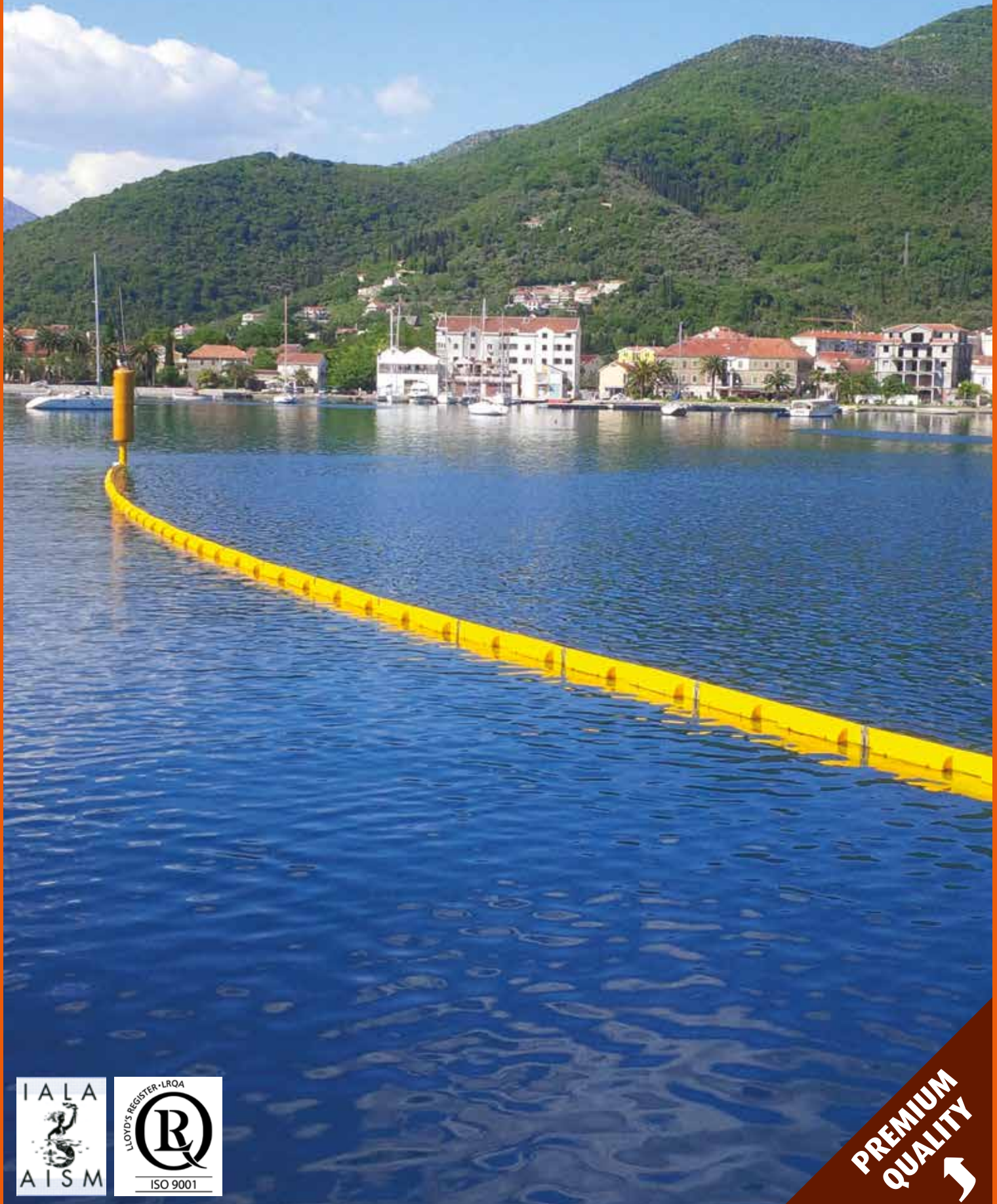




# ANTIPOLLUTION AND ANTI-INTRUSION

The widest range of floating equipment in the world



**PREMIUM  
QUALITY** 

# Antipollution

Resinex manufactures the following boom types:

- OSA (to be used in calm waters);
- OSB (to be used in open sea);
- OSQ (to be used in calm waters and fast installation);
- OSC (strong boom suitable for permanent use).

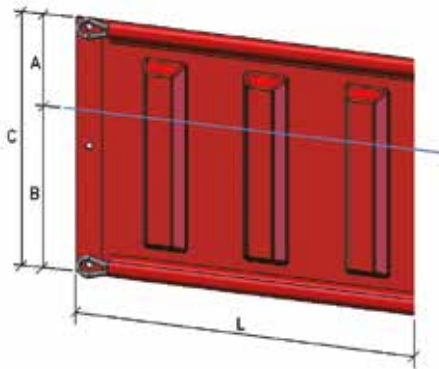
Resinex booms, are usually used for containment and retrieval operations in cases of spillage of hydrocarbons, solid floating wastes, seaweed and micro-organism. These booms, which are used in the safeguard of sea coasts, beaches, rivers and lakes are made of PVC, or polyurethane with polyester reinforcement of high mechanical and chemical resistance.

After use, Resinex booms can easily be removed and cleaned spraying water or steam at 80°C or special detergents.



## OSA BOOMS

### TYPE OSA



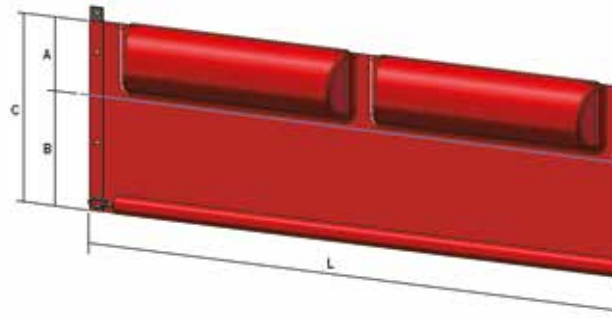
		OSA 25	OSA 35	OSA 45
FREE BOARD (mm)	A	250	350	450
DRAUGHT (mm)	B	500	650	750
WEIGHT/MT. APPROX. (Kg)		7/9	8/10	9/11
HEIGHT OF STANDARD UNIT	C	750	1000	1200
ASSEMBLY OF UNITS		WATERTIGHT QUICK UNION	WATERTIGHT QUICK UNION	WATERTIGHT QUICK UNION
TRANSMISSION OF LONGITUDINAL STRESSES		NYLON ROPE	NYLON ROPE	NYLON ROPE
USE	CALM WATERS	•	•	•
BUOYANCY MATERIAL		CLOSED CELL FOAM	CLOSED CELL FOAM	CLOSED CELL FOAM
SECTION LENGTH		24 m	24 m	24 m
BOOM FABRIC GR./M2		900/1200	900/1200	900/1200

NOTES: Indicative characteristics - Other types of booms can be supplied upon request - Standard colour: orange (international).

# OSB BOOMS



## TYPE OSB



		OSB 35	OSB 50	OSB 65
FREE BOARD (mm)	A	350	500	650
DRAUGHT (mm)	B	700	1000	1300
WEIGHT/MT. APPROX. (Kg)		8/10	9/11	10/12
HEIGHT OF STANDARD UNIT	C	1050	1500	1950
ASSEMBLY OF UNITS		WATERTIGHT QUICK UNION	WATERTIGHT QUICK UNION	WATERTIGHT QUICK UNION
TRANSMISSION OF LONGITUDINAL STRESSES		CHAIN	CHAIN	CHAIN
	OPEN SEA	•	•	•
BUOYANCY MATERIAL		CLOSED CELL FOAM	CLOSED CELL FOAM	CLOSED CELL FOAM
SECTION LENGTH		12 m	12 m	12 m
BOOM FABRIC GR./M2		900/1200	900/1200	900/1200

NOTES: Indicative characteristics - Other types of booms can be supplied upon request - Standard colour: orange (international).

# OSQ BOOMS

Resinex manufactures small booms for quick deployment: type OSQ (named boommy). This is the best example of this type of boom; it can be produced in various versions.

Small, light, resistant, nice, always standing, this is "Boommy" the new Resinex beach boom.

It can also be used in the event of emergency.



Easy bag for transportation of 10 metres.



Quick zip connections.

		TYPE OSQ		
		OSQ 400	OSQ 600	OSQ 900
FREE BOARD (mm)		130	200	350
DRAUGHT (mm)		270	400	550
WEIGHT/MT. APPROX. (Kg)		1,8	2,3	6,5
HEIGHT OF STANDARD UNIT		400	600	900
ASSEMBLY OF UNITS		ZIP	ZIP	ZIP
TRANSMISSION OF LONGITUDINAL STRESSES				
USE	CALM WATERS	.	.	.
BUOYANCY MATERIAL		CLOSED CELL FOAM	CLOSED CELL FOAM	CLOSED CELL FOAM
SECTION LENGTH		10 m	10 m	10 m
BOOM FABRIC GR./M2		900/1200	900/1200	900/1200

NOTES: Indicative characteristics - Other types of booms can be supplied upon request - Standard colour: orange (international).

# OSC BOOMS

Resinex is a specialist in strong and heavy duty barriers: type OSC. In this field, dimensions and materials used are coherent with the long life of the system. Floats, often of big size, are normally produced in roto-moulded polyethylene filled with polyurethane foam.

Resinex has a wide range of floats and can design and manufacture many types of OSC booms according to customer needs.



Draught is usually manufactured with rubber or polyurethane. Nets are often utilized also with the anti-intrusion function.

Our booms can protect till the sea-bottom. It is the new necessity for those who work at sea (digging, dredging,). It is the new Resinex Offshore Barrier with total top-to-bottom protection. It creates a total barrier from the sea surface to the sea bed preventing any material transfer.

The Resinex barrier is particularly suitable for this type of operation thanks to the elevated horizontal floating capability on the surface of the water.



# Anti-intrusion and delimitation

Besides antipollution barriers, Resinex develops and produces anti-intrusion and delimitation barriers. Buoyancy is guaranteed by elements with high thickness linear polyethylene shells, filled with closed cell polyurethane foam which prevent any potential water absorption. These barriers can be manufactured with different sizes, structures and accessories according to customer requirement and to requested application field.



The barriers with smaller and distant floats have as main purpose the delimitation of an area, while those manufactured with bigger and closer floats physically deny the access of any boat to the area. Anti-intrusion barriers can be equipped with special steel parts which accentuate their break-proof capabilities.





These geometries can be designed in cooperation with the client and with the designated authorities which guarantee the safety of the concerned area. This type of barriers is normally installed in port areas reserved for military operations or in basins adjacent to oil and gas industrial zones.



# Complete packages

Resinex develops complete antipollution systems. The boom sections can be supported by buoys and signalled by light buoys or elastic beacons.

Besides the prevention system and its signalization, Resinex supplies a complete range of skimmers and absorbent booms and sheets.



1



2

- 1 Booms with net signalled by light buoys.
- 2 Boom with net before deployment.
- 3 Skimmer test.
- 4 The intake protected also by support buoys.



3



4



# Monitoring

Resinex has a long experience in the sea environment monitoring.

The anti-intrusion barrier system can be integrated with buoys and platforms complete of systems for the analysis of the sea water, video surveillance system and its transmission onshore.

Systems for tide and for meteo-marine conditions control can easily be positioned on Resinex platforms to constantly check the principal meteo-marine data: currents, wind speed, tides, wave measures, etc.

Resinex buoys and platforms studied for the sea water monitoring can automatically measure these principal water quality parameters: temperature, pH, conductivity, dissolved oxygen, turbidity, ammonia, nitrate, nitrite, orthophosphate together with the automatic correlation of current direction and speed measurements. These buoys and platforms are powered by solar panels. The system can fully be configured and managed using SMS (Short Message Service) utility of GSM wireless network. Measuring data are automatically sent after the end of each chemical analysis using a SMS too. A PC installed onshore automatically collects the data.



# Quality control and tests

Resinex production process is monitored during all steps.

Starting from rotomoulding polyethylene thickness, passing through the quality control of steel part (AISI 316, Titanium ... ) Resinex Quality Assurance



Department finally arrives at the strict controls of polyurethane foam, glassfoam compounds, syntactic foam filling and booms materials.

Resinex booms are suitable for heavy sea conditions and Resinex anti-intrusion barriers are suitable for resisting against impact with boats. Resinex, with its products, has always moved up the market needs and invested hefty sums in research, thereby keeping one step ahead of the competition: an example of this is the set of six autoclaves installed in the Marine Research Centre in Adro. The following pressure tanks are available:

- diameter: 2220 mm/height: 3400 mm/  
max. operative pressure: 50 bar;

- diameter: 1580 mm/height: 1500 mm/  
max. operative pressure: 25 bar;

- diameter: 1000 mm/height: 1987 mm/  
max. operative pressure: 400 bar;

- diameter: 450 mm/height: 650 mm/  
max. operative pressure: 850 bar;

- diameter: 270 mm/height: 660 mm/  
max. operative pressure: 250 bar.

In this way our company is once again the vanguard in quality and safety of its floats, offering a more and more advanced service to the customer. Quality Management of materials and production process are certified by Lloyd's Register Quality Assurance norm ISO 9001:2008.

Exhaustive laboratory tests are carried out on samples taken during the work process. Before being delivered, floats coming off the production line go first to the nearby Adro Resinex Marine Research Centre, which is equipped with the most up-to-date and sophisticated analysis systems. Besides weight and dimension, traction resistance is tested, pressure and floatability (net buoyancy) and data are fed into a computerized system which gives a report of all the characteristics of the piece in question. This is a type of Identity Card which represents an extra guarantee of the Resinex quality.

- 1 *Traction strength test on booms.*
- 2 *Weight procedures at electronic scales.*
- 3 *High pressure tests in the Adro Resinex Marine Research Centre.*



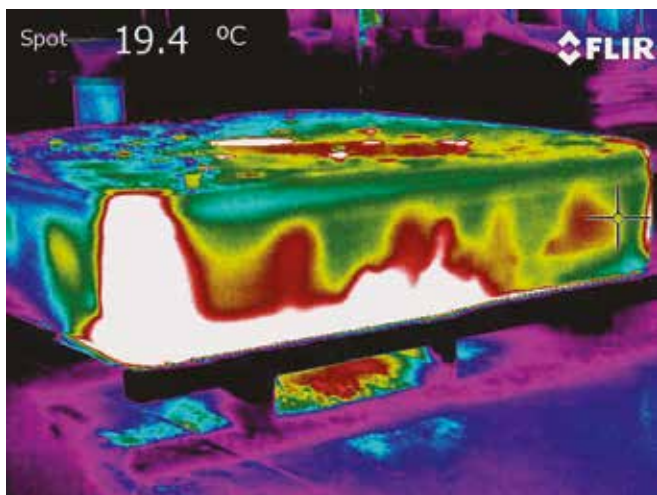
» Hydrostatic Pressure Test in 6 pressure tanks till 850 bars



» Boom Buoyancy Test



» Infra-red analysis of synt foam filling



» Fastening Removal Test on Pipe Floats



» Structural Pressure Test on the buoy body



» Impact Test on the buoy body



» Tension Test on float assembly

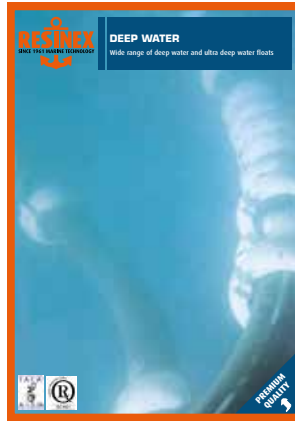


» Proof Load Test on steel parts



» Crash Test on buoyancy elements





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