

Bio diesel storage

Sunoil bio diesel plant in Emmen

Bio diesel production involves corrosive raw materials, process chemicals and final products. GRP tanks from vinyl ester are the ideal material for storage. What's more GRP shows additional benefits over steel, like self-insulating properties and low maintenance costs: for example no need for painting.

NEW BIO DIESEL PLANT

Polem (NL) produced 14 tanks of various sizes from 90 – 470m³ for the new Sunoil bio diesel plant in Emmen. Sunoil B.V. was formed by Eurogrenzland and is one of the first bio diesel operations in The Netherlands. The biodieselplant is designed by AT from Baden-Württemberg, who have already built dozens of plants for bio fuel across Europe.

Polem used steel heating coils within the GRP tanks and added insulation of PUR foam. Since

both heating and insulation are integral parts of the tanks, the tanks were delivered pre-assembled. Three tanks were erected each day, with just some minor mounting work left to be carried out on site.

POLEM BENEFITS FROM ATLAC 430

The tanks have a 2.5mm thick chemical resistance layer of Atlac 430 according to ISO 13121. This well established vinyl ester is used as the workhorse resin for many applications



SUMMARY

> 14 Vinylester storage tanks for bio-diesel
Sizes varying from 90-470 m³

OPERATING CONDITIONS

> ambient or heated up to 40°C

ATLAC SOLUTION

> Atlac 430 bisphenol-a vinylester resin

IN SERVICE

> In service since 2006

BENEFITS

> easy processing resin
high mechanical performance
high chemical resistance

REMARKS

> Tanks are provided with a 2,5 mm corrosion resistant liner and thermal insulation

where chemical resistance and/or temperature resistance is needed. Benefits to Polem include easy processing of this resin both in spray-up (tank roofs and bases) and spray winding (tank cylinders), for the storage of a wide range of products.

WHAT IS BIODIESEL?

Biodiesel is the name of a clean burning alternative fuel, produced from domestic, renewable resources. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend. It can be used in compression-ignition (diesel) engines with little or no modifications. Biodiesel is simple to use, biodegradable, nontoxic, and essentially free of sulfur and aromatics.

Mineral Diesel fuel is rapidly replaced by plant oil derived bio diesel. By December 2010 5,75% of fuel for road transport consumption in the EU has to be derived from renewable sources. Currently already much higher concentrations of bio diesel are used. Some owners have even transferred their whole fleet to 100% bio diesel. It takes only minor technical adaptations to reap the benefits of green diesel. Apart from the environmental benefits, at current crude oil prices biodiesel is a financially attractive alternative.

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. Atlac resins can be processed by means of regular fabrication techniques, such as filament winding, hand lay-up, spray-up, and polymer concrete.

Technical details

Application	14 storage tanks with sizes varying from 90 up to 470 m ³
Medium	Bio Diesel (mono-alkyl esters of long chain fatty acids derived from vegetable oils)
Conditions	Ambient up to 40°C
Construction details	Corrosion resistant liner of 2.5 mm thickness, foam insulation
Resin	Atlac 430 bisphenol-A vinylester resin
Commissioning	Mid 2006
Inspected	Not inspected
Manufacturer	Polem bv, Lemmer, NL; www.polem.com
End user	Sunoil Biodiesel B.V. Emmen
Location	Emmtec location in Emmen, netherlands
Remarks	

Contact

Jeroen van Bussel
 DSM Composite Resins
 P.O. Box 615
 8000 AP Zwolle The Netherlands
 +31 38 4569569
 +31 38 4569230
 jeroen.bussel-van@dsm.com