RESINEX News

#16 2010/2011

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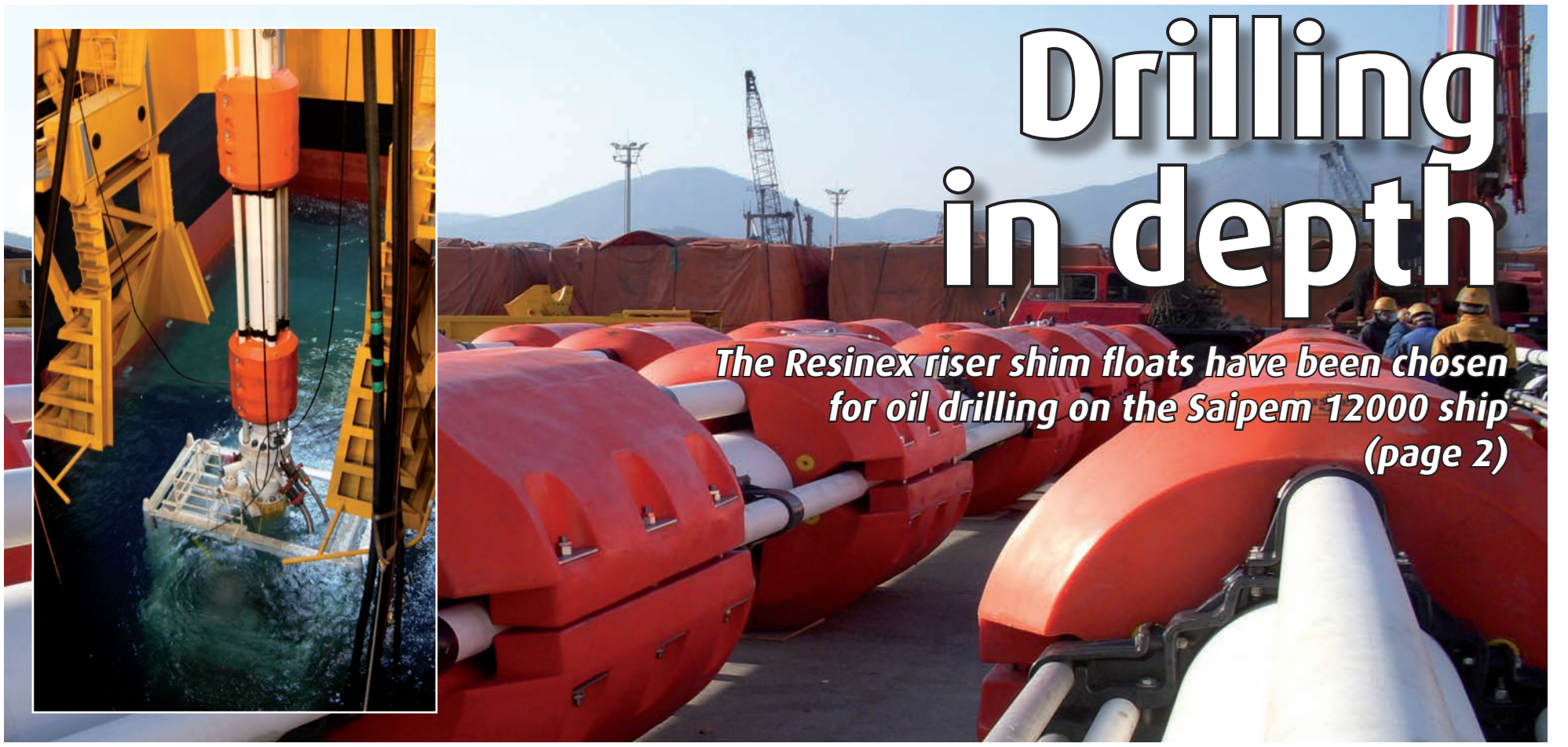

Drilling in depth

The Resinex riser shim floats have been chosen for oil drilling on the Saipem 12000 ship
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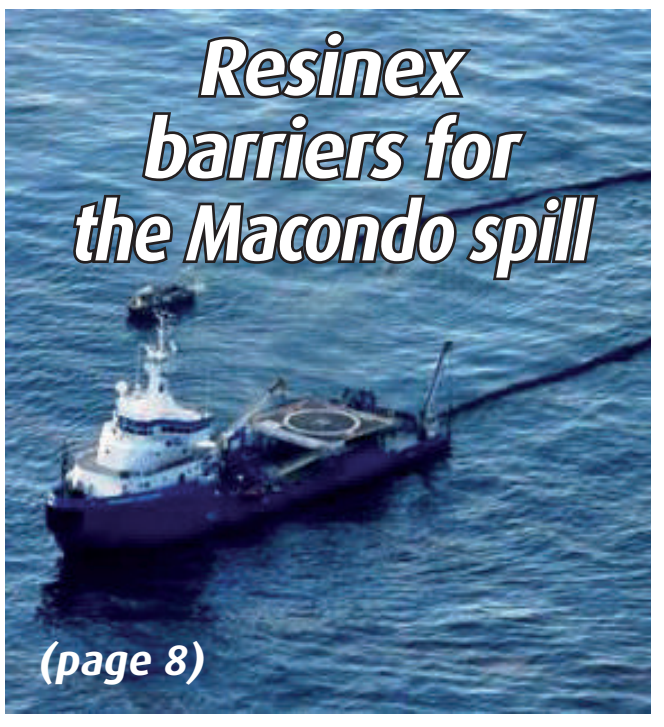

Resinex barriers for the Macondo spill

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Environmental floats in the marine parks of Italy

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Oceanology at 4,000 and 6,000 metres below sea level

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Safe mooring for megayachts

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Anti-Tsunami monitoring in South Korea

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YOU CAN FIND US AT

DOT
Amsterdam,
Stand 337
30 november - 2 december 2010

Osea 2010
Singapore
Stand 4J3-03
30 november - 3 december 2010

OMC 2011
Ravenna
Hall 1
Stand L12
23 march - 25 march 2011

OTC 2011
Houston
2 may - 5 may 2011

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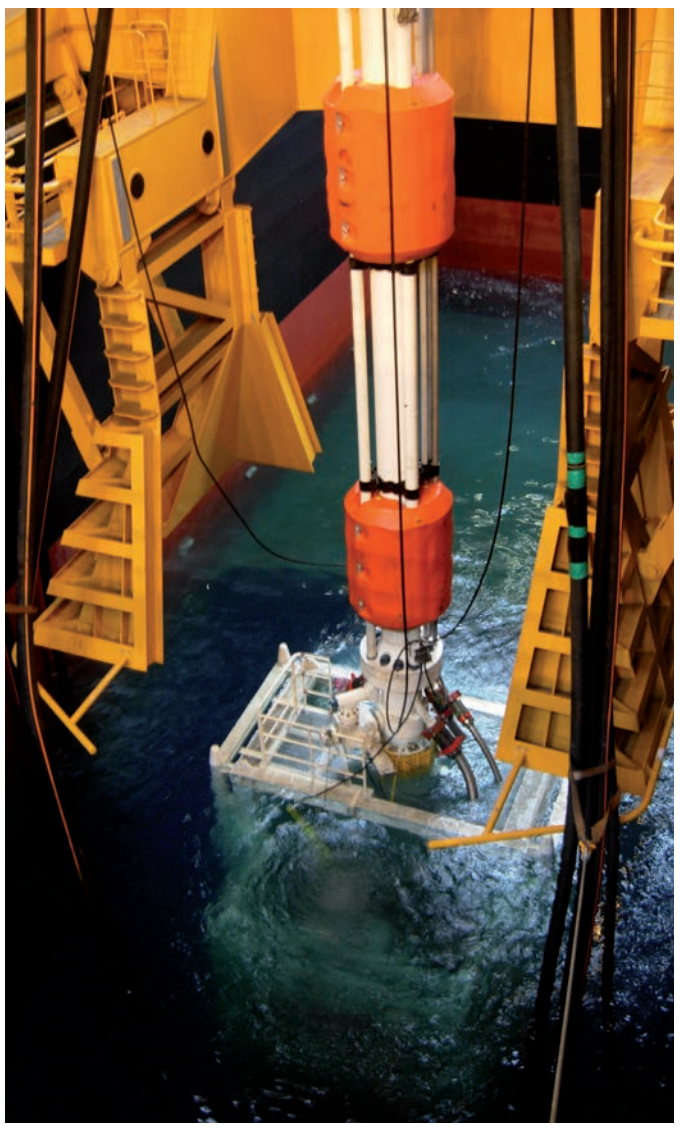
Riser shims for Saipem 12000

Elements in syntactic foam for 3,700 metre water depth

The new Saipem 12000 vessel is using the floats type Riser Shims manufactured by Resinex to equip the steel pipes used for the oil drilling in deep water.
The vessel of the engineering company of the Eni group, built in the Samsung Heavy Industries yards in South Korea is provided with these floats.
The 89 special floats have been manufactured with an external shell in orange Elastorex and filled with a syntactic compound able to withstand a hydrostatic pressure of 370 bars.
Consequently they can safely work at a water depth of 12.000 feet.
They have a high elasticity and an excellent resistance to any crash and have been tested at Resinex Marine Research Centre in Adro (BS), one of the most equipped laboratories in Europe for the tests of very high depths.
A complete riser shim has an external diameter of 1,4 mt., it is 2 mt. long and weighs 2000 kilos.
Resinex Riser Shims are used to equip steel riser joints, hoses complete of auxiliary lines clamps, of a length of 90 feet (27 metres) each, equipped with the vessel.
Even before being finished, the Saipem 12000, was hired for a period of 5 years (more two years of option) by the French company Total.
It will be used until the first quarter of 2015 for the development of the Pazflor oilfield in the Angola offshore. It is able to work in deep waters up to 12.000 feet.



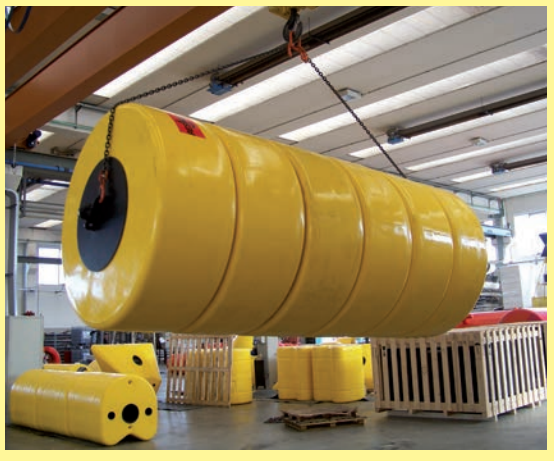
Technip at 1,200 mt depth in Angola

In October 2010 about fifty Resinex buoys of various sizes were delivered to Technip, the French company specialized in engineering and technological services for projects in the petrochemical sector.
The floats which were made in our Torbiato plant were delivered to Dande, in Angola.
They were consigned to the Deep Blue and Deep Pioneer ships within the realms of the 1.1 billion dollar contract given to Technip by Total for the development of the Pazflor oil field situated some 150 kilometres off the Angolan coast at a depth of 1200 metres.
Here, at Blok 17, Technip has to supply the installation with over 80 kilometres of piping for the extraction and transfer of oil as well as more than 60 kilometres of umbilical cable, electric and fibre optic, for distance control of the underwater plant.
Technip has about 22 thousand employees worldwide.

Deep Water buoys for the Phoenix of Helix in the Gulf

After receiving six spring buoys delivered by Resinex in 2008 to Helix, the Houston Group, specialized in underwater operations for the oil industry, placed a further order, again from our company, for a deep water buoy of 1.6 metres in length by 3.6 metres in height. The new floating modular joined those already being used in the anchoring system for the Helix ship which is positioned on the Phoenix excavation site in the Gulf of Mexico.

The buoys, whose modules are filled with a special syntactic compound and are able to operate to depths of up to 300 metres, were tested in the Resinex Laboratory where trials of up to depths of 8.800 metres can also be carried out.



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Prosafe: tailor made protections

In Congo the special collars to safe ships and mooring

Six special mobile collars (designed by Resinex) were sent to the Congo Republic for the protection of mooring chains.
They were ordered by Prosafe which is using them in the anchorage system of the FPSO ship (floating production, storage and offloading) Azurite which can store 1.4 million barrels of oil and which operates off Congo Brazzaville.
They are half a metre in internal diameter and 1.1 meter externally and have a length of 3.6 metres. They were projected to be not fixed but to slide along the chain so as to protect the boats during operations.

Flange protectors in elastomer

They protect flanges of oil hoses of 10, 16 and 20 inches; produced by Resinex in high performance polyurethane have been supplied to Monobuoy, historical client of Resinex, with destination Jakarta. They are used during offshore loading and unloading operations to protect from impact the hose flanges. The elastomer polyurethane used gives high performance against impact, maintaining high capacity in absorbing shocks.

Resinex clamps for Scarabeo 6

Piping connection clamps were also supplied for the Scarabeo 6, Saipem semi-submerged oil platform, which are able to be used up to a depth of 780 metres. The platform has a displacement of 31,500 tons with 90 people on board.

Steel pendant old ladies

***Resinex is not only plastic floats. For those who prefer old fashion (but still super resistant) steel buoys can choose from our range, the model most adapted for one's need.
This is exactly what Saipem Nigeria did, requiring at Port Harcourt – support material for their Scarabeo 3 ship – two steel twin cylindrical pennant buoys of 3.2 metres in length by 2 metres in diameter, net buoyancy 8.000 kgs. These were supplied with chain and mooring material.***

Our Tie-in in the Arabian Gulf

In 2010 our company consigned 30 Tie-in type floats to Dhaharan which were used by the STAR (composed of Saipem-Taqa-Al Rashadi) and Snamprogetti consortium in order to lighten the 16" piping weight used during the 2 km long shore pull, performed by the Castoro II ship operating in the LTA Project on behalf of Aramco. Six hundreds 500 kg nett buoyancy buoys which had been previously consigned are also used for the project and were consigned by Resinex during 2009.

Buoys for the Usari gas pipeline

The Usari-Idoho gas pipeline is a project carried out by Saipem Nigeria on behalf of Exxon Mobil, using for the first time a pipeline produced locally. Also in this case, Resinex buoys were utilized. Our company has shipped to Port Harcourt five pennant buoys each with a nett buoyancy of 1500 kg in elastomer polyurethane and polyethylene foam together with 10 RS6 support buoys with 100 kilos of floatability.

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Mooring and safe water in Venezuela

Three big mooring buoys type PEM 43 SQ Resinex Catamaran have been supplied to PDVSA during 2010. The buoys have been projected with a squared shape in order to facilitate the boat approach during mooring operations. Each buoy guarantees a high performance mooring to the ships thanks to the single nett buoyancy of 17.500 kgs and to the Resinex patented lever system that minimizes the buoy tilting. Each Catamaran buoy has a quick release hook (QRH) of 90 tons (tested for a proof load of 135 tons). During 2010 PDVSA has also received from Resinex 9 light buoys type PEM 21 (2100 mm diameter) with a steel structure supported by a large plastic float – nautical visibility is 5 NM.

PEM 43 at Carrara Port

A Resinex Pem 43 type catamaran buoy (4.3 metres diameter by 1.1. height) has made mooring safer for the bulk carrier and the ferries in the Carrara Port. Ordered by the Port Authority to be positioned in the Buscaiol dock on a sandy sea bed between 9 and 11 metres, they are equipped with a quick release hook and are able to withstand a pull of 50 tons. As all Resinex Catamaran buoys, also in this case the buoy is equipped with the special level control of stability. This system reduces and often counters the inclination of the buoy under load.

Megayachts in

It is a boom period in the Mediterranean for the mooring reserved for megayachts, the luxury giants of the sea of up to 100 metres in length, which host oil tycoons, financiers and prominent businessman with their respective guests on exclusive cruises.

The most prestigious localities are taking measures to accommodate these costly boats in complete safety and as a result Resinex, thanks to its long experience, is supplying the safest and most tried and tested floating and mooring materials in the world. Recently, our company consigned 13 Pem 25x1000 and 4 Pem 30x1000 type buoys complete with the necessary mooring systems for Montenegro.

Here, at Tivat, in the wonderful Bay of Kotor, an Adriatic Jewel, a new marina is being created in Porto Montenegro with accompanying high luxury estates aspiring to rival Montecarlo.

The new port for the 50 to 100 metres megayachts has been projected by Business Art Company.

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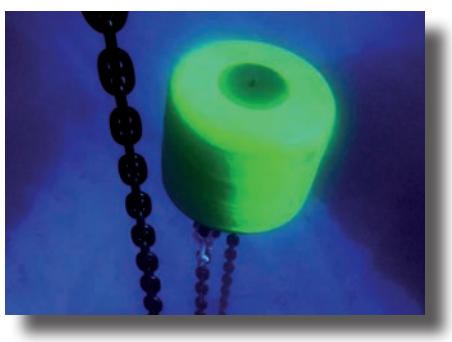
n Montenegro

The floating villa anchored in the Emerald Coast



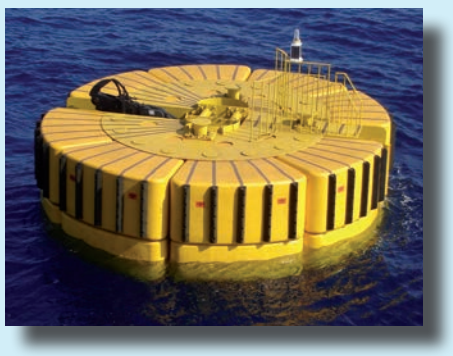
The destination is top secret, but it can be found in an area north of Sardinia, a well-known locality of the Emerald Coast. Here, in front of a dream villa, a mooring buoy has been placed by the owner, a russian magnate.
It is for a 110 metre boat for which Resinex prepared the mooring, choosing the buoy type Pem 30 for 1000 buoy (3 metre diameter x 1 metre height) with relative underwater jumper.

Cepsa: PEM 50 at Tenerife

Another Resinex Catamaran buoy has been choosen by Cepsa refinery in Santa Cruz de Tenerife (Spain). The giant of the sea produced in our Rovato plant is a modular buoy with 5 meter diameter and a height of floating part of 2.2. meter. Our technical office has studied this buoy to maximize performance during the mooring of oil tankers up to 250K tons weight and 330 meters long. The Tenerife refinery has a Multi Buoy Mooring of 6 mooring points in a water depth from 40 to 60 meters. The refinery, first in Spain, is operating since 1930 and has an extension of 500.000 sq meters on the sea shore. It has 400 employees and a oil refining capacity of 4,5 million tons per year.

Lifting for 2 Top models

For many years they have represented the point of force in the Resinex range our Top Models, the largest and most stable mooring buoys in plastic ever made in the world for offshore oil activities. The top giant catamarans made by our company are 5.8 metres in diameter, 40 tons buoyancy and 75 tons pulling capacity. Two of these catamaran buoys, type Pem 58x2000, were projected more than five years ago for the Malaysian Company MSE (Malaysia Shipyard Engineering) and installed 55 miles off Terengganu on the east coast of west Malaysia in the PM-305 Block of the offshore South Angsi-a oil field. Now after over five years of honourable activity in the front line, as the point of mooring for the FSO Shuttle Tankers (Floating, Storage, Offload) of Talisman Energy they have returned to our Rovato plant to be refurbished. Naturally they were totally in working order and perfectly buoyant, even if they showed signs of damage as a result of hundreds of collisions in the open sea.



Safe mooring at Mombasa Port

In Autumn 2010 the Kenya Port Authority ordered to Resinex 10 big mooring buoys type PEM 30x2000 equipped with a double mooring hook SWL 75 tons. Destined to the booming port of Mombasa the buoys have been positioned under the supervision of Resinex technicians, along the internal channel of the harbour. They will give a safer mooring at the ships standing outside the port facilities before reaching the definitive dock. The port of Mombasa is located in a canal island of the Indian Ocean. It is connected to the shore through a bridge.

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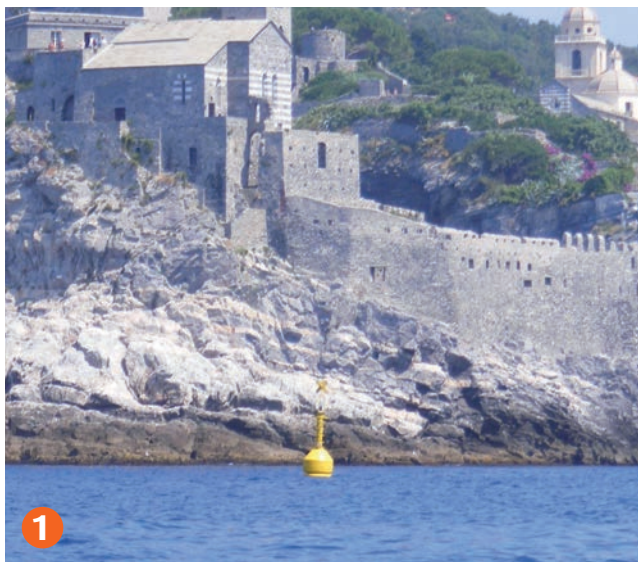
Parks, safer with Resinex

Technological quality of mooring in protected areas



1. *A signalling buoy in the Portovenere protected area.* **2.** *The positioning of a light buoy at Egadi Islands.* **3.** *Land beacon always at Egadi Islands.*

Also in 2010 Resinex has been chosen for the mooring in various protected zones.

For the Portovenere Park environment. Our company has furnished the regional park of Portovenere with the perimetral signalization of the A zone (the most protected). This consists of three Resinex buoys models FP300 Pem 13x2000, with two land beacons and a light beacon fixed to the sea bed.
The signalling equipment was put in place at the beginning of summer 2010 near the Palmaria and Tino Islands. Resinex also furnished 25 double troncoconical light buoys of the E6x1100 model which are fitted with a jumper buoy and were installed at different points in the nature reserve and were earmarked in part (13) for the mooring of boats used at the immersion centre (diving) and in part (12) for the mooring of recreation craft.

Fixing the boundaries of the Egadi protected area. In the summer of 2010 Resinex carried out the restoration of the signalling of the perimeter of the A zone to protect the entirety of the Protected Marine Area of the Egadi Islands. This concerned two rectangular areas, one west of the Isle of Marettimo, marked by two land beacons and two buoys and one around the isolated Isle of Maraone, marked by four buoys. Resinex completely restructured the two existing land beacons and the two buoys, which were furnished in 2006 by other companies, with new compact selfpowered Led marine lanterns. Four new buoys and six new moorings complete with jumper buoys and sinkers were also supplied. Moreover, our company managed all the work concerning the assembly and the deployment of the entire project.

Light buoys for the buoy field of Santa Giulia. The Aztech marine company has prepared a new buoy field at Santa Giulia in Corsica, using Resinex polyethylene floats to outfit the tourist mooring area situated in the south east of the island. 60 E4x300 modules were positioned, 20 white E6x550 modules for the surface buoys and 40 spherical RS5 modules to use as jumper buoys for a depth up to 15 metres.

Sicily changes the beacon

During a fire on board of the Maltese ship EMEK 5, the cardinal elastic beacon positioned outside the Sicilian port of Augusta has been completely destroyed. On a Sea depth of 20 meters the Resinex elastic beacon has been positioned by Sicula Sea Service company. The elastic beacon (type FP 500 – focal plane 5 meters) has a very crucial function and it is used to signal the forbidden area in front of the Degaussing Italian Navy base where the top secret hull magnetisation tests are done.

On the Sardinia sand banks

In June 2010, Resinex supplied two FP600 north cardinal model elastic beacons fitted with selfpowered lanterns of a five-nautical-mile range to Taras Quirico firm of Olbia which had foreseen to install them on the Punta Marmorata sand bank and in the proximity of the Scoglio Paganetto sand bank, two of the areas most affected by sea storms coming from the western quadrant of the mouth of Bonifacio near Santa Teresa di Gallura (North Sardinia).

Land beacon at Ravenna

A body of stainless steel is the support of a big marine onshore signalization mounted the pier of the cruise terminal of the Port of Ravenna. The signal is coloured yellow and is mounted on a lantern with a range of 5 nautical miles and a focal plane of 10 metres above sea level.
Moreover, to define the dock reserved for the large tourist ships, two buoys have been placed (one red and the other green) together with two land beacons of delimitation.

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Demand from Arab ports

The presence of Resinex as a specialist in Navigational Aids in the Arab ports it is since the end of the years seventies when our company was awarded the contract to supply Suez Canal Authority of more than 600 elastic beacons (still in full operation) to guarantee nocturnal navigation in the canal.

In the last year our presence has been increased with new orders coming from the Arabic Peninsula, Egypt, Tunisia, Lybia, Syria and the Emirates.
This primary position goes together with Resinex Navigational Aids penetration in many other African ports in Senegal, Nigeria, Angola, Mozambique, Kenya and South Africa during 2010.

Anti tsunami in Korea

With five very special PEM 43

Five giant Resinex floats earmarked to be used in an integrated water monitoring system and anti-tsunami alert were ordered by the specialized Oceantech company to be dislocated off the South Korean coast.
These were five Pem 43 buoys, 4,3 metres of diameter and 2 metres in height, which were delivered by our company about halfway through 2010 to the Port of Busan.
They are able to produce a net buoyancy of 23 tons and were positioned at a sounding depth of 150 metres in a stretch of water where the current reaches 1 metre a second with waves of up to eight metres. On the marine component, meteo CO^2 monitoring and wave measuring sensors were installed.
As well as these, an acoustic transductor was positioned in order to receive signals from the submerged monitoring system. This supply goes together with other many ordered in the last years from Asia of anti-tsunami systems.

Oceanology at 4,000 and 6,000 meter depth

The Leibniz Institute at University of Kiel in Germany is one of the most prestigious European research institute.
It has 750 technical and scientific employees all involved in marine science, geology and meteorogical researches.
For new experiments in ultra deepwater also the Leibniz Institute uses Resinex syntactic foam blocks.
During 2010 various blocks were supplied by Resinex to be used at a depth of 4,000 meters and at 6,000 meters.
The syntactic foam products are produced by Resinex in its specialized plant of Torbiato. Then, they are tested in the other specialized plant of Adro where the pressure and buoyancy tests are performed. The pressure tanks at Adro plant can tests till 880 bars (8.800 meter). The Leibniz Institute makes research in all the oceans' world. The 4 division studies: Ocean circulation and climate dynamics, Marine Biogeochemistry, Marine Ecology and dynamics of the Ocean floor.

Rogue waves, the Thai organisation

Resinex has supplied two Spar buoys for the Thailand tsunami warning system designed and developed by Envirtech. The buoys will be installed in the Andaman sea at about 200 nautical miles from the Thai coasts at 2300 and 2700 meters of water depth. Each buoy is equipped with redundant acoustic link and satellite link for the communication with underwater module for the detection of tsunami waves and with a data centre located in Bangkok for the reception of tide data and alarm messages. Each buoy is equipped with solar panels autonomous power supply system, with wireless link for data communication, Gps receiver, signaling light and radar reflector Iala compliant. The stability of the Spar configuration allows to get reliable acoustic communication also in case of high sea states. The implemented system allows to increase the safety of the Thai coasts providing an alarm one hour in advance in case of detection of anomalous waves over the normal tide.

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The Gulf of Mexico emergency

Resinex supplied kms of booms for the Macondo spillage

Also Resinex has taken part in the race against time to save the coasts of Louisiana and Florida from the black oil tide which has overstep the Gulf of Mexico due to the leak which has open after the tragedy of the BP platform.
Our company has manufactured thousands of metres of floating antipollution barriers which left Rovato (Italy) destined to the US.
Our catalogue includes numerous types of systems of different dimensions and sizes to protect the coasts, the bays and for the containment of the oil spilling and other polluting substances.
A couple of thousands of metres of these floating barriers were shipped to the US during the first days of the emergency, while others were successively delivered.
It was a really race against time and Resinex was able to supply more than one thousand metres of barriers per week.
The Gulf Coast spill, which flowed for three months, has been one of the worst in the history of petroleum industry. It lasted from 20th of April till 15th of July 2010 after it had released about 4.9 million barrels of oil.

Eight for the Moses

Eight Resinex light buoys were positioned to join those already in place in the Venice zone to be utilized during the construction work of the mobile dam for the protection of the lagoon. All eight were Pem 25 with a surface plane of 2.5 metres and furnished with a yellow Led lantern of range of 5 nautical miles with a focal plane of 4 metres above sea level. The some fifty years of experience our company has in the field of signalling has made us a privileged interlocutor for those requiring the maximum safety.

Increasing the presence in Kazakhstan

Floating modules for excavation in shallow water were delivered by Resinex to be used in the work underway in Kazakhstan. They will be used to render the floatability of the equipment being used in the positioning and trenching of the pipes earmarked for the transportation of oil on the Caspian Sea bed. They will be mounted on the main body of the equipment by special holes. The external cover is made in high resistant polyethylene and the interior is filled with monocellular polyurethane at a density adjusted to be compatible for work in depth of ten metres. At the end of last year, Resinex sent also 101 cylindrical floats to the Port of Kurik in Kazakhstan to be used by Saipem in the Kashagan project. These were buoys of 0.75 metres in length by 1.5 and were utilized for the transport and positioning of a 6" pipeline.

Fenders at Brindisi

Big 3 metres length by 1.5 metres width fenders have been positioned to furnish a docking pontoon for ships arriving in Brindisi from Greece and Turkey. The pontoon was indispensable to allow the point of docking in the cruise port to be moved to a site more compatible with the draft of the ships. The Resinex fenders are cylinder in polyethylene foam coated in polyurethane elastomer. They are extremely buoyant and have an elevated energy absorption level with a contained reaction force. They are therefore soft but high resistant due to the absorption proof capability of elastomer polyurethane.