TRANSPORDIAMET

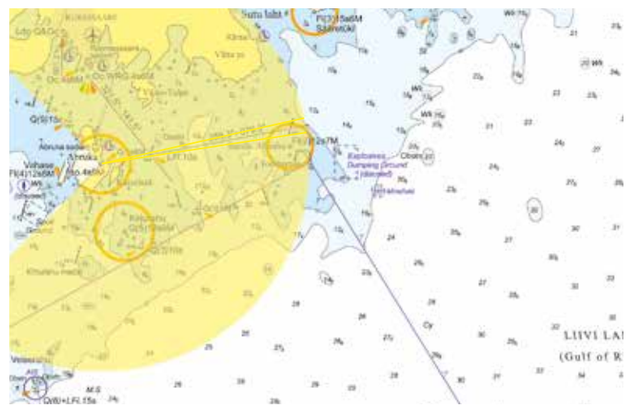
**As of 1 December 2022, there are 1628 navigation aids in Estonia, of which 55 are lighthouses, 235 are beacons, 33 are daybeacons and 1305 are navigation buoys.**

# ABRUKA LIGHTHOUSE

Geographical coordinates: 58° 08.9443'N; 22° 31.4575'E.

The white reinforced concrete tower with three black lines is situated on the eastern coast of Abruka Island (also known as *Abro* or *Abrow*) and aids ship route navigation between the Western Baltic Sea and Roomassaare. **The lighthouse together with the Abruka leading light front beacon 679 m away creates a leading line of 259.3°,** which helps safely sail between Saaremaa and Allirahu.

**Abruka Lighthouse is special because it is the narrowest (smallest circumference) of the high lighthouses and consequently may sway in heavy wind by up to a few dozen centimetres.**



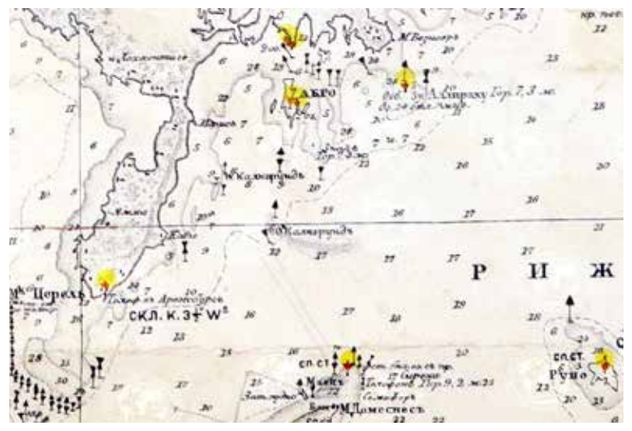
*Extract from the map atlas "Eesti merekaardid" (Nautical Maps of Estonia) from the year 2022 with the lighting sector of the lighthouse*

## LIGHTHOUSE HISTORY AND INFORMATION

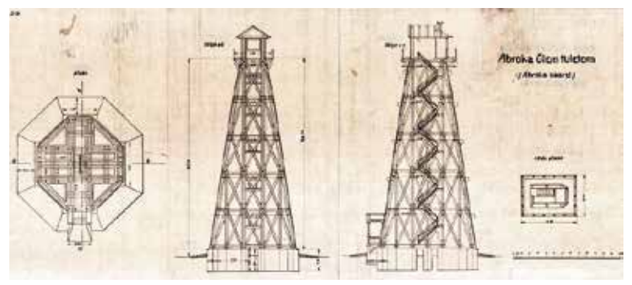
- **In 1895-1896** the Roomassaare harbour was built and ship traffic went up significantly.
- **In 1897** the Abruka leading light was constructed to ensure the safety of naval travel. It consisted of two wooden towers:

  **Abruka leading light rear lighthouse** (now known as the Abruka Lighthouse) was a 28-metre-tall, white painted, wooden, octagonal truncated pyramid shaped building, on the upper part of which was a balcony and a quadrangular light room. The light (a one-wick kerosene lamp) was situated 27 m above sea level and was visible from 11 nautical miles away.

  **Abruka leading light front beacon** consisted of a wooden candelabra, which when raised, elevated the open flame to a height of 21 m above sea level, with a visibility range of 10 nautical miles.
- **During the First World War** the rear lighthouse height was increased by 9 m. The permanent light was now situated 37 m above sea level and was visible from 14 nautical miles away.
- **In 1923** the front wooden beacon was replaced with an angle iron truss pyramid tower, the east side of which was covered with planks and painted white. The light was situated 21 m above sea level and was visible from 11 nautical miles away.
- **In 1931** the wooden Abruka leading light rear lighthouse tower was replaced with a 34-metre-high reinforced concrete tower according to Ferdinand Adoff's design solution. An automatic omnidirectional sector carbide lantern by the company AGA was installed on the roof platform 37 m above sea level, with a visibility range of 14 nautical miles.
- **By the beginning of the 1990s** the carbide lantern had been replaced with an electric lamp, which was in the historical 500 mm standard AGA lantern.




*Abruka leading light lighthouse and beacon on the 1912 nautical chart "Восточная часть Балтийского моря и Рижский залив" (Eastern part of the Baltic Sea and the Gulf of Riga)*

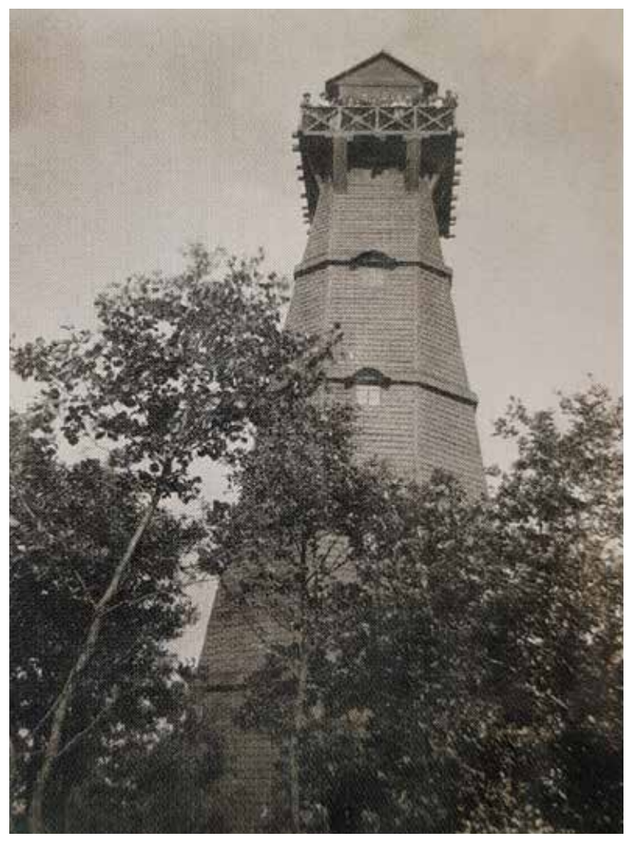



*Extract from the initial wooden leading light rear lighthouse design*

- **In 1996** the light was connected to a navigation aid remote sensing system.
- **In 1998** a 21-metre-high metal tower with a wooden board was built, replacing the **leading light front beacon** with a new one. The wooden board was split horizontally, the upper part was painted red and the lower painted white. The leading light lantern's height above sea level was and is 22.6 m, visible from 8 nautical miles away in the darkness.
- **In 1999** a Tideland LED rotating lantern was mounted above the incandescent lamp lantern already present in the Abruka Lighthouse.
- **In 2006** a 66 W capacity LED leading light range lantern (Sabik E8554) was installed in the lighthouse and some years later, **in 2013,** the Tideland lantern was replaced with an LED omnidirectional light (Sabik E8276). The maximum total light intensity of the light system in the leading line direction is **68,436 cd** (one candela (cd) is equal to the light intensity of one lit candle). The omnidirectional lantern and the range lantern work simultaneously. The Abruka Lighthouse's light's visibility in the darkness has been set as 9 nautical miles in the nautical charts.
- With high visibility, the light is visible from **22 km away.**

*The lantern from 1931 is currently displayed in the Abruka Museum where anyone interested can go see it.

*Sources:*
*Peeter Peetsalu „Merekultuurilugu" (Cultural History of the Sea),*
*Jaan Vali „Eesti tuletornide ajalugu" (History of Estonian Lighthouses).*



*Abruka rear lighthouse before renovation, picture from the year 1915*

## NAVIGATION AID FACTS

Navigation aid number: 972
Surface elevation above sea level: 1.2 m
Aid elevation above surface elevation: 34.5 m
Light height above sea level: 37.3 m
Light characteristics: Iso W 4 s Isophase light

Iso

Flashing period description: 2+2=4

*Routine maintenance in the Abruka Lighthouse in the year 2018 with the current LED-lantern in the foreground, photo T.Vilu*

*Abruka Lighthouse, photo from the year 2020 by T. Vilu*

*Abruka leading light rear lighthouse higher by nine metres, photo from the year 1925*