

# TRAFICOM

Finnish Transport and Communications Agency

## Approach channels in Finland – Under keel clearance principles and practice



Finnish channels are designed and constructed to provide a safe passage for vessels through hazardous waters. The management and control of an under keel clearance is a fundamental part of safety in Finnish channels.

This brochure will provide instructions on ensuring efficient and safe navigation in Finnish channels. For more detailed instructions please visit:

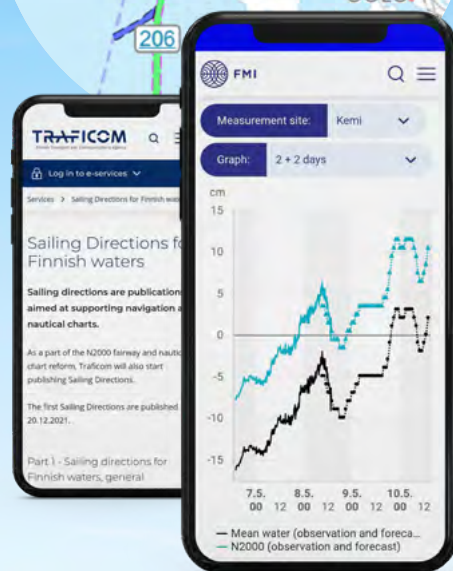


**trafficom.fi**  
> Transport > Maritime  
> Fairways > Principles and application of channel depths in Finland

The changing of the Nautical Chart Datum from Mean sea level (MSL) to N2000 (Baltic Sea Chart Datum BSCD ) is currently in process. Please check the current situation at:



**trafficom.fi**  
> Transport > Maritime  
> N2000 fairway and nautical chart reform Improved  
> The publication status of N2000 charts



Always use the latest channel and sea level information for efficient and safe navigation.



## 1 The approach channel information

Check the approach channel (fairway) information from an up-to-date nautical charts and publications. You will find useful information here:



**trafficom.fi**  
> Services > Sailing directions to Finnish waters



**vayla.fi**  
> Service providers  
> Merchant shipping  
> Navigating the waterways  
> Fairway-cards

## 2 Water level

Find out the current and the forecast water level at the nearest mareograph:



**en.ilmatieteenlaitos.fi**  
> Weather and sea  
> Marine weather and Baltic Sea > Sea level

Make sure you are using the right water level that matches with the Nautical Chart: Mean Sea Level (MSL, Mean Water) or BSCD2000 (N2000).

## 3 Vessel and conditions meet the prerequisites

If the vessel's dimensions and speed are within the channel's design criteria and the prevailing conditions are normal, it is safe to navigate the channel by following the international maritime rules. Good co-operation with the vessel traffic service and the pilot is important for safe navigation.

- ✓ Normal conditions
- ✓ Vessel draught ≤ design draught + water level
- ✓ Vessel size & type ≤ design vessel
- ✓ Vessel speed ≤ design speeds

→ **Safe to proceed**

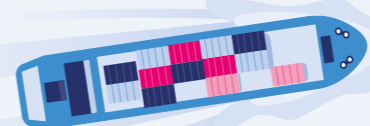
- i** The recommended design draught must always be corrected for the current water level.
- Vessels are recommended to use channels according to design, such that there is no doubt of the adequacy of the channel space.

## 4 Vessel or conditions do not meet the prerequisites

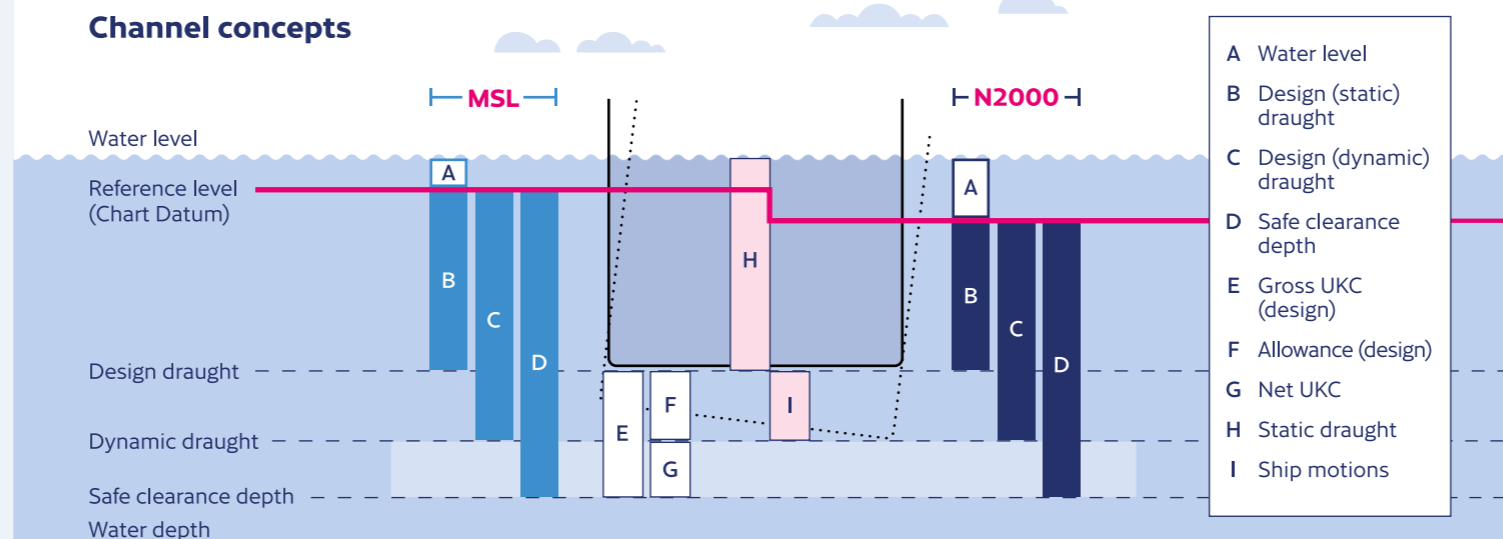
If the prerequisites described in phase 3 are not met or the vessel wants to use allowance (F in graph) during the time of low water level, a careful under keel clearance calculation has to be made. The Finnish Transport Infrastructure Agency has set up a calculator online for this purpose:



**dvk.vaylapilvi.fi**  
(In English)  
> Squat Calculation



## Channel concepts



## The Master is responsible for ensuring sufficient Under Keel Clearance in all conditions

If the result of the calculation indicates that net Under Keel Clearance (net UKC) is more than 0.5 m, it is safe to navigate the channel. If the result of net UKC is less than 0.5 m, it will not be safe to navigate the channel.

Net UKC ≥ 0.5 m → **Safe to proceed**

- i** If the vessel is planning to use the channel when the vessel or conditions do not meet the prerequisites, the vessel must give a notification to the VTS of using the channel. More information can be found in the **Vessel Traffic Service's Master's guide**:



**fintraffic.fi**  
> Maritime Traffic  
> Master's Guide

If the calculation result indicates that it is not safe to proceed to the channel, it will be necessary to take action in order to increase the net UKC. This can be done by e.g. waiting for the water level to rise, reducing speed (using tugs) or unloading part of the cargo.

Net UKC < 0.5 m → **Not safe to proceed**

- i** If sufficient (net UKC ≥ 0.5 m) Under Keel Clearance cannot be verified, the vessel cannot use the channel.

**In cooperation:**

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