

# RESINEX

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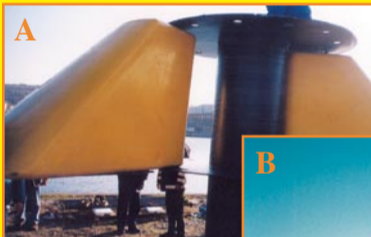
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## Introducing PALOMA

The greatest platform for scientific surveys installed by CNR in the Gulf of Trieste

### HIGH PERFORMANCES, EASY INSTALLATION

In spite of beacon size, assembling and laying operations have proved to be particularly simple: it took 5 people and 9 hours to carry out assembling operations in Trieste. From the moment the pontoon (80 tonnes) arrived on the place it took only two hours for the positioning!



**A:** the float is mounted on the float metallic structure.



**B:** now the UFO can fly!



**C:** the "unidentified" float is positioned on the pipe



**D:** the upper part is linked



**E:** float, metallic part and sinker are carried by the pontoon to the laying place



**F:** detail of the sinker (40 tonnes in air) linked to the metallic structure



**G:** the sinker is lowered



**H:** the float is going down



**I:** the upper part emerges from the water



**K:** the platform (6,25 sq.mt) is easily positioned on the upper part of the pipe

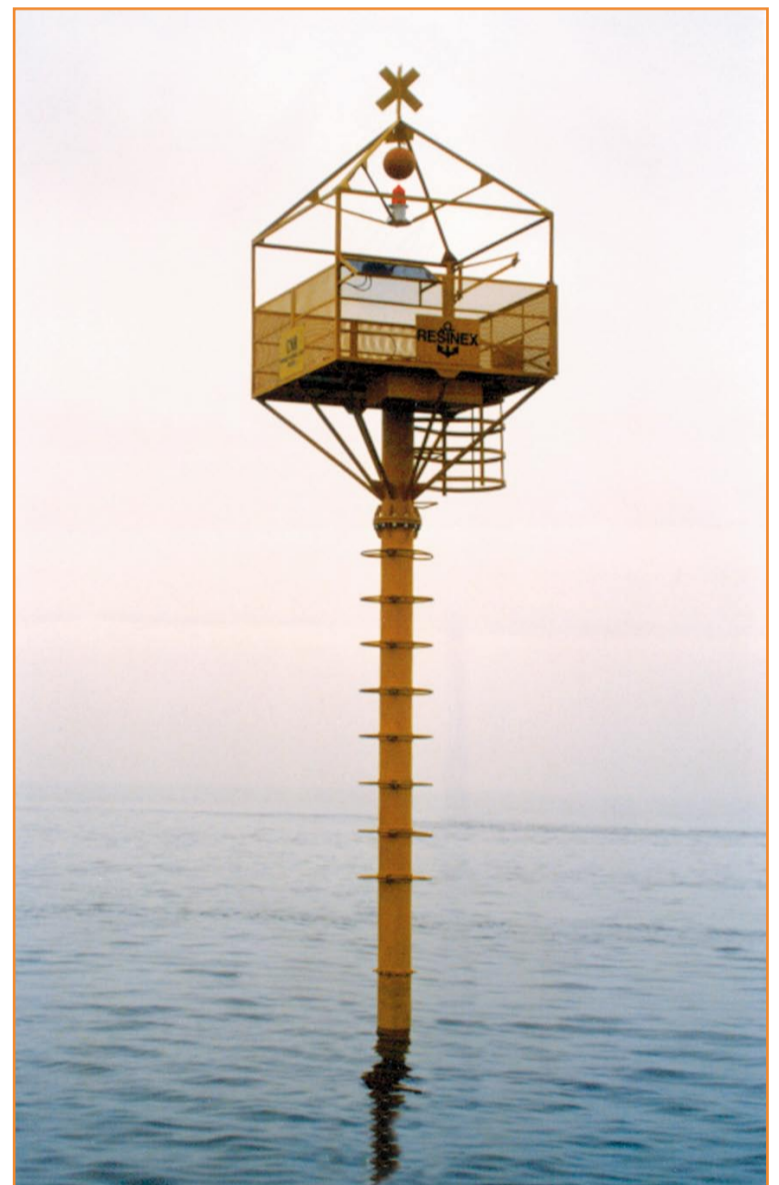


**L:** when platform is ready, details are assembled



**M:** the finished platform is inspected for the first time by the Italian Coastguard!

In 2000, Resinex has been entrusted by C.N.R. (National Research Council- Istituto Talassografico of Trieste - www.itt.ts.cnr.it) with a contract to study and supply a floating platform able to be a reliable aid to navigation and, at the same time, to host various instruments to study meteorological conditions in the Gulf of Trieste. So, Resinex has probably developed the largest elastic beacon ever built. Surface of platform is 6,25 sq.mt, with a height from sea surface of 11 meters. Sea depth is 24 meters. To match the extraordinary wind and sea conditions (170km/h wind speed and 6mt high waves) Resinex has studied a particular modular tronco-conical shaped float - 14,7tons net buoyancy - able to support pipes and platform in such conditions, giving a maximum inclination of 10 degrees. This type of buoy, very stable and, at the same time, elastic to sea stress can be easily deployed and used in all the seas where signals and easy-to-use platforms are necessary even in extreme sea and wind conditions.



The beacon in operation



# RESINEX

## Deep waters

Deep waters remain the main business of Resinex. To reach the deepest waters together with the lighter weight is our goal. The step of the last years has been to develop four new compounds to go till 1500 meters. The name of this compound is: *Nautex*.

### Nautex: discover the new compounds for deep waters from surface to 1500 meters depth

Resinex have worked out an innovative product for depths of up to 1,500 meters. As a matter of fact, it concerns four different compounds that maximize the ratio between pressure resistance and specific weight, thus allowing a remarkable cost decrease. This product has been called Nautex, namely the acronym of Nuutilus-Resinex, to evoke our light and strengthened product going down to the depths. Nautex can be placed next to the classic Synt 1000 and Synt 2000, namely items suitable for depths above one thousand meters : as a result, our Customers will have a widest choice as regard deep-water performing.

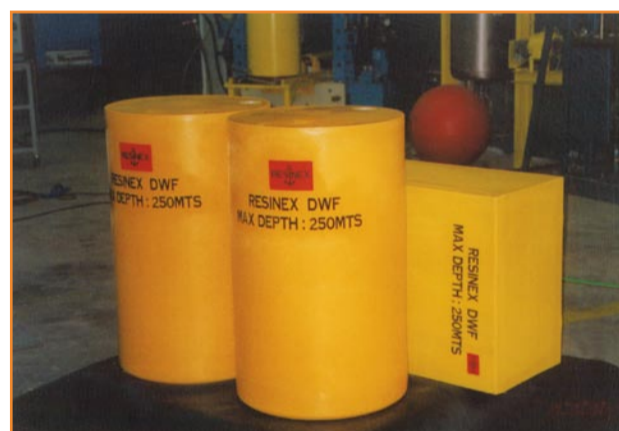
Resinex: range of products for depth and density						
Depth (meters)	Nautex 25	Nautex 50	Nautex 100	Nautex 150	Synt 1000	Synt 2000
0-250	150kg/cu.mt					
250-500		230kg/cu.mt				
500-1000			340kg/cu.mt			
1000-1500				400kg/cu.mt	450kg/cu.mt	
1500-2000						550kg/cu.mt

### NAUTEX 25 custom made modular floats for ROV

In the course of 2000, Resinex have supplied a deep-water company with three modules which had to be mounted on a ROV performing up to 250 meter depth. Thanks to Nautex 25, high floating and cost control could be



Pressure test for ROV modules at Adro Resinex Marine Research Centre



achieved. Besides, a new mould for the cylindrical modules has been worked out.

### Cable floats for various depth

These cable floats were manufactured by Resinex on account of SEA (www.seatrenching.com), a Ravenna based company specializing in the offshore business and were used in Egypt in 1999 and 2000. The



Floats after pressure test still in autoclave



floats were used to house the umbilical cables of a sea-line trenching machine, yellow down to 50 meters, red down to 100 meters. In this case too, Resinex have chosen Nautex 25 to fill the semi-cylindrical shells.

### Always Resinex deep water floats for Single Point Mooring Systems

Resinex continues to supply deep water floats to the major worldwide offshore companies throughout 1999 and 2000. One hundred floats were supplied again to Aramco; among the various orders one can notice the width collar reduction adaptations for Modec (185 mm.) and Bridgestone (135 mm.). Like Bridgestone and Yokohama, other companies have experienced and appreciated the come back of our Hinged Type classic model thanks to its features of lightness and elasticity to sea pipe pressure.



Historical hinged type Resinex floats with reduced width collar



100 floats for Aramco before dispatching on July '99



### Small spheres in depth

Small spherical buoys were also supplied to Impresub in 1999 during works in Egypt. 100-meter depth, 9 kg and 20 kg net buoyancy are the characteristics of these small yet safe and easy-to-handle depth spheres.





# RESINEX

## Offshore

### Quick Release Floaters for Africa An easy alternative with high results

To increase its competitiveness in the pipe positioning business, a customer of ours asked us to work out and produce an innovative quick release raft endowed with four floaters made of plastic material. Resinex have developed a simple, and at the same time, innovative product, above all with



respect to the previous steel floaters. Therefore, in 1999 we produced 100 floaters that were studied to lay several pipe miles in a short time. Product strength factors are ease of transport and assembling, lightness, and an excellent floating capacity. The floaters have enabled our

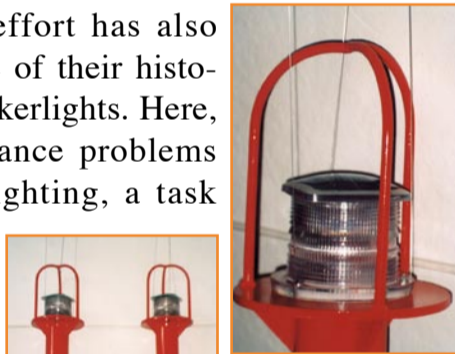
customer to achieve a real competitive advantage by reducing pipe installation and release times as well as obtaining, at the same time, an inestimable increase in safety.



Measure of galvanisation in Resinex laboratory

### Save maintenance costs with the new Resinex Winkerlights

Resinex's innovative effort has also been addressed to one of their historical products: the winkerlights. Here, Resinex sorted out maintenance problems concerning offshore pipe lighting, a task which often meant high management costs. In October 1999 we supplied the Emirates with 25 winkerlights endowed with solar panel self-feeding light and battery, 5 years maintenance free. A simple idea to save on costs.



New Resinex winkerlights with lantern, solar panel, battery and birdspikes in few centimeters. No more need of battery changing.

### Easy and safe evacuation with the Frog

In 1999 Resinex begun a cooperation agreement with Reflex Marine ([www.reflex-marine.com](http://www.reflex-marine.com)) an innovative company in the offshore industry. Reflex Marine has developed the Frog Marine Personnel Transfer Capsule, an alternative to basket transfer in the offshore operations. Resinex is the supplier of the shock absorbing



feet to project passenger during landing. The frog is a significant step forward in offshore safety, allowing safe marine transfers and emergency evacuation of offshore installations ( without use of helicopters). The Frog can also be converted to carry out stretcher transfer.

## In Brief



- Jawaby Oil Services is still one of the major Resinex's customers. We have recently supplied them with 4 fenderized buoys of the **S/85/1450 type** destined to Lybia.

- NB 1950kg, these very robust buoys were delivered to **Chevron** at the end of 1999 and directed to their oilfield in Angola.



- Also in 1999 Zadco (Emirates) asked for Resinex buoys of the **3086 type**. The particular protection plate gives these buoys the same strength of steel buoys, maintaining fenderized buoy elasticity.

- The **1503 type** is still one of Resinex's most successful buoys, in the picture you can see the floatation test concerning one of the four buoys that were sold to Moody International in March 2000.



- **Small and economic light buoys for lakes**; a red and a green one to signal harbour entry in the Garda Lake, Italy.

- Slightly bigger than the previous buoys, the **FP 200** (2 meter focal plane), sold to Greece in 1999.





# RESINEX

Newservice

## New door to door service for oil fields



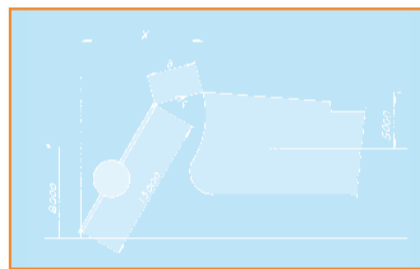
Spare parts, ancillaries and chains. Resinex have developed a fast-delivery service to oil fields. Oil companies increasingly evaluate the Resinex Service Unit as the fastest and most reliable answer to their needs. Chains, adiprene glue, flags, binoculars, lamps, anodes, lanterns, solar panels, batteries, flexible pipes, cables, etc. are some among the several spare parts that oil companies have bought from Resinex in the past 12 months. Since Resinex is willing to further develop this service, please contact our office in Andro (BS) (tel.0039.030.7457245-7453063 - email: marketing@resinextrad.com) for any requirement concerning the offshore sector. We guarantee a reply within few hours!

Fax and e-mail at  
Resinex Service Unit  
0039-030-7450162  
marketing@resinextrad.com  
for the best oil service shopping center!

## Marinas

### The Best Marinas increase benefits for their Customers

Resinex styling, performances and security give the best alternative to old marine equipments. In order to protect the Marina Marina's pylons (Ravenna-Italy-www.marinara.it) Resinex have worked out a new pipe-fender which allows



Preliminary study of elastic pylons

safe berth to large-size boats. The fender turns around the pipe thus avoiding damage risks during approaching. This marina's product reminds

the supply of 14 elastic pylons carried out by Resinex in 1985 in the Port of Antibes (F). There, big boats are still anchored with Resinex elastic pylons protected by a fenderized body.



Elastic pylons still in operation ...



Pipe fender installed



... and before installation, 15 years ago.

## Acquaculture

### Low cost products for Fishing Farms



Perimetral buoys



Net buoyancy 100 kg.

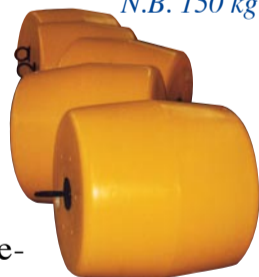
Low costs and wide product range, here's the simple mix to meet fish farmers' requirements.

In the course of 1999 and 2000 Resinex supplied several Italian sector operators with buoys of different sizes (100

to 350 kg.net buoyancy) as well as light and day perimetral buoys. Resinex's effort aims at creating simple and economic products to meet the requirements of the aquaculture sector.



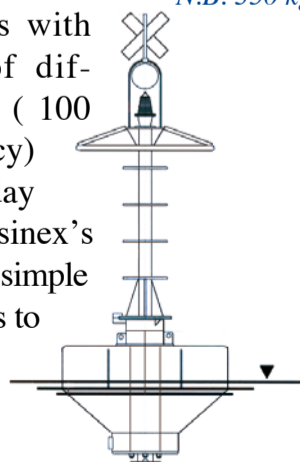
N.B. 150 kg.



N.B. 350 kg.



N.B. 250 kg.



## Horizontal barriers, the best for fixed installations

In 2000 Resinex have supplied Enel (Italy's Electricity Board) with an OSB 35 horizontal barrier able to optimize sea pipe protection in their power plants in Genoa. The horizontal floatation always enables to follow the sea movement and does not allow deposits to pass through, also with strong flow towards the sea.



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