

Flue gas stacks and scrubbers

SYCTOM France

Municipal waste incineration plants have to process a continuous and ever increasing stream of urban and domestic waste. Continuous operation and efficient treatment of the flue gas places high demands on the performance of the plant and the materials from which it is constructed. In the Paris region the SYCTOM has chosen glass fibre reinforced composites based on Atlac 580.

WASTE INCINERATION

SYCTOM stands for syndicat Mixte Central de Traitement des Ordures Ménagères; a syndicat that represents 85 local government bodies from the greater Paris area who have joined to benefit from a joint approach to the management of their waste. SYCTOM can thus satisfy the needs of the selective refuse collections in the 23 member communities in the centre's catchment area. To meet environmental requirements, the flue gasses have to be treated. For this they use

glass fiber reinforced composite stacks and gas scrubber recuperation tanks in their plant of Issy les Moulineaux.

EQUIPMENT

Design of the flue gas scrubbers has been undertaken by the engineering company LAB s.a. based in Lyon while the flue gas stack has been engineered by MOREL s.a. Both the flue gas scrubber and stacks have been constructed by SOVAP s.a., one of the leading



SUMMARY

- > Four flue gas stacks and eight scrubber recuperation tanks
- > Filament winding with ECR-glass veil and mat as well as E-Glass roving from Owens Corning

OPERATING CONDITIONS

- > The stack is coupled to a flue gas scrubber, in which Hydrochloric acid, Hydrofluoric acid, Sulphur oxides and Nitrous oxides are removed.

ATLAC SOLUTION

- > Atlac 580

IN SERVICE

- > In service since 1992

BENEFITS

- > Corrosion resistant
proven track record

REMARKS

- > no remarks

French companies who specialise in the construction of composite tanks and pipes. Atlac resins were chosen because they have been performance proven in a wide range of corrosion resistant applications for over 30 years.

THE ATLAC SOLUTION

The regenerative scrubbing process requires the careful removal of hydrochloric(HCL) and hydrofluoric acid(HF) as well as sulphur oxides(SOx) and nitrous oxides(Nox). Therefore corrosion resistant materials which retain their structural properties at elevated temperatures were essential in the design of such a waste incineration plant.

Atlac 580 is such a material, it offers optimal corrosion resistance performance and mechanical properties combined with perfect wetting of all reinforcing materials.

FABRICATION AND CONSTRUCTION

The four stacks are 70 m high and 2.25 m in diameter. All were made in Atlac 580 by the filament winding technique with ECR-Glass veil and mat as well as E-Glass roving from Owens-Corning. The eight recuperation tanks were constructed in Atlac 580 and glass fibre reinforcement from Owens-Corning.

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	4* 70 m high flue gas stack and recuperation tanks coupled to a flue gas scrubber
Medium	flue gas containing HCL, HF and sulphur oxides SOx and nitrous oxides NOx
Conditions	
Construction details	Filament winding with ECR-glass veil and mat + E-Glass roving from OCF
Resin	Atlac 580 urethane vinyl ester
Commissioning	1992
Inspected	not inspected
Manufacturer	SOVAP S.A.
End user	Syctom Syndicate Mixte Central de Traitement des Ordures Menageres
Location	Issy Les Moulineaux
Remarks	no remarks