

RESINEX **n**ews

#26 2022/2023

Resinex Trading S.r.l
Via Cappuccio, 14
20123 Milan (Italy)
www.resinextrad.com

Milan
Via Cappuccio, 14
Ph +39.02.7201 3463
Fax +39.02.7210 5548
marketing@resinextrad.com

Torbiato di Adro
Via Artigiani, 15
Ph +39.030.745 7245
Fax +39.030.735 6185
production@resinextrad.com

Adro
Via Laveni, 14
Ph +39.030.745 1194
Fax +39.030.735 6185
r&d@resinextrad.com

Resinex Asia
Level 49, One Raffles Quay
North Tower, Singapore 048583
Ph. +65.66225532
sales@resinexasia.com
www.resinexasia.com

NEW GAS FRONTIERS

Natural Gas the cleanest fossil fuel

Being natural gas the cleanest fossil fuel, this will be the natural transition gate to zero emission sources. Resinex "The floating source" job was born to facilitate the production of fossil fuels from the sea since 1961. In these days, we are proceeding towards a better sustainable world working in hundreds of gas fields for the high technology natural gas extraction together with the use of floating systems for the evolution of various renewables sources developed in the marine environment.



YOU CAN FIND US AT



Milan, September 5-8, 2022
Booth 13C46



Abu Dhabi, 1 October - 3 November, 2022
Booth 216



www.resinextrad.com



www.resinexasia.com



New Jumbo Tilting Buoys: the Mina Justa Copper Project

Resinex has been cooperating with companies in the mining industry for years, providing different kind of buoys for the operations of big vessels that deal with loading and unloading of materials.

Currently, Mina Justa is one of the most important mining projects Resinex is working on: it consists of an open pit copper deposit with a useful life of 16 years located in the Nazca Province, around 500 km south Lima, Perú.

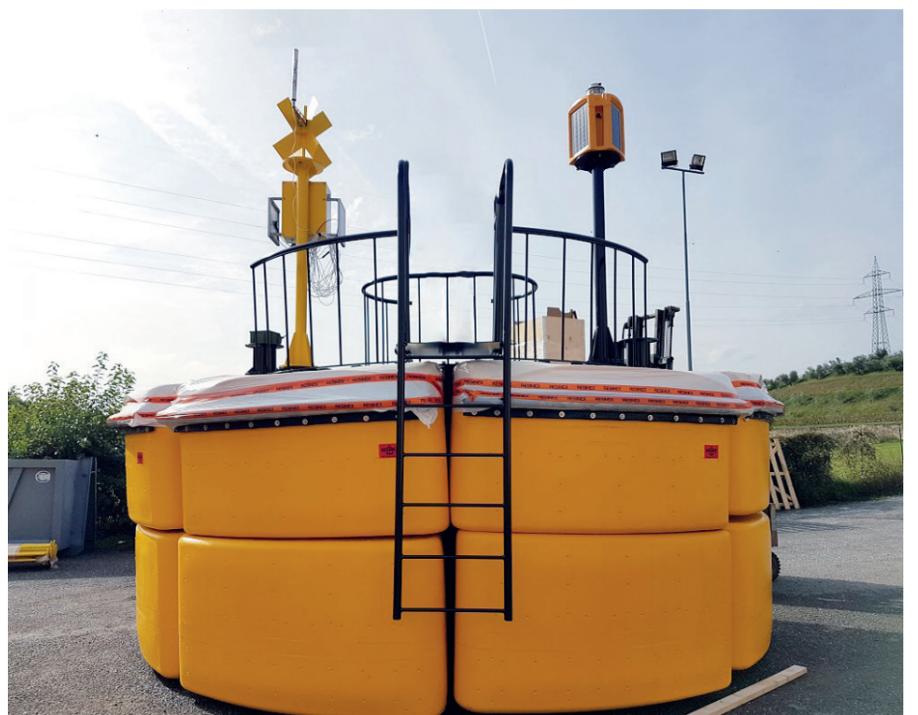
The site is connected to the Terminal Multiboyas in San Juan Bay – Marcona, where four jumbo tilting mooring buoys, three high buoyancy pendant support buoys and one light buoy manufactured by Resinex were delivered to ensure safe and smooth vessels' operations. The order of the 8 Resinex buoys was confirmed in the second half of 2019 by Ausenco, EPCM contractor for the Mina Justa Project and Marcobre, owner of the Mine, was the final customer.

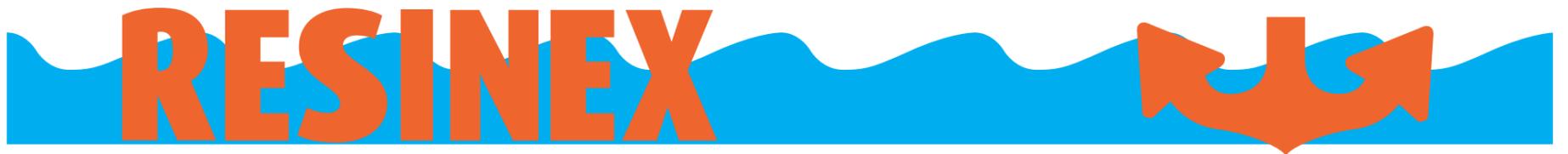
The mooring buoys have a net buoyancy of 41 tons, a diameter of 5,8 metres and a height of 2 metres. They are made of 16 unsinkable modular floats and their manual double quick release hook has a SWL of 2×100 tons. The light buoy has a diameter of 1 metre, a focal plane of 1,2 metres and a self-contained marine lantern, while the pendant support buoys have a marine lantern Sealite SL-60 with GPS sync. The net buoyancy of the pendant buoys is 5,8 tons, with a SWL of 30 tons. The average annual production of Mina Justa is expected to reach 149.000 tons of copper concentrate and 58.000 tons of copper cathodes.



Maxi mooring buoy for the Nigerian Bonga field

In 2020 Resinex supplied the Bonga North West Field with a big tilting mooring buoy for a deepwater project of SNEPCo (Shell Nigeria Exploration and Production Company) in Nigeria. The oil and gas field, located in the Gulf of Guinea, produces 40000 barrels of oil per day while according to forecasts, production will peak in 2027 also with 150 Mmcf/d of natural gas. The buoy produced for Belcorp, a Nigerian engineering company, has a net buoyancy of 45 tons and a diameter of 5.8 m. It is made up of 16 modular unsinkable floats in linear polyethylene shells and filled with polyurethane foam. It is equipped with a Sabik SC 160 II marine lantern, GPS and a stainless steel top mark with a radar reflector. Mooring is guaranteed by an SWL 150 tons steel omega shackle. A protective guardrail, an access ladder, and four bollards allow safe anchoring at service boats. Much attention has been paid to the corrosion protection since the customer requested at least 15 years lifetime of the anodes. The quantity (32) and type of used anodes have been determined by in-depth studies considering the local environmental conditions. The chosen material was not zinc (often used in these cases), but the more resistant aluminum, whose alloy was specifically made according to the particular chemical composition requested by the customer. The Category C5M system was used for the painting, recognized as the best painting cycle in the Oil & Gas sector, thanks to its high resistance in corrosive environments. A further peculiarity that distinguishes the production of the buoy concerns the used mould, also created ad hoc to obtain the specific net buoyancy requested by the customer, proof of the great flexibility that always identifies Resinex production.





Gas mooring in Port Said

Thanks to its multi-year production of support and mooring buoys, in 2021 Resinex supplied EPPC, an Egyptian producer of plastics, with six large catamaran buoys type PEM 58 with a net buoyancy of 36 tons and a diameter of 5,8 metres.

The buoys were installed off Port Said where EPPC owns a terminal for the supply of gas, used for plastic production, to its plant.

This supply integrates the previous one of 2016, in which Resinex had already provided catamaran buoys, but with a lower size.

A remote hook release system was installed on the new buoys to increase the safety of unmooring operations. The two hooks have a safe working load (SWL) of 90 tons each. The release is remotely controlled through an electronic system self-powered by batteries and solar panels.

Also in this case, the Resinex catamaran buoys use their patented system of levers connected to the mooring in the water, which allows to stabilize the buoy even under high stresses.



Safety first: mooring buoys in New Caledonia

In 2020, two big Resinex tilting mooring buoys have been supplied in Noumea, New Caledonia.

The order has been handled by the French company Levasud and the final destination was the Sogadoc Terminal (Société des Gaz d'Océanie). Sogadoc is a subsidiary of Total Pacific, through which it subcontracts the transport of LPG to other companies.

The two tilting mooring buoys have a net buoyancy of 12.900 Kg each, a diameter of 4,3 metres, a height of 1,1 metre and two hooks with a SWL of 100 tons each.

As always, safety has been the priority: these buoys are equipped with a rubber fender and two bollards that allow a secure docking with small boats, three handles made of stainless steel, a guardrail and anti-slip strips for workers' safety. Moreover, a marine lantern within a protective frame is placed on the top of the guardrail.



RESINEX



LNG Terminal Klaipeda, Lithuania



Azer-Chirag-Gunashli, Azerbaijan



Berri, Saudi Arabia



Bul Hanine, Qatar



South Angsi, Malaysia



Port Said, Egypt



Bonga, Nigeria



Transmed Pipeline, Algeria/Italy

Gas fields: ove



Moheshkhali LNG Terminal, Bangladesh



Sogadoc Terminal, New Caledonia



North Field East, Qatar



Zhor, Egypt



Ichthys, Australia



Moho Nord, Congo



Gupco seeline, Egypt



Tanap pipeline, Turkey

RESINEX



Resinex presence for the years



Dragon Cigma, Venezuela



El Burullus, Egypt



EPCL North, Qatar



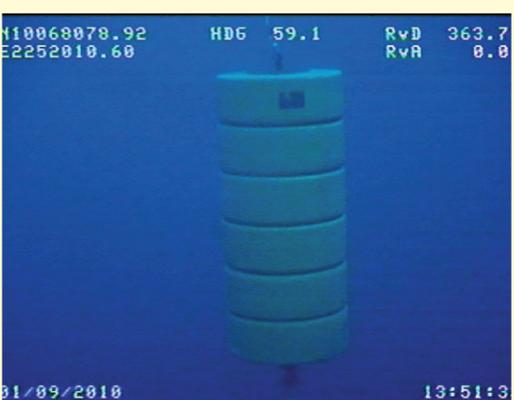
Tortue, Mauritania and Senegal



West Chirag, Azerbaijan



Zhor, Egypt (PMS)



Phoenix, U.S.A.



Hasdrubal, Tunisia



Pazfor, Angola



Liwan, China



Ichthys, Australia



Jack-St. Malo, U.S.A.



Azeri, Azerbaijan



Total Angola

RESINEX

Jumbo Subsea buoys at Ichthys

In 2020, Resinex supplied McDermott Australia with two large subsea buoys for the mega Australian gas field Ichthys. The buoys have a diameter of 4,3 meters, a net buoyancy 65 tons and 55 tons, and a height of 10 and 9 metres respectively. They are made of various modules in linear polyethylene filled with high-density polyurethane foam and macrospheres. This allows a great resistance underwater. Besides the underwater pressure tests, a test for 98 tons was carried out to assess the tensile strength of the steel part, and a lot of attention was also paid to corrosion with the use of protective galvanization and paint. We carried out also an impact and a pressure test. The buoys will be used during the installation of equipment at a water depth of 300 metres.



West African Tortue project quality tests

One of the principles on which Resinex's activity is based is to always assure the best quality of its products, in order to guarantee optimal performance throughout their life cycle. Quality is ensured thanks to the possibility to carry out different tests at its own Research Centre in Adro and this is also one of the reasons why companies often choose Resinex for the supply of products. This is the case of Saipem, which in 2021 awarded the construction of the floating systems of the Tortue Project for the offshore production of liquefied natural gas (LNG) through an FPSO ship in an area of the world that has not been particularly exploited in the Oil & Gas sector, i.e. in the deep waters at the maritime border between Mauritania and Senegal. For the realization of this project, Resinex supplied 14 support buoys rated 35 meters. Six of these buoys are Resinex type PEM 16x2400 mm with a net buoyancy of 3500 kg, while the remaining eight buoys are Resinex type E6x1100 CIL with a net buoyancy of 250 kg. This supply stood out for the number of controls required by the customer that Resinex has been fully able to offer. Specifically, the following control tests have been carried out: hydrostatic test at 3.5 bar, determination and test of the net buoyancy, NDT control on all welds, proof load test of the metal parts (SWL 106 T for the first type of buoy and SWL 19 T for the second) and a final inspection by ABS. The painting has also been particularly accurate, applying also an anti-fouling coating.



Maxi Pipe deployment floats for Saudi Arabia

Resinex was one of the first world manufacturers of pipe deployment floats. As a matter of fact, in a time lapse of more than 30 years more than 4.000 pieces have been produced for the main pipelaying projects in the world. In 2021, Resinex designed and manufactured the single-piece tie-in float with the highest net buoyancy on the market (4.400 Kg). The 60 tie-in modules were fabricated for Snamprogetti Saudi Arabia and aimed to be placed at a depth of 40 metres for the Berri oil field of Aramco in the Saudi Persian Gulf.

Saudi Aramco expanded the Berri oil field installing ten production platforms, a connecting platform and a water injection platform to increase the production up to 500.000 barrels per day.



Wide Range for Big Wheels

Resinex is the greatest manufacturer of support buoys. Particularly, among those intended for Oil and Gas sector, the new Anchor Rotative Pennant Buoy type Wheel stand out. The buoy is made of two linear polyethylene floating parts filled with high density polyurethane foam. This makes the buoys unsinkable during operation. These parts are then covered in polyethylene foam, covered in turn with elastomer polyurethane. The final cover makes the buoys very elastic and able to protect the vessel from the impacts and minimize the damages to it. Wheel buoys are also characterized by a central part made of steel, equipped with stopper, in order to let cables and chains go through it. This kind of buoys is usually used to lighten chains and cables in order to allow the vessel to move while performing certain operations. In 2021 and 2022, for example, Resinex supplied a wide range of these buoys. Buoys of 4, 6,5, 9, 15 and 24 tons of net buoyancy have been supplied to different companies and for sea operations in Saudi Arabia, Bahamas, Caspian Sea, Canary Islands, etc.



4 tons net buoyancy



15 tons net buoyancy



6,5 tons net buoyancy



24 tons net buoyancy



9 tons net buoyancy

RESINEX

Safe Nav Aids for Ocean Cay

Ocean Cay, part of the Bimini islands in the western Bahamas, has been recently transformed into an extraordinary marine reserve, with the aim to revitalize the surrounding marine life and be an unmissable attraction for tourists. The company responsible for the transformation is MSC Cruises, that now owns the island and considers it one of its best destinations in the Caribbean Sea. Along with the supply of oceanographic buoys, in 2019 Resinex made another important contribution to the Ocean Cay Project by supplying fifteen fixed beacon towers to the Miami-based company GLF Construction Corporation, with MSC Cruises as final customer. Six of them were green and the other eight were red, and they were all equipped with synchronized flashing lights to safely signal the entrance channel that leads to the mooring area of Ocean Cay's Port. The fifteenth tower is placed at the far end of the entrance channel and is equipped with a PEL (Port Entry Light) working twenty-four hours a day.



Each tower has a focal height of 8.7 metres, a walkable area of 1.9 sqm and they are powered by solar panels. They ensure a safe and efficient navigation of the cruise ships that every day bring thousands and thousands of tourists to this extraordinary marine reserve.

Port of Salerno: innovation and safety

At the beginning of 2022 Resinex completed an important project at the port of Salerno where technical and functional adaptation works were carried out in order to modify the entrance to the port. Resinex was part of this important project producing the two new NavAids. Resinex worked together with the Port Authority of Salerno, in particular with Engineer Gianluigi Lalicata, head of the technical office of the Central Tyrrhenian Sea Port System Authority. On the breakwater quay, a new red stainless steel land beacon has been installed, which has a focal plane of 6.5 meters and a range of 8.2 nautical miles. On the opposite side, there is the other land beacon in stainless steel coloured green and white. It is the first land beacon in Italy to have a double focus, with the dual function of landing beacon and lateral signalling. The lower structure is green, has a focal plane of 4.5 meters and a range of 9.2



nautical miles. Whereas, the white one, placed in the upper part of the structure painted in white, has a focal plane of 6 meters and a range of 12.8 nautical miles. For their production, Resinex used the highest quality materials to ensure long life and has adopted an advanced technology that makes these NavAids innovative. For example, a special precaution has been adopted for the synchronization of the three lights, that never light up at the same time in order to optimize their perception even from a great distance. This makes the navigation and the entry to the port even safer, reconfirming Resinex's particular predisposition to Research and Development of the maximum safety available. The two signals were put into operation on 5 April 2022 during a ceremony attended by all the highest local authorities together with the construction company Molo Sopraflutto of the R.C.M Group and Resinex.

Marker Buoys and Elastic Beacons in the Egyptian waters

Among the maritime signalling systems available on the market, Resinex ones are the most advanced, and this means that companies all over the world rely on Resinex for the supply of Nav Aids. The Egyptian company Maritime Group, from Alexandria, in 2021 first asked us for the supply of 14 elastic beacons with a focal plane of 7 meters with final destination Damietta Port, and then the supply of 9 light buoys with mooring system and 2 land beacons, installed in the Red Sea. The first elastic beacon was invented by the Resinex Technical Department in collaboration with specialized technicians from the Italian Navy at the end of the 60s.



Widing the range of Nav-Aids: new Spar Buoys

Resinex has recently integrated the wide range of Navigational Aids. The term "Navigational Aids" includes all the visible, acoustic and electronic symbols that are used in order to provide signals on the water for piloting purposes.

Resinex has therefore expanded its product array with new Spar Buoy models made of plastic and steel. These are simple products, quite small and made of plastic, so that they are very light and manageable and at the same time, they guarantee a good visibility and a high resistance to the sea forces.

Resinex Spar Buoys can be equipped with lights, Top Mark in different colours or with a simple reflective band and the shapes are the ones indicated by IALA association.

These are very functioning products: their benefits are lightness, simplicity and practicality of installation, but also the ease of use thanks to the particular handling.



RESINEX

The most innovative buoys at the luxury Dubai Port

The new Dubai Harbour, inaugurated at the end of 2020, is a luxury maritime destination that hosts the largest marina of the region and sophisticated cruise terminals. It is located between Dubai Marina and the well known Palm Jumeirah. The marina is managed by D-Marin, with which Resinex had already cooperated for previous projects carried out in Croatia. The harbour is able to host 1.100 luxury boats and maxi-yachts up to 160 metres. For this new exclusive location, Resinex supplied 18 mooring buoys for superyachts, that were deployed by the general contractor Overseas AST in August 2020. 10 buoys have a net buoyancy of 15 tons and a SWL of 70 tons, while the other 8 buoys have a net buoyancy of 3.5 tons and a SWL of 35 tons. Each buoy is equipped with a double SWL Resinex mooring hook that makes the mooring procedures easier. A no-marking rubber fender and synchronized self-contained marine lantern, placed at the top, increase the safety of the mooring system. This is just the latest of the many Resinex supplies for luxury mooring projects all over the world.



Formula 1 moorings at Jeddah port

The arrival, in 2021, of Formula 1 in Jeddah has continued the strong touristic evolution of Saudi Arabia.

In this occasion, Jeddah Marina has been transformed in order to make it particularly welcoming for tourists. Hotels and seaside resorts have been built in the area where the Grand Prix is held and the Harbour has been set up to welcome the biggest yachts.

To realize this project in the best way, Modern Building Leaders have absolutely asked Resinex the supply of 16 safe mooring buoys, which have been delivered just in time for the start of the Grand Prix in December 2021. For the Middle East Marinas, setting up the ports with Resinex made in Italy products is considered a must: safety, quality and style is the winning mix requested by the big owners. Jeddah Marina is now associated to the big world's luxury ports: Port Vouban, Montenegro Port, La Valletta, Dubai Port Rashid, Ortigia, Cala del Forte.



Safe mooring for yachts in Sicily, italian style

Every time Resinex cooperates with main ports and maritime companies for big yachts mooring all over the world, safety, reliability and style are the keys of its products' success. The port of Syracuse, in Italy, can host about 1.000 boats of different sizes and its width makes it one of biggest ports in Italy for recreational boating.

In 2019, the italian agency Boccadifuoco developed a high quality luxury yacht mooring with 16 exclusive Resinex mooring buoys in Ortigia Island, a small Italian artistic and cultural gem with many historical monuments. Its many landmarks make Ortigia an extremely popular touristic destination.

The buoys supplied by Resinex to the city port have a diameter of 1.8 metres and are equipped with no marking fender and a self-powered marine lantern. The mooring is ensured by three shackles with a SWL of 25 tons.

For this project, the buoys' body colour has been specifically studied to match the colour of the boat hulls.



Luxury yachts at Cala del Forte



In Ventimiglia, an Italian city in Liguria region, rises up Cala del Forte, one of the best equipped and avant-garde marinas in the whole Mediterranean Sea. Cala del Forte offers 178 berths for boats up to 70 metres of length. Its strategic position, at just 15 minutes away from Principality of Monaco, together with the use of the most advanced technologies and its particular structure offers a full operation throughout the year and with any weather condition.

The Harbour is managed by Ports de Monaco, owner of the well-known Porto Hercule and Porto Fontvieille too. Resinex was asked to supply 5 mooring buoys with a diameter of 1.8 metres, a net buoyancy of 2.1 tons, a SWL of 55 tons, and completed with a non-marking rubber fender. The buoys were placed in the center of the port in order to ensure the safety of the mooring during the longterm stop. Safety, reliability and attention to aesthetic components have been, as usual, the keys for the success. The first yacht to officially dock at the port has been the iconic sailing yacht Tuiga, at the end of 2020, followed then by other superyachts. However, the harbour's inauguration took place between June and July 2021, once the latest on land building work was completed.