

Atlac E-nova Gasscrubber

Akzo Nobel Thioplast Chemicals, Greiz

More than a century ago, Treuter&Golle started production for chemical additives for captive use. In the century to follow, the company, known now as Thioplast in Greiz, evolved to production of organic additives for the plastics and processing industry.

To clean the air released from the production, alkali - and solvent resistance was required for the construction of a gas scrubber .

AKZO NOBEL - THIOPLAST

In the last ten years development activities for polysulphides have been intensified and production capacity has been substantially increased to more than 12.000 t per year (status year-end 2002). This means that the Greiz site runs the largest production facility for polysulphides worldwide. But not only polysulphides are currently produced by more than 200 employees on the site. The product range also includes metalorganic products,

polyolefin additives and lubricants.

FOR A CLEANER FUTURE

Environmental compatibility is crucial for long-term sustainability of any chemical production. This is why the expansion of polysulphide production in Greiz has been supported by continuous, substantial investments in the environmental compatibility of the process. Introduction of closed loop production cycles, ongoing technical optimization of the

SUMMARY

> Gas scrubber cleaning air from alkalines and solvents.

OPERATING CONDITIONS

> sodium hydroxide and peroxide injection

ATLAC SOLUTION

> Atlac E-Nova FW 1045

IN SERVICE

> In service since early 2005

BENEFITS

> easy manufacturing of thick layer vertical walls combined with high corrosion resistance

REMARKS

> none

polysulphide production process and a new, state-of-the-art waste water and waste air treatment facility lead to a decrease in water and air emissions despite our substantially increased production capacity.

STATE-OF-THE-ART

To obtain a new, state-of-the-art waste water and waste air treatment facility they contacted Polacel, a part of the GEA group. They designed, manufactured and instilled a horizontal gas scrubber, consisting of 3 compartments, involving sodium hydroxide and peroxide injection to neutralise the vapours.

For this gas scrubber Tlac E-nova FW 1045 was selected for the combination of chemical resistance performance and easy processing properties.

THE ATLAC SOLUTION

As well as the good alkaline resistance and solvent resistance needed for this application, the spray-up process of Polacel required a preaccelerated, thixotropic resin grade. Thanks to the urethane technology Atlac E-Nova resins are easy to make thixotropic. In this case, Atlac E-nova FW 1045 was most suited for the job. Although the degree of thixotropy was relatively

high due to the fact that vertical parts of 5 mm thickness had to be sprayed in one go, the wet-out and air release properties remained very good. Also the exothermic peak development was relatively low.

This was a result of the well balanced preacceleration system in the resin, combined with a good through-cure in thin laminate parts. Compared with older vinyl ester urethane grades, the styrene content of this resin is significantly lower, which was appreciated by the workshop operatives for its reduced smell.

The future

THE FUTURE

End 2005, Akzo Nobel decided to invest in a new plant producing polysulfides in Taixing, China.

This installation is estimated to be operational early 2007. Since the installation in Greiz works so well, Akzo intended to install an exact copy of this installation in china as well.

This illustrates again that Atlac Resins can offer fit for purpose solutions for any corrosion problem you might have in your projects.

About DSM

DSM Composite Resins is the largest producer of unsaturated polyester resins in Europe. With production facilities in many different European countries, DSM Composite Resins offers a wide range of resins, matching every conceivable processing and end-use requirement, in the most diverse applications. Local Sales offices and Technical Service laboratories enable close cooperation and partnerships between customers and DSM Composite Resins. Central Research & Development is fully equipped to develop and test new resins and to tune systems for optimal results in specific processing techniques. The development, service and manufacture of composite resins are certified according to ISO 9001.

About Atlac

For several decades Atlac resins have proven themselves highly suitable in applications where chemical and thermal resistance in combination with high mechanical properties are required. Atlac resins have outstanding corrosion resistance to a wide range of organic and inorganic acids, alkalines, solvents and bleaches. They are widely used for fibre-reinforced applications such as storage tanks, vessels, pipes and ducts. The Atlac resins can be processed by means of a wide range of fabrication techniques, including filament winding, hand layup, spray-up, and polymer concrete.

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Technical details	
Application	scrubber cleaning process air
Medium	air containing alkalines and solvents
Conditions	max 60°C, slight overpressure
Construction details	hand lay-up and spray-up application
Resin	Atlac E-nova FW 1045, preaccelerated and made thixotropic.
Commissioning	2005
Inspected	jan 2006
Manufacturer	GEA Polacel b.v.
End user	Akzo Nobel - Thioplast Chemicals GmbH & Co. KG, in Greiz (Thuringia, FRG)
Location	Greiz, Thuringia, FRG
Remarks	Intended to be copied for new additional production location in China