, Nadia oversees all of the **marketing, PR and advertising activity for Corroserve and Corrocoat.**

Nadia has over 10 years' worth of experience working in the marketing industry, covering all areas of integrated marketing communications within the UK and across international markets. She has worked in variety of industry sectors across both B2B and B2C markets.



For all the latest news, events and updates, join us on **LinkedIn.**

Send us Your Stories!

Tell us what you have been up to!

We really want to hear about your case studies, stories, work – basically any projects or news you would like to share and allows us to shout about to a worldwide audience. Your stories could be featured on our social media channels, on the official company website, in media publications both national and international as well as the Corrocoat Newsletters.

All we need is:

A write up/explanation of key projects/work you have carried out:

- What work has been carried out?
- Where the work took place?
- Any other important/useful or interesting information.
- Supporting high-res images.

Please get in touch to submit any content or discuss details further with Nadia at nadiab@corrocoat.com

Corrocoat – Leading the Field

Since 1974, **Corrocoat** has led the way in anti-corrosion coatings. Our products have helped protect all kinds of industrial giants – some of the biggest names operating in power generation, oil and gas and petrochemical industries – from the harmful effects of corrosion.

At **Corrocoat**, we save our customers from expensive replacement costs. From traditional paints that repair and maintain, to unique glass flake coatings which excel in advanced corrosion protection.

Whatever the industrial sector, and whatever the application, we have a bespoke product and a specific set of skills to help. With a blend of high-grade solutions and highly-technical expertise, we're proud to provide corrosion engineering and long-term corrosion protection to all.