Annex 1

Ice report

FIMR
Ice Service

Helsinki 25.05.2007

Ice conditions in the Gulf of Finland on 26th of February 2007.

The following ice conditions were observed in the Gulf of Finland on Friday 26th of February 2007:

The archipelago of the northern (Finnish) coast was covered by fast ice. The level ice thickness in the western part (from Helsinki westward) was 10-30 cm and in the eastern part (from Helsinki eastward) 15-35 cm.

Off the fast ice there was 10-20 cm thick, partly rafted and ridged, very close ice. The ice edge followed more or less the line (from west to east): Bengtskär lighthouse – 3 nautical miles south of island Jussarö – 3 nautical miles south of the Helsinki lighthouse – island Vaindlo – Narva. According to icebreaker reports slight compression and ice ridging occurred in the ice field due to the southerly winds, but no hazardous ice pressure was reported.

At the ice edge there was a narrow brash ice barrier, which in the satellite images is seen as a light rim at the ice edge. South of that ice edge there was mainly open water or some minor ice formation, insignificant to navigation.

In the eastern part of the Gulf of Finland, east of island Vaindlo, there was partly ridged 10-30 cm thick very close ice.

Appendices:

1) Ice chart of 26th of February 2007.
2) Satellite images, Modis Terra and Radarsat-1, of 26th of February 2007.

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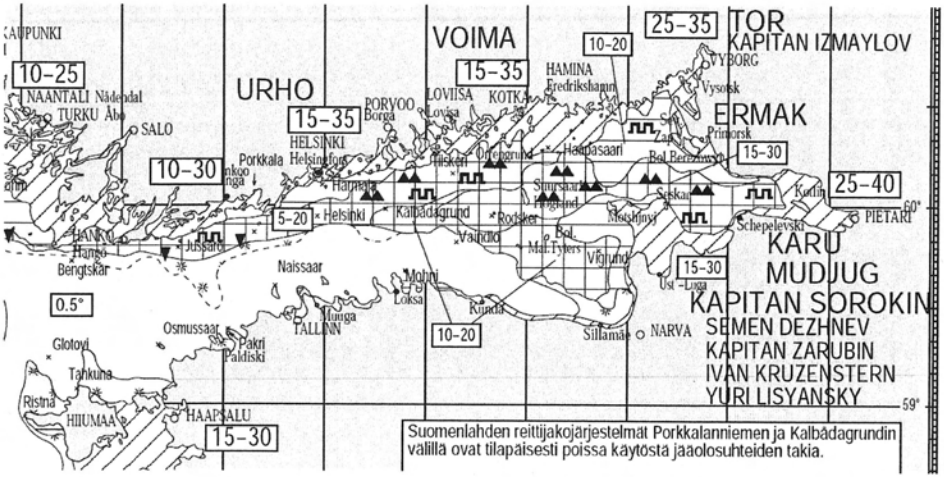
Part of the ice chart of the Finnish Institute of Marine Research, published on 26th of February 2007:



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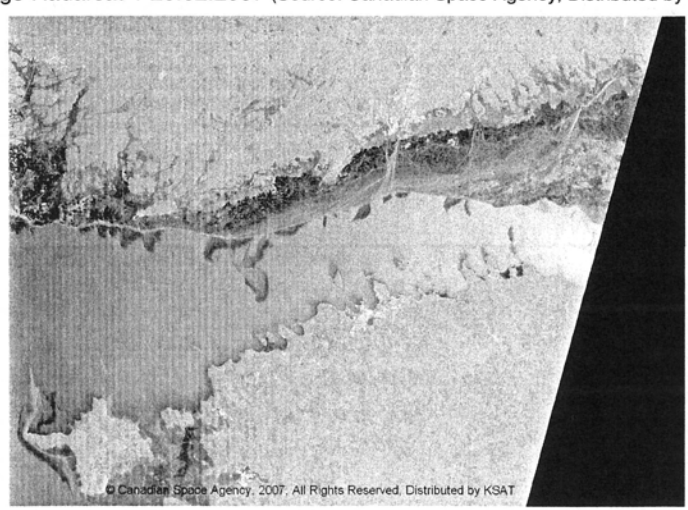
Satellite image Modis Terra 26.02.2007 (Source: NASA, Rapid Response System)

Satellite image Radarsat-1 26.02.2007 (Source: Canadian Space Agency, Distributed by KSAT)



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Annex 2

Vessel's GM
Extract from *Annabella*'s cargo securing manual

Important Remark:

The stowing and securing system is always designed under the condition of a max GM. If, for any reason, the ship is to be operated at larger GM-values, the expected acceleration will increase accordingly.

If a GM-value greater than the designed GM lashing system value cannot be avoided a reduction of stack weights or stack heights (i. e. from 6' to 5' high) or weight concentration to the lower tiers should be taken into consideration. After consideration of all details of the problem of stowage and securing of containers on board the vessels it has to be recommended to the shipowner to install computers or corresponding computer programs on their vessels to give the crews the possibility to calculate in order to control special loading cases by themselves.

Ships preplanning ashore could also use the advantages of a lashing software.

ISO 1496-1
Extract reproduced courtesy of ISO
(Available from the ISO website: www.iso.org)

5.8 Requirements — Optional features

5.8.1 Fork-lift pockets

5.8.1.1 Fork-lift pockets used for handling 1CC, 1C, 1CX, 1D and 1DX containers in the loaded or unloaded condition may be provided as optional features.

Fork-lift pockets shall not be provided on 1AA, 1A, 1AX, 1BB, 1B and 1BX containers.

5.8.1.2 Where a set of fork-lift pockets has been fitted as in 5.8.1.1, a second set of fork-lift pockets may, in addition, be provided on 1CC, 1C and 1CX containers for empty handling only.

5.8.1.3 The fork-lift pockets, where provided, shall meet the dimensional requirements specified in annex C and shall pass completely through the base structure of the container so that lifting devices may be inserted from either side. It is not necessary for the base of the fork-lift pockets to be the full width of the container but it shall be provided in the vicinity of each end of the fork pockets.

5.8.2 Grappler arms or similar devices

Fixtures for handling all containers by means of grappler arms or similar devices may be provided as optional features. The dimensional requirements for such fixtures are specified in annex D.

5.8.3 Gooseneck tunnels

Gooseneck tunnels may be provided as optional features in containers 1AA, 1A and 1AX. The dimensional requirements are specified in annex E and, in addition, all other parts of the base structure shall be as specified in 5.3.

5.8.4 Cargo securing devices

Cargo securing devices may be provided as optional features in all series 1 general purpose containers. The requirements for such devices are specified in annex F.

6 Testing

6.1 General

Unless otherwise stated, containers complying with the design requirements specified in clause 5 shall, in addition, be capable of withstanding the tests specified in 6.2 to 6.14, as applicable. Containers shall be tested in the condition in which they are designed to be operated. Also, containers equipped with removable structural items shall be tested with these items in position. It is recommended that the test for weatherproofness (test No. 13) be carried out last.

6.1.1 The symbol P denotes the maximum payload of the container to be tested, that is:

$$P = R - T$$

where

R is the rating;

T is the tare.

NOTE — R, P and T, by definition, are in units of mass. Where test requirements are based on the gravitational forces derived from these values, those forces, which are inertial forces, are indicated thus :

Rg, Pg, Tg

the units of which are in newtons or multiples thereof.

The word "load", when used to describe a physical quantity to which units may be ascribed, implies mass.

The word "loading", for example as in "internal loading", implies force.

6.1.2 The test loads or loadings within the container shall be uniformly distributed.

6.1.3 The test load or loading specified in all of the following tests are the minimum requirements.

6.1.4 The dimensional requirements to which reference is made in the requirements sub-clause after each test are those specified in:

a) the dimensional and design requirement clauses of this part of ISO 1496;

b) ISO 668;

c) ISO 1161.

6.2 Test No. 1 — Stacking

6.2.1 General

This test shall be carried out to prove the ability of a fully loaded container to support a superimposed mass of containers, taking into account conditions aboard ships at sea and the relative eccentricities between superimposed containers.

Table 3 specifies the force to be applied as a test to each pair of corner fittings and the superimposed mass that the test force represents.

6.2.2 Procedure

The container shall be placed on four level pads, one under each bottom corner fitting.

The pads shall be centralized under the fittings, and shall be substantially of the same plan dimensions as the fittings. The container shall have a load uniformly distributed over the floor in such a way that the combined mass of the container and the test load is equal to 1,8 R.

The container shall be subjected to vertical forces, applied either to all four corner fittings simultaneously or to each pair of end fittings, at the appropriate level specified in table 3. The

Table 3 — Forces to be applied in stacking test

Container designation	Test force per container (all four corners simultaneously)		Test force per pair of end fittings		Superimposed mass represented by test force	
	kN	lbf	kN	lbf	kg	lb
1A, 1AA and 1AX	3 392	762 550	1 696	381 275	192 000	423 290
1B, 1BB and 1BX	3 392	762 550	1 696	381 275	192 000	423 290
1C, 1CC and 1CX	3 392	762 550	1 696	381 275	192 000	423 290
1D and 1DX	896	201 600	448	100 800	50 800	112 000

NOTE — The test force of 3 392 kN per container is derived from the superimposed mass of nine-high stacking, i.e. eight containers stacked on top of one container, all being rated to 24 000 kg, and an acceleration force of 1,8 g. [The corner posts of such containers are known to have been tested to 86 400 kg (190 480 lb).]

forces shall be applied through a test fixture equipped with corner fittings as specified in ISO 1161, or equivalent fittings which have imprints of the same geometry (i.e. with the same external dimensions, chamfered aperture and rounded edges) as the bottom face of the bottom corner fitting specified in ISO 1161. If equivalent fittings are used, they shall be designed to produce the same effect on the container under the test loads as when corner fittings are used.

In all cases, the forces shall be applied in such a manner that rotation of the planes through which the forces are applied and on which the container is supported is minimized.

Each corner fitting or equivalent test fitting shall be offset in the same direction by 25,4 mm[1] laterally and 38 mm[1] longitudinally.

6.2.3 Requirements

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use, and the dimensional requirements affecting handling, securing and interchange shall be satisfied.

6.3 Test No. 2 — Lifting from the four top corner fittings

6.3.1 General

This test shall be carried out to prove the ability of a container, other than a 1D or a 1DX container, to withstand being lifted, from the four top corner fittings, with the lifting forces applied vertically, and the ability of a 1D or a 1DX container to withstand being lifted from the top corner fittings with the lifting forces applied at any angle between the vertical and 60° to the horizontal, these being the only recognized methods of lifting these containers by the four top corner fittings.

This test shall also be regarded as proving the ability of the floor and base structure to withstand the forces arising from acceleration of the payload in lifting operations.

6.3.2 Procedure

The container shall have a load uniformly distributed over the floor in such a way that the combined mass of the container and test load is equal to 2 R, and it shall be carefully lifted from all four top corners in such a way that no significant acceleration or deceleration forces are applied.

For a container other than a 1D or a 1DX container, the lifting forces shall be applied vertically.

For a 1D or a 1DX container, lifting shall be carried out by means of slings, the angle of each leg being at 60° from the horizontal.

After lifting, the container shall be suspended for 5 min and then lowered to the ground.

6.3.3 Requirements

Upon completion of the test, the container shall show neither permanent deformation which will render it unsuitable for use nor abnormality which will render it unsuitable for use, and the dimensional requirements affecting handling, securing and interchange shall be satisfied.

6.4 Test No. 3 — Lifting from the four bottom corner fittings

6.4.1 General

This test shall be carried out to prove the ability of a container to withstand being lifted, from its four bottom corner fittings, by means of lifting devices bearing on the bottom corner fittings only and attached to a single transverse central spreader beam, above the container.

1) 25,4 mm = 1 in
38 mm = 1 1/2 in

Series 1 freight containers — Specification and testing —

Part 1:
General cargo containers for general purposes

AMENDMENT 3

1 Scope

Page 4

Delete 5.8.2 "Grappler arms or similar devices"

Delete 5.8.3 "Gooseneck tunnels"

5.8.4 becomes 5.8.2.

Page 5

6.2 Test N° 1 – Stacking, Table 3:

Second column, "Test force per container": Delete "3 392 kN" and insert "3 767 kN".

Third column, "Test force per pair of end fittings": Delete "1 696 kN" and insert "1 883 kN".

Last column, "Superimposed mass represented by test force":

Delete "192 000 kg" and replace by "213 360 kg" (3 times).

Delete "423 290 lb" and replace by "470 380 lb" (3 times).

Delete the NOTE in Table 3.

Page 7

6.9.2 "Procedure":

Delete "5 460 kg" and insert "7 260 kg (i.e. 3630 kg[1)] on each of two wheels)".

Add the following sentence immediately before the last sentence: "The width of the test load is limited to the overall width of the wheels."

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1) 7 260 kg = 16 000 lb
3 630 kg = 8 000 lb