

= French ironclad Océan =

Océan was a wooden @-@ hulled , armored frigate built for the French Navy in the mid to late 1860s and the lead ship of her class . She was commissioned in 1870 to participate in the Franco @-@ Prussian War and was assigned to the Baltic Squadron that unsuccessfully attempted to blockade Prussian ports in the Baltic Sea . The ship later served in both the Northern and Mediterranean Squadrons before being discarded in 1894 .

= = Design and description = =

The Océan @-@ class ironclads were designed by Henri Dupuy de Lôme as an improved version of the Provence @-@ class ironclads . The ships were central battery ironclads with the armament concentrated amidships . For the first time in a French ironclad three watertight iron bulkheads were fitted in the hull . Like most ironclads of their era they were equipped with a metal @-@ reinforced ram .

The ship measured 87 @.@ 73 meters (287 ft 10 in) overall , with a beam of 17 @.@ 52 meters (57 ft 6 in) . Océan had a maximum draft of 9 @.@ 09 meters (29 ft 10 in) and displaced 7 @,@ 749 metric tons (7 @,@ 627 long tons) . Her crew numbered between 750 and 778 officers and men . The metacentric height of the ship was very low , between 1 @.@ 7 ? 2 @.@ 2 feet (0 @.@ 5 ? 0 @.@ 7 m) .

= = = Propulsion = = =

The Océan @-@ class ships had one horizontal return connecting rod compound steam engine driving a single propeller . Their engines were powered by eight oval boilers . On sea trials the engine produced 3 @,@ 600 indicated horsepower (2 @,@ 700 kW) and Océan reached 13 @.@ 5 knots (25 @.@ 0 km / h ; 15 @.@ 5 mph) . She carried 650 metric tons (640 long tons) of coal which allowed her to steam for approximately 3 @,@ 000 nautical miles (5 @,@ 600 km ; 3 @,@ 500 mi) at a speed of 10 knots (19 km / h ; 12 mph) . The Océan @-@ class ships were barque or barquentine @-@ rigged with three masts and had a sail area around 2 @,@ 000 square meters (22 @,@ 000 sq ft) .

= = = Armament = = =

These ships had their main armament mounted in four barbettes on the upper deck , one gun at each corner of the battery , with the remaining guns on the battery deck below the barbettes . Océan 's original armament consisted of four 240 @-@ millimeter (9 @.@ 4 in) guns in the barbettes , and on the battery deck , four 194 @-@ millimeter (7 @.@ 6 in) and four 164 @-@ millimeter (6 @.@ 5 in) guns . This was to upgraded four 274 @-@ millimeter (10 @.@ 8 in) guns in the barbettes and eight 240 @-@ millimeter (9 @.@ 4 in) guns on the battery deck before she was commissioned .

The 18 @-@ caliber 274 @-@ millimeter Modèle 1870 gun fired an armor @-@ piercing , 476 @.@ 2 @-@ pound (216 @.@ 0 kg) shell while the gun itself weighed 22 @.@ 84 long tons (23 @.@ 21 t) . The gun fired its shell at a muzzle velocity of 1 @,@ 424 ft / s (434 m / s) and was credited with the ability to penetrate a nominal 14 @.@ 3 inches (360 mm) of wrought iron armour at the muzzle . The armor @-@ piercing shell of the 19 @-@ caliber 240 @-@ millimeter Modèle 1870 gun weighed 317 @.@ 5 pounds (144 @.@ 0 kg) while the gun itself weighed 15 @.@ 41 long tons (15 @.@ 66 t) . It had a muzzle velocity of 1 @,@ 624 ft / s (495 m / s) and was credited with the ability to penetrate a nominal 14 @.@ 4 inches (366 mm) of wrought iron armour at the muzzle .

At some point the ship received a dozen 37 @-@ millimeter (1 @.@ 5 in) Hotchkiss 5 @-@ barrel revolving guns . They fired a shell weighing about 500 g (1 @.@ 1 lb) at a muzzle velocity of about 610 m / s (2 @,@ 000 ft / s) to a range of about 3 @,@ 200 meters (3 @,@ 500 yd) . They had a

rate of fire of about 30 rounds per minute . The hull was not recessed to enable any of the guns on the battery deck to fire forward or aft . However , the guns mounted in the barbettes sponsoned out over the sides of the hull did have some ability to fire fore and aft . Late in the ship 's career four above @-@ water 356 @-@ millimeter (14 @.@ 0 in) torpedo tubes were added .

= = = Armor = = =

The Ocean @-@ class ships had a complete 178 ? 203 @-@ millimeter (7 @.@ 0 ? 8 @.@ 0 in) wrought iron waterline belt . The sides of the battery itself were armored with 160 millimeters (6 @.@ 3 in) of wrought iron . The barbette armor was 150 millimeters (5 @.@ 9 in) thick . The unarmored portions of their sides were protected by 15 @-@ millimeter (0 @.@ 6 in) iron plates . Gardiner says that the barbette armor was later removed to improve their stability , but this is not confirmed by any other source .

= = Service = =

Océan was laid down at Brest in July 1865 and launched on 15 October 1868 . The ship began her sea trials on 3 December 1869 , but was not commissioned until 21 July 1870 for service during the Franco @-@ Prussian War of 1870 ? 71 . Océan was assigned to the Northern Squadron that attempted to blockade Prussian ports on the Baltic until the squadron was ordered to return to Cherbourg on 16 September 1870 .

Afterward she was assigned to the Evolutionary Squadron until 1875 when she was placed in reserve . Océan was recommissioned in 1879 for service with the Mediterranean Squadron . She had a lengthy refit in 1884 ? 85 and was assigned to the Northern Squadron after it was completed . Around 1888 the ship was transferred back to the Mediterranean Squadron until she was reduced to reserve around 1891 . Océan was assigned to the Gunnery School that same year and later became a training ship for naval apprentices before being condemned in 1894 .