

Agenda Item 4 Equivalence of ice classification rules

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THE EQUIVALENCE BETWEEN THE FINNISH-SWEDISH ICE CLASSES AND THE ICE CLASSES OF CLASSIFICATION SOCIETIES

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For an ice class to be granted, the ship's draught on the load line must be within the limits of the ship's maximum (LWL) and minimum (BWL) ice class draughts and in accordance with the ship's Tonnage Certificate.

The maximum and minimum ice class draughts fore and aft and the minimum engine output corresponding to the ice class shall be stated in the classification certificate.

1 Equivalence of ice classes

When the ice class of a ship is determined on the basis of the ice class notation of a classification society, the ship may be granted the Finnish-Swedish ice class IA Super, IA, IB or IC according to Appendix 1, if the keel of the ship is laid or is at a similar stage of construction on or after 1 September 2003.

When the ice class of a ship is determined on the basis of the ice class notation of a classification society, the ship may be granted the Finnish-Swedish ice class IA Super, IA, IB or IC according to Appendix 2 for the ship, if the keel of the ship has been laid or has been at a similar stage of construction before 1 September 2003.

To be entitled to retain ice class IA Super or IA a ship, the keel of which has been laid or which has been at a similar stage of construction before 1 September 2003, shall comply with the requirements in section 3.2.2 of the Finnish-Swedish Ice Class Rules (20.9.2002 No. 5/30/2002, see Finnish Maritime Administration Bulletin No. 13/1.10.2002) at the following dates:

- 1 January 2005 or
- 1 January in the year when 20 years has elapsed since the year the ship was delivered, whichever occurs the latest.

2 Equivalence of other ice classes

If a ship has an ice class not mentioned in Appendix 1 or 2 of one of the classification societies mentioned in sections 1 or 2, or an ice class of another classification society, not mentioned in sections 1 and 2 above, the equivalence of the ship's ice class is subject to approval of the Finnish Maritime Administration. For approval of equivalence, the following information shall be sent to the Administration:

- 2.1 A copy of the relevant ice class rules of the classification society
- 2.2 The dimensions of the ship and the ship parameters given in section 3.2.1 of the Finnish-Swedish Ice Class Rules (20.9.2002 No. 5/30/2002)
- 2.3 A copy of the construction drawing and steel drawing of the ice belt
- 2.4 A copy of the lines drawing of the bow
- 2.5 A copy of the ship's Classification Certificate
- 2.6 A copy of the ship's Load Line Certificate
- 2.7 A copy of the ship's Tonnage Certificate

APPENDIX 1. Ships the keels of which are laid or which are at a similar stage of construction on or after 1 September 2003

1.1 American Bureau of Shipping

| | Ice class notation | Equivalent Finnish-Swedish ice class |
|-------|---------------------------|--------------------------------------|
| 1.1.1 | I AA I A I B I C | IA Super IA IB IC |

1.2 Bureau Veritas

| | Ice class notation | Equivalent Finnish-Swedish ice class |
|-------|----------------------------|--------------------------------------|
| 1.2.1 | IA SUPER IA IB IC | IA Super IA IB IC |

1.3 Det Norske Veritas

| | Ice class notation | Equivalent Finnish-Swedish ice class |
|-------|---------------------------------------|--------------------------------------|
| 1.3.1 | ICE-1A* ICE-IA ICE-IB ICE-IC | IA Super IA IB IC |

1.4 Germanischer Lloyd

| | Ice class notation | Equivalent Finnish-Swedish ice class |
|-------|----------------------|--------------------------------------|
| 1.4.1 | E4 E3 E2 E1 | IA Super IA IB IC |

1.5 Lloyd's Register of Shipping

| | Ice class notation | Equivalent Finnish-Swedish ice class |
|-------|-----------------------------|--------------------------------------|
| 1.5.1 | 1AS 1) 1A 1) 1B 1C | IA Super IA IB IC |

1) If the vessel has a longitudinal framing system, the longitudinal frame section modulus and shear area are to be defined according to the Finnish-Swedish ice class rules (20.9.2002 No. 5/30/2002), for ships built to ice class 1AS or 1A of Lloyd's Register of Shipping. Otherwise, for such a ship, ice class 1AS of Lloyd's Register of Shipping is equivalent to the Finnish-Swedish ice class IA, and ice class 1A of Lloyd's Register of Shipping is equivalent to the Finnish-Swedish ice class IB.

1.6 Nippon Kaiji Kyokai (Class NK)

| | Ice class notation | Equivalent Finnish-Swedish ice class |
|-------|--------------------------------------------------------|--------------------------------------|
| 1.6.1 | <i>IA Super</i> <i>IA</i> <i>IB</i> <i>IC</i> | IA Super IA IB IC |

1.7 Registro Italiano Navale

| | Ice class notation | Equivalent Finnish-Swedish ice class |
|-------|-----------------------|--------------------------------------|
| 1.7.1 | IAS IA IB IC | IA Super IA IB IC |

1.8 Russian Maritime Register of Shipping

| | Ice class notation | | Equivalent Finnish-Swedish ice class |
|-------|--------------------|----|--------------------------------------|
| 1.8.1 | ULA | 1) | IA Super |
| 1.8.2 | UL | 1) | IA Super |
| | L1 | 1) | IA |
| | L2 | 1) | IB |
| | L3 | 1) | IC |
| 1.8.3 | LU7 | 1) | IA Super |
| 1.8.4 | LU5 | 1) | IA Super |
| | LU4 | 1) | IA |
| | LU3 | 1) | IB |

1) The equivalence may be granted provided that the engine power of the ship complies with the provisions given in chapter 3 of the Finnish-Swedish ice class rules (20.9.2002 No. 5/30/2002).

APPENDIX 2. Ships the keels of which have been laid or which have been at a similar stage of construction before 1 September 2003

2.1 American Bureau of Shipping

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 2.1.1 | A1 (E) | II |
| 2.1.2 | Ships the classification drawings of which have been approved before 1 st May 1971: A1 (E) "Ice Strengthening" Class A A1 (E) "Ice Strengthening" Class B A1 (E) "Ice Strengthening" Class C A1 (E) "Ice Strengthening" | IA IB IC IC |
| 2.1.3 | Ships the classification drawings of which have been approved on 1 st May 1971 or thereafter Notations mentioned in 2.1.2 A1 (E) "Ice strengthening" Class AA | II II |
| 2.1.4 | A1 (E) "Ice strengthening" Class IAA A1 (E) "Ice strengthening" Class IA A1 (E) "Ice strengthening" Class IB A1 (E) "Ice strengthening" Class IC | IA Super IA IB IC |

2.2 Bureau Veritas

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 2.2.1 | I 3/3 E | II |
| 2.2.2 | Ships the classification drawings of which have been approved before 1 st May 1971: I 3/3 E glace I-Super I 3/3 E glace I I 3/3 E glace II I 3/3 E glace III | IA Super IA IB IC |
| 2.2.3 | Ships the classification drawings of which have been approved on 1 st May 1971 or thereafter Notations mentioned in 2.2.2 I 3/3 E Ice Class IA Super I 3/3 E Ice Class IA I 3/3 E Ice Class IB I 3/3 E Ice Class IC | II IA Super IA IB IC |

2.3 Det Norske Veritas

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 2.3.1 | 1A1 | II |
| 2.3.2 | Ships the classification drawings of which have been approved before 1 st May 1971: 1A1 Ice A 1A1 Ice B 1A1 Ice C | IA IB IC |
| 2.3.3 | Ships the classification drawings of which have been approved on 1 st May 1971 or thereafter Notations mentioned in 2.4.2 1A1 Ice 1A* 1A1 Ice 1A 1A1 Ice 1B 1A1 Ice 1C | II IA Super IA IB IC |

2.4 Germanischer Lloyd

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|--------------------------------------------------|--------------------------------------|
| 2.4.1 | 100 A5 | II |
| 2.4.2 | 100 A5 E4 100 A5 E3 100 A5 E2 100 A5 E1 | IA Super IA IB IC |
| 2.4.3 | 100 A5 EO4, EO3, EO2, EO1 | II |
| 2.4.4 | 100 A5 E, KE, ME | II |
| 2.4.5 | 100 A5 K or M | III |

The limitations K or M together with the notations in 2.4.2 do not affect the ice class.

2.5 Lloyd's Register of Shipping

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| 2.5.1 | 100 A1 | II |
| 2.5.2 | Ships the classification drawings of which have been approved before 1 st May 1971: 100 A1 Ice Class 1* 100 A1 Ice Class 1 100 A1 Ice Class 2 100 A1 Ice Class 3 100 A1 "Strengthened for Navigation in Ice" | IA Super IA IB IC IC |
| 2.5.3 | Ships the classification drawings of which have been approved on 1 st May 1971 or thereafter Notations mentioned in 2.5.2 100 A1 Ice Class 1AS 100 A1 Ice Class 1A 100 A1 Ice Class 1B 100 A1 Ice Class 1C 100 A1 Ice Class 1D | II IA Super IA IB IC II |

2.6 Nippon Kaiji Kyokai

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 2.6.1 | NS | II |
| 2.6.2 | NS Class IA Super Ice Strengthening NS Class IA Ice Strengthening NS Class IB Ice Strengthening NS Class IC Ice Strengthening | IA Super IA IB IC |
| 2.6.3 | NS Class AA, A, B, C Ice Strengthening | II |

2.7 Registro Italiano Navale

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|-----------------------------------------------------------------------|--------------------------------------|
| 2.7.1 | 100A – 1.1 | II |
| 2.7.2 | 100A – 1.1 RG1* 100A – 1.1 RG1 100A – 1.1 RG2 100A – 1.1 RG3 | IA Super IA IB IC |
| 2.7.3 | As in 1.7.1 | As in 1.7.1 |

2.8 Russian Register of Shipping

| | Class notation | Equivalent Finnish-Swedish ice class |
|-------|------------------------------------------------------------------|--------------------------------------|
| 2.8.1 | KM | II |
| 2.8.2 | KM ULA, UL 1) KM L1 1) KM L2 1) KM L3, L 1) KM L4 1) | IA Super IA IB IC II |

- 1) For a ship classed with the Russian Register of Shipping, the deadweight of which is less than 15,000 tons, the hull surveyor shall check that the engine output of the ship is as follows:

| | |
|-----------|-------------------------------------------------------------|
| IA Super: | $P \geq 0.57 \times \text{Dwt} + 600$ [hp]; $\geq 3,500$ hp |
| IA | $P \geq 0.50 \times \text{Dwt} + 400$ [hp]; ≥ 900 hp |
| IB | $P \geq 0.43 \times \text{Dwt} + 200$ [hp]; ” |
| IC | $P \geq 0.35 \times \text{Dwt}$ [hp]; ” |