



ULSTEIN®



TURNING VISIONS INTO REALITY

Cadmatic and OCX in ULSTEIN Design & Solution AS

ULSTEIN

More than 100 years' experience in the maritime industry

Innovator in maritime equipment, designs and ships

Family-owned, third generation

Established 1917

450+
People

4
Countries

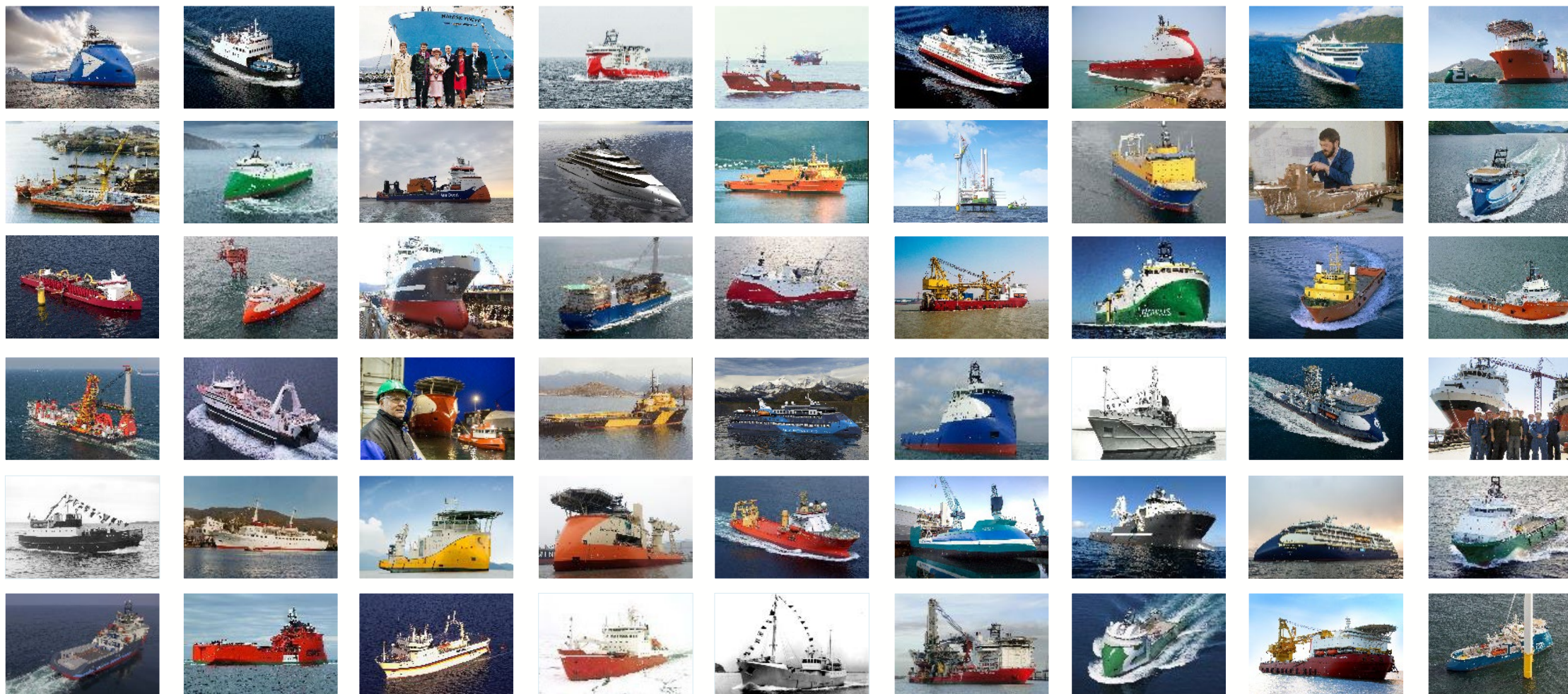
Norway
Main office Ulsteinvik





ULSTEIN®

VESSELS FROM ULSTEIN





ULSTEIN®

OUR HOME GROUND



323
Vessels built
Ulstein Verft
Norway.

164
Ulstein designs

117
X-BOW®s



Børulf Lefdal

**Senior Principal Engineer /
Department Manager, Hull Structure & Outfitting**

ULSTEIN DESIGN & SOLUTIONS AS

Started in ULSTEIN in 1995

Cadmatic Hull user since 1995

Cadmatic Hull System manager since 1997

Nauticus Hull user since 2005

A scenic view of a sunset over the ocean. The sun is low on the horizon, casting a warm glow across the sky and reflecting on the water. In the foreground, several large, dark rocks are scattered across the beach and in the shallow water. The overall atmosphere is calm and serene.

Ulstein and OCX

- **Ulstein Design & Solution was part of the first «Approved» project which started the development of OCX in 2016.**
- **Currently an observer of the OCX-consortium.**
- **Testing of OCX export from Cadmatic and section scantling by intersecting the OCX-model is ongoing.**

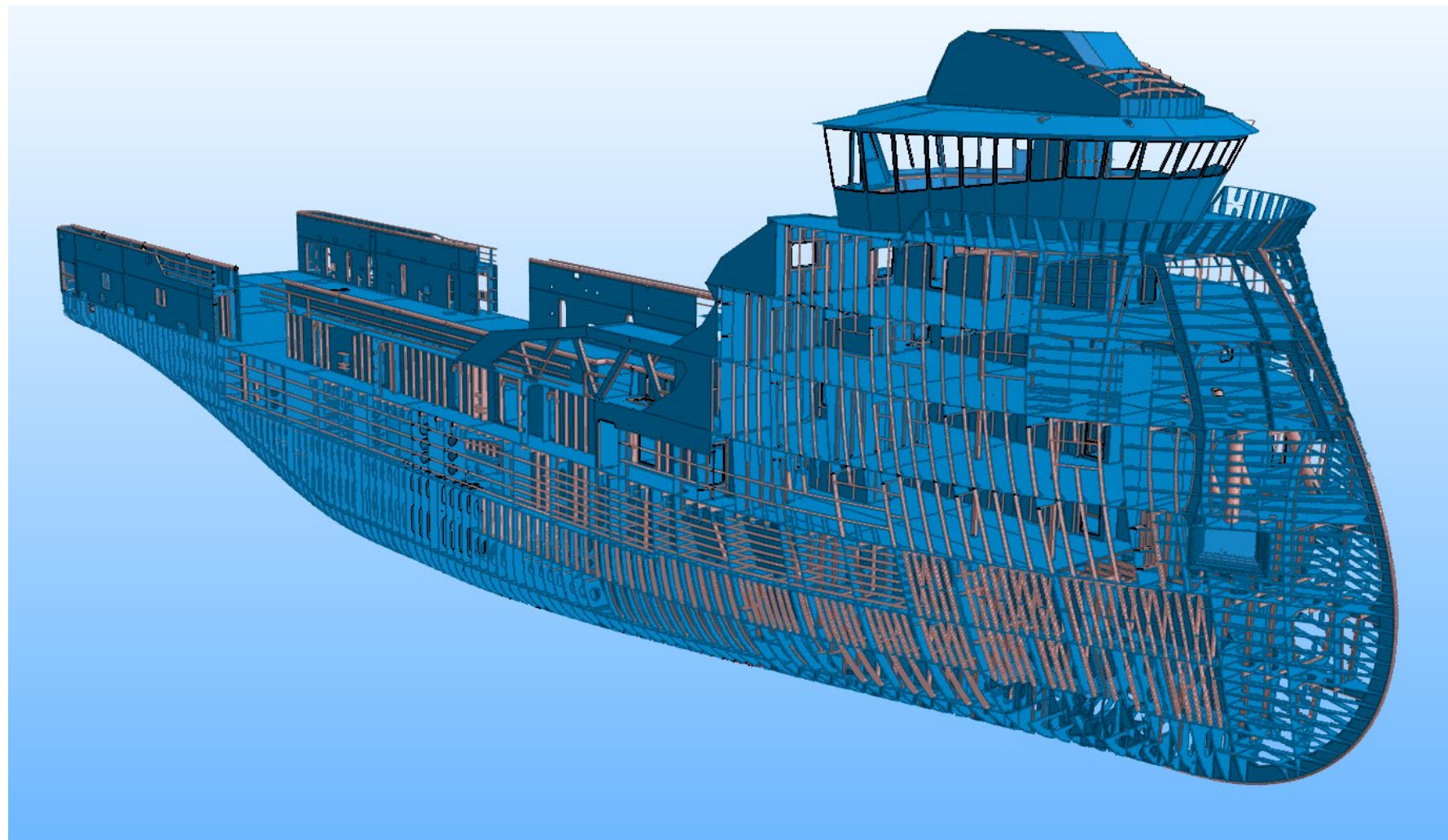


TESTPROJECT

ULSTEIN PX105

An existing hull project we have upgraded to Cadmatic Hull version 24T3RC02 OCX.

Successfully exported to OCX.

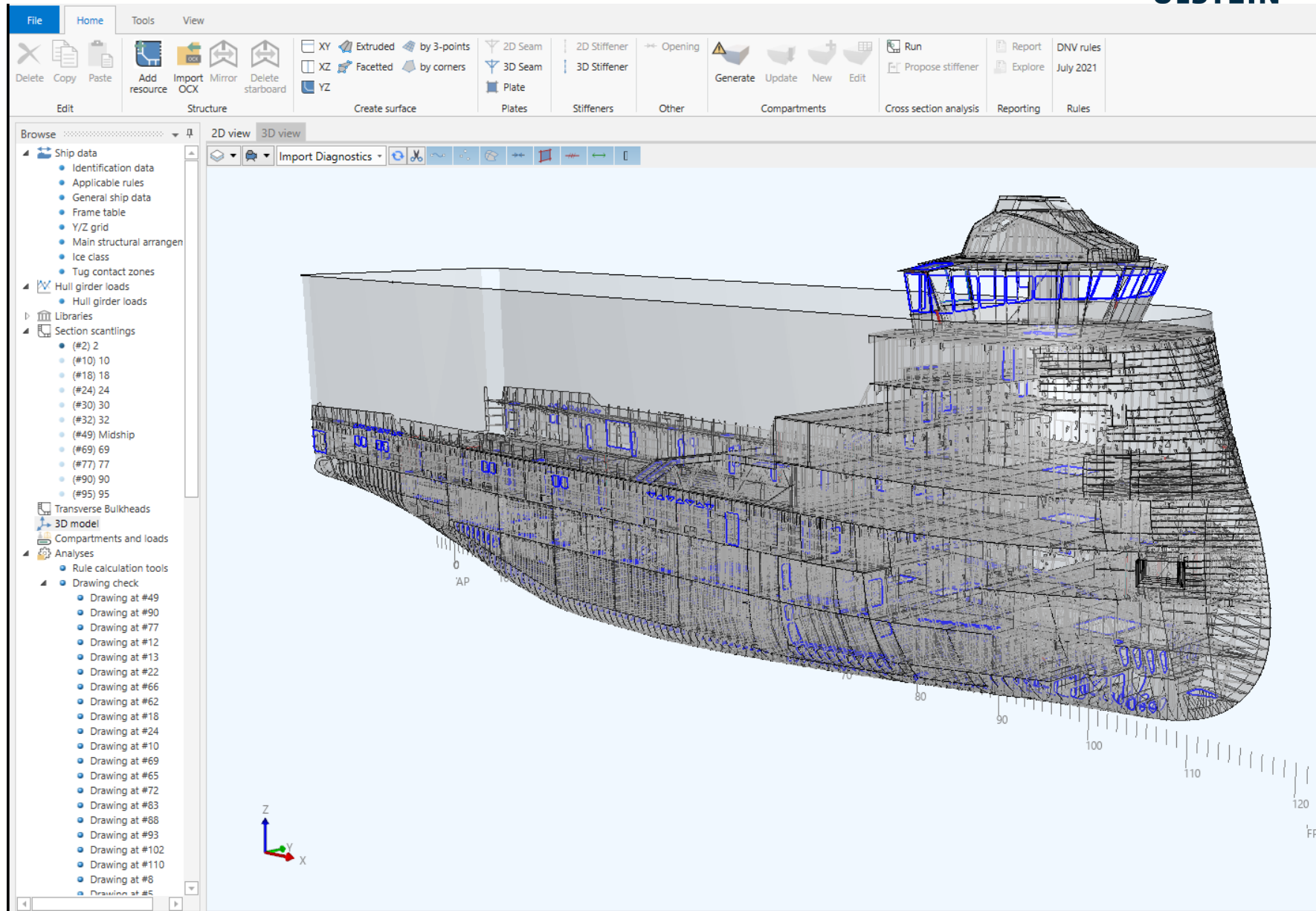




TESTPROJECT

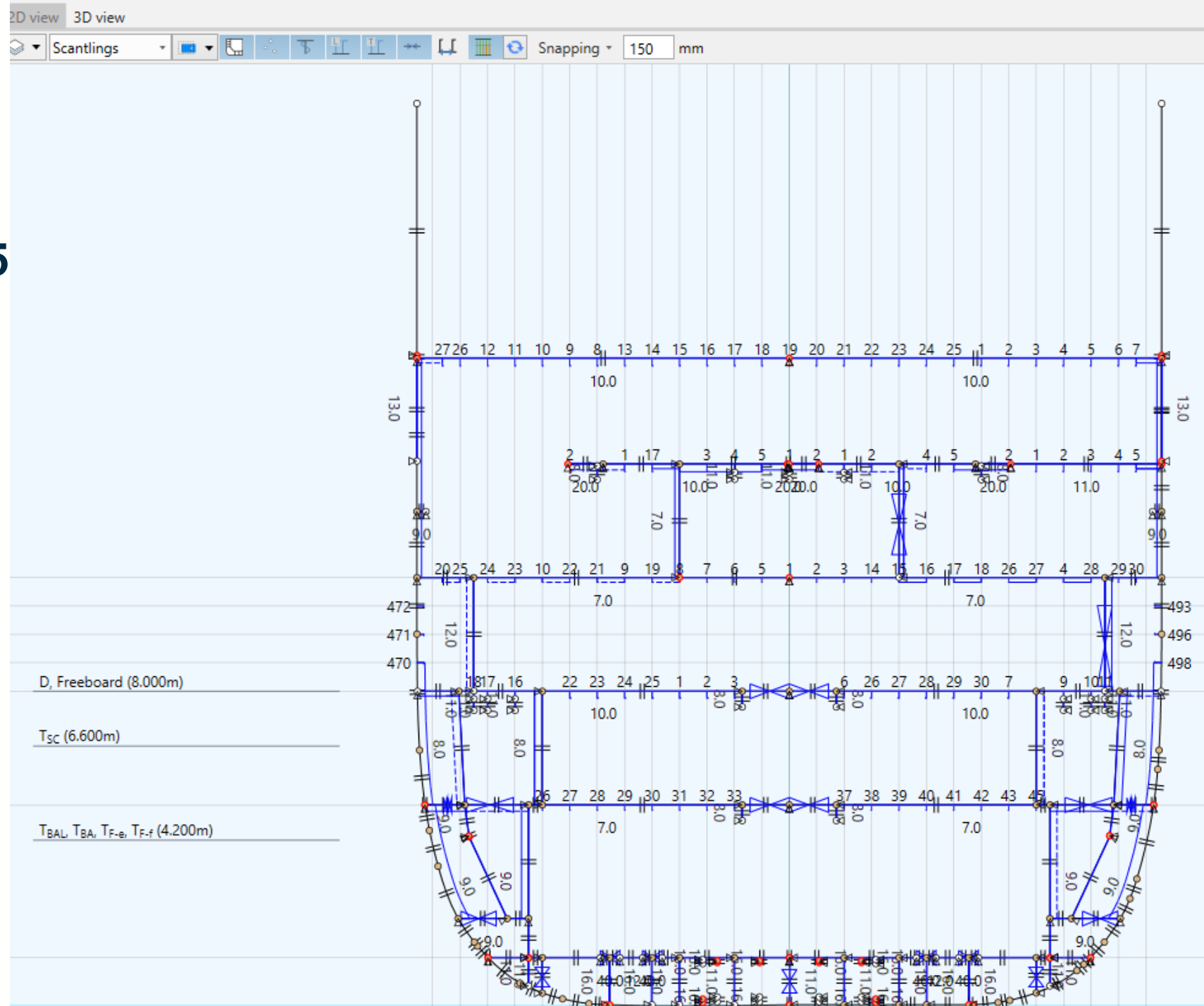
ULSTEIN PX105

Successfully imported
OCX in Nauticus Hull
version 20.31- July
2024



TESTPROJECT ULSTEIN PX105

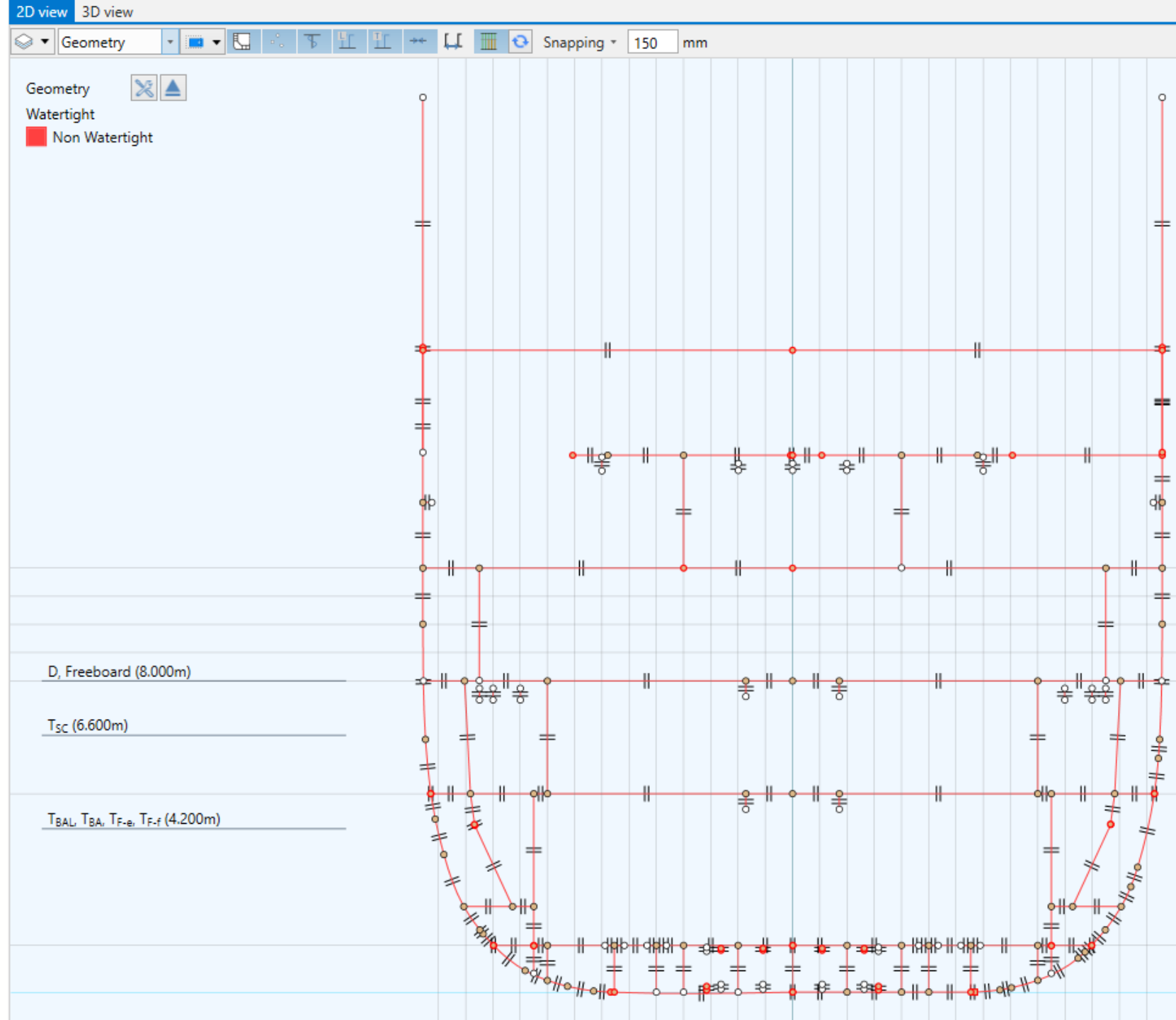
Section scantling
created by intersection
of imported OCX model
in Nauticus Hull.



TESTPROJECT
Some findings:

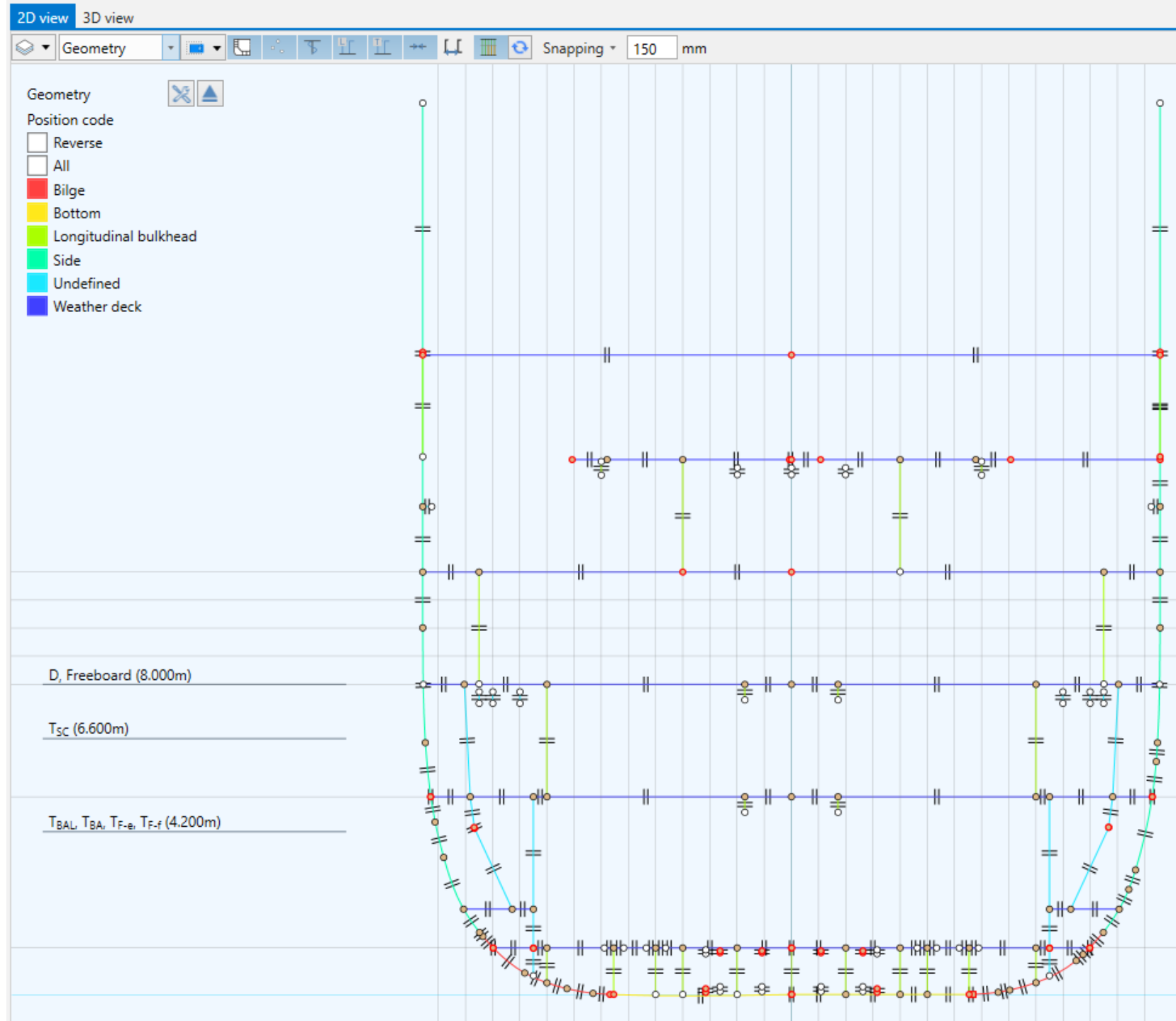
All panels are not watertight.

Easy to correct.



TESTPROJECT
Some findings:

Position codes are quite good.

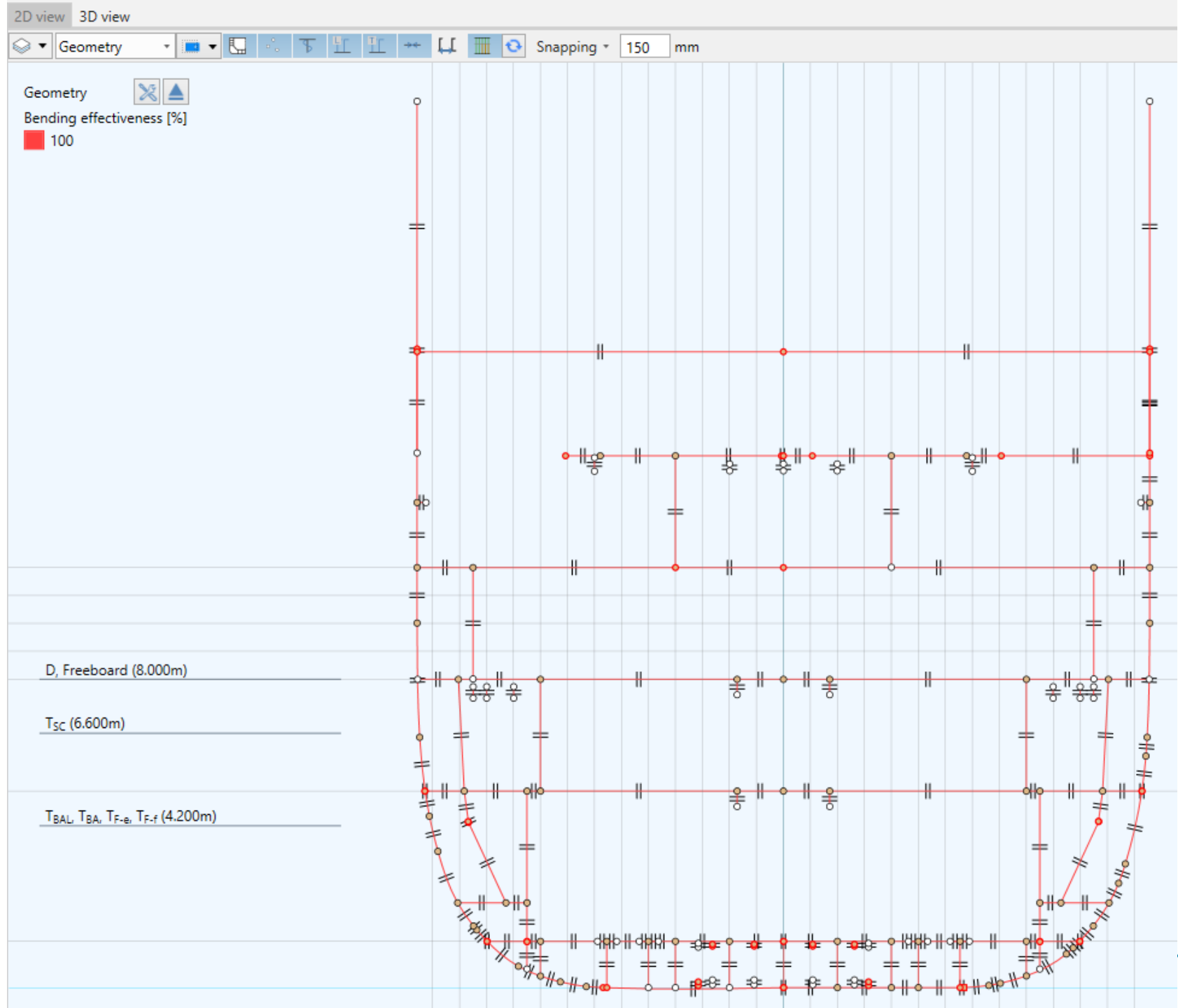


TESTPROJECT

Some findings:

All elements is set to 100% Bending effectiveness.

As expected, shall be evaluated panel by panel.

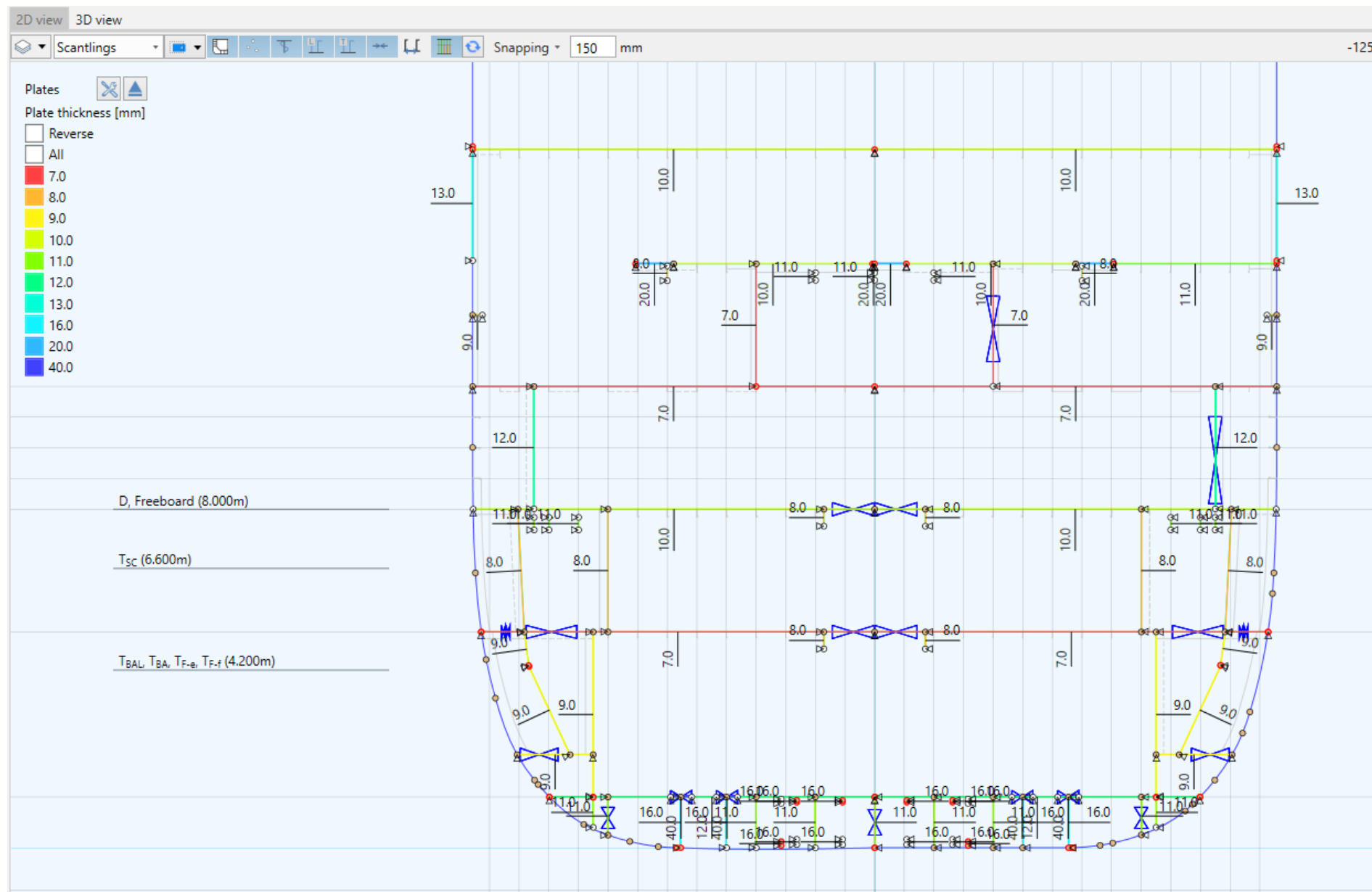




TESTPROJECT

Some findings:

Plate scantlings are all correctly imported

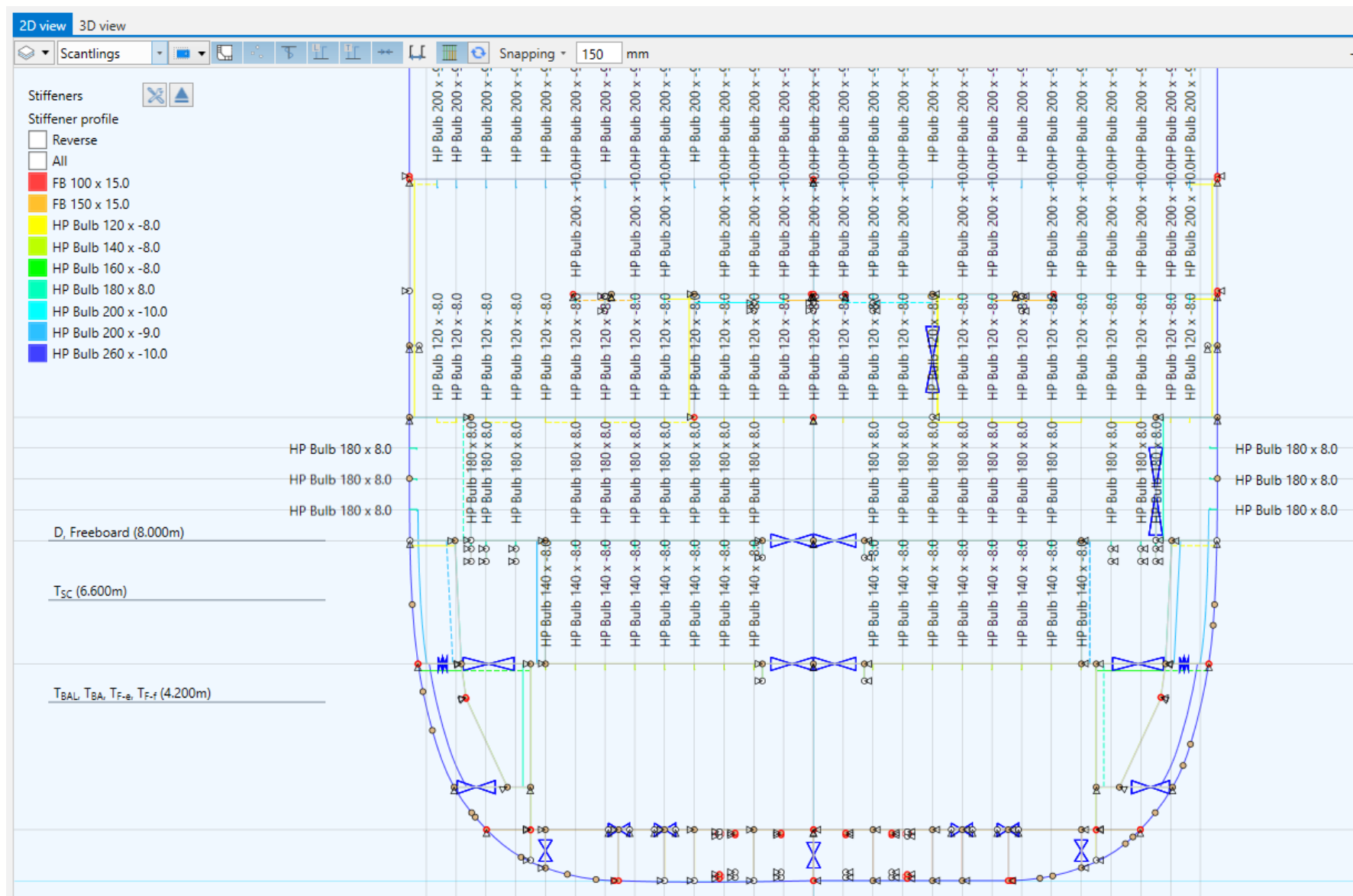




TESTPROJECT

Some findings:

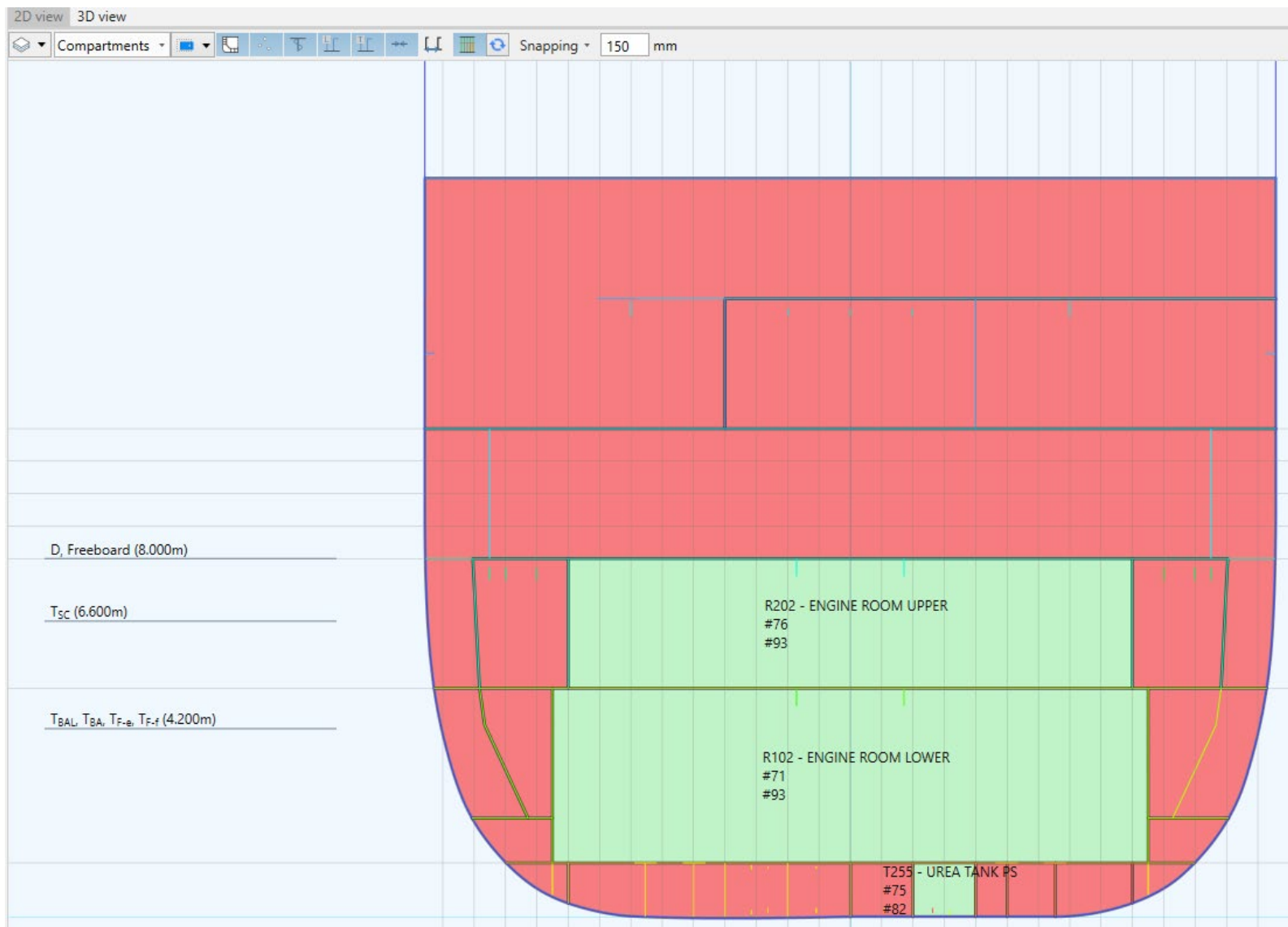
Profile scantlings are all correctly imported



TESTPROJECT

Some findings:

Some compartment are mapped correctly to the already imported compartments from Napa (csv-file).





Submittal to DNV.

- ULSTEIN and DNV have agreed to test a submittal of an OCX-project
- The test project is planned to be submitted to DNV within this year.
- ULSTEIN aim to submit next new project to 3D-approval.

The screenshot shows the DNV Project list interface for a 'NEWBUILDING PROJECT'. The interface includes a navigation bar with 'Overview', 'Team', 'Comments', 'Documentation', 'Send', 'Packages', 'Doc Req', and 'Cert Req' tabs. The main content area is divided into three sections: 'Documentation', 'Comments', and 'Design classification'. The 'Documentation' section features a donut chart showing 1 'Not received' and 0 'Not covered' items, along with a table for 'Documents' and 'Requirements'. The 'Comments' section shows 0 'Action needed' items and a table for 'Action needed by'. The 'Design classification' section lists various rules and notations.

Documents	Count	Requirements	Count
Not sent	0	Not started	0
Sent	1	In progress	0
Received	0	Partly covered	0
		Covered	0
		Unmapped	0

Action needed by	Count
Customer	0
DNV	0

Design classification	Value
Rule set	DNV
Rule edition	-
Class notation	1A -
Register notation	-
Certificates & declarations	CLCE
Flag	-
Ship register	-
Type	-
Class society ⓘ	-
Based on hull no	-



Expectations to the use of OCX:

- Shorter time to do scantling of the vessels
- Shorter approval time by Class
- Better quality of the approval by Class
- Less class comments
- Shorter lead time to production





Challenges with OCX/3D-approval:

- How will the workflow with class be?
- Shipowners and Flag requirement of available drawings.
- How to apply additional loads and information in the model? (Deckloads, pointloads, moments, equipments).
- Version compability in the future.
- Change management
- Aftermarket use
- Will it reduce workhours?



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