

NEW MOORING FACILITIES AND SHORE POWER

Parkkade, Rotterdam

At Parkkade in Rotterdam, we are installing new mooring facilities that comply with ISPS regulations. This ensures that the berths meet international security standards and offer enhanced protection. All vessels mooring at this location will have access to a shore power connection. This allows ships to switch off their engines and use shore power, saving fuel and reducing emissions.

Shore power: the next step towards a sustainable Port of Rotterdam

The Port of Rotterdam is making significant strides towards sustainability by implementing shore power facilities. Shore power reduces emissions from moored vessels, contributing to cleaner air and a healthier living environment.

Registration and billing for shore power

Seagoing vessels can use shore power after the agent registers the vessel for the berth. The agent receives a code, which is then shared with the crew. The crew can use this code to activate or deactivate the shore power cabinet. Shore power usage is billed via seaport dues. The registration for inland vessels and billing for shore power are managed through the usual app for inland shipping, Connect4Shore.

Shore power tariff

The tariff for shore power in Rotterdam is set annually. For 2024, the tariff is €0.35 per kWh. The 2025 tariff will be determined in November/December 2024.

Generator ban/shore power obligation

The Harbour Master's Division of the Port of Rotterdam Authority is responsible for introducing and enforcing a generator ban or shore power obligation in Rotterdam. For the first two years after the shore power installation for seagoing vessels becomes operational, no generator ban will be in effect.

However, vessels equipped with the appropriate shore power facilities are expected to use shore power at Parkkade. Two years after the shore power installation is commissioned, a generator ban or shore power obligation will apply. From that point on, all vessels mooring at Parkkade must use shore power (or another form of emission-free electricity generation onboard).

For inland vessel berths at Parkkade, the generator ban will be enforced immediately upon the opening of the shore power installation.

Preparations for shipowners and vessels

The ISPS-compliant mooring facilities and shore power installation are expected to be operational by late Q1 or early Q2 of 2025. Shipowners and operators must prepare their vessels for shore power compatibility. Inland vessels must comply with NEN-EN 15869-3:2019 and NEN-EN 16840:2017, while seagoing vessels must adhere to NPR-IEC/PAS 80005-3.

This includes considerations for design features such as cable lengths, connector types and positions, synchronization, galvanic isolation systems, and cable management.

Technical details

At Parkkade, there are two types of shore power cabinets: one for inland vessels and another for seagoing ships (coasters).

Each cabinet contains two connections:

- CEE-form connection (125A, 5-pin) for vessels using $\leq 125A$.
- 3PX5 connection for seagoing vessels.
- Powerlock connection for inland vessels requiring connections above 125A.

The cabinets also include isolation transformers, meaning vessels do not need onboard transformers. However, other berths in the port may have different requirements, so always confirm what is needed for the specific berth and applicable standards.

Connections

To use this facility, your vessel must be equipped with one of the following connections:

- CEE-form female connection (125A, 5-pin)
- 3PX5 female connection
- Powerlock connection for inland shipping



Connections must be compatible with 400V and 50Hz.

Vessels operating on a different frequency will require a mobile frequency converter. Ensure your vessel is properly equipped to fully utilise the shore power facilities.

Cable requirements

Owners must supply their own cables, which must meet the following specifications:

- Male connectors on both ship and shore ends.
- Cable length based on the distance between the shore power cabinet and the ship's connection point, taking into account height differences and vessel movement.

- Cable diameter:
 - o For 125A CEE-form connections, a minimum conductor size of $5 \times 35 \text{mm}^2$ is required for cable lengths up to 50 metres.
 - o For 350A 3PX5/Powerlock connections, consult the cable manufacturer or vendor for specifications.
- Must comply with NEN 3140 inspection standards.
- Fully unroll the cable during use.
- Equipped with strain relief (e.g., a towing sock or similar) to prevent damage to the connections.

Connection procedure

The crew member responsible for connecting the cable must be trained and certified for working with installations $\geq 125A$ (equivalent to a qualified person under NEN 3140 standards).

The recommended connection procedure is as follows:

1. Fully unroll the cable.
2. Attach the strain relief to the designated eye on the jetty.
3. Insert the connector into the ship's socket.
4. Insert the connector into the shore-side socket.
5. Enter the code received from the operations centre into the shore power cabinet keypad.
6. Press the start button.
7. Switch the vessel from generator to shore power. If onboard synchronisation is unavailable, the vessel may experience a blackout during this process. Ensure the onboard generator is first turned off.