Customer Case

Corrosion in pulp industry

CMPC Celulosa S.A. - Laja

With more than 80 years of experience in the corrosive paper and pulp industry, CMPC mills produce more than 1.2 million tons of pulp per annum, which is sold to over 200 clients in 30 countries in Europe, the Americas, and Asia. They use equipment, manufactured with Atlac.

THE COMPANY

CMPC Celulosa is the Pulp Business Unit of Empresas CMPC S.A. It is the oldest paper producing company in Chile and has a long-standing tradition as a reliable supplier to foreign markets. Little wonder that their business depends on reliable production operations that are not troubled by constant maintenance or catastrophic failures due to corrosion.

Laja was the first kraft pulp mill built in Chile. It began operations at the end of 1959 with an original production capacity of 80,000 metric tons/year. After many major rebuilds and expansions, and through a continuous process improvement program, its current annual capacity is 325,000 metric tons/year. The last mill modernization was undertaken in 1997 and involved - among others improvements - a brand new Continuous Digester, a new Recovery Boiler, and numerous investments to minimise the environmental impact of the mill. Atlac resins

SUMMARY

> Various applications have been executed using Atlac:
6 chlorine dioxide storage towers
Sodium chlorite storage tank
8 pulp mill bleach towers
2 hydrochloric acid storage tanks

OPERATING CONDITIONS

> Bleaching with chlorine dioxide at 80°C

ATLAC SOLUTION

> Linings: Atlac 430 (Palatal A430)
The full GRP sodium chlorate tank: Atlac 590 (Palatal A440)
The hydrochloric acid tanks: Palatal A410

IN SERVICE

> since 1977 or at least for 8 years (last installed in 1997)

BENEFITS

> Corrosion resistance under harsh conditions
easy application
local availability

REMARKS

> Some examples of the benefits of using equipment made with Atlac composite resins.

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were extensively used in this important project.

THE ATLAC SOLUTIONS

Laja use a wide variety of tanks; for example for the chlorine dioxide, they use six steel tanks of 5 m diameter and 16 m height, which are lined with Atlac 430 vinyl ester resin to protect the steel against the severe corrosive effects of the chlorine dioxide. For storage of the sodium chlorite they use a glassfiber reinforced Atlac 590 (Palatal A440) vinyl ester tank of 5 m diameter and 11 m in height.

Their eight bleaching towers are also lined with Atlac 430 (Palatal A430). The dimensions vary between 3 to 7.5 m diameter and 6 to 35 m height.
For the storage of hydrochloric acid they fully rely on a storage tank made of Glassfiber reinforced Palatal A410 ISO-NPG polyester resin.

RELIABILITY

The use of glassfibre reinforced Atlac resins has positively contributed to the quality and reliability of this plant and these experiences will support that whenever possible new renovations will involve equipment made with Atlac resins.

Technical details	
Application	chlorine dioxide storage, bleaching towers, sodium chlorate/hydrochloric acid tanks
Medium	chlorine dioxide, sodium chlorite, hypochloric acid
Conditions	bleaching at 80°C
	storage at environmental conditions
Construction details	Steel tank linings and full GRP constructions
Resin	Various Atlac resins: Atlac 430 and 590 and Palatal A410
Commissioning	First installed 1977, minimum 8 year service life expected (1997)
Inspected	No information
Manufacturer	local manufacturer
End user	CMPC Celulosa Plant Laja, Chile
Location	550 km south of Santiago
Remarks	Also by using Atlac resins, CMPC have succeeded in minimising the environmental
	impact of the mill.

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.

Contact

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