

STCW Code Table A-V/4-1

Specification of minimum standard of competence in basic training for ships operating in polar waters

Ref: <https://www.edumaritime.net/stcw-code>

Source: IMO

Column 1	Column 2	Column 3	Column 4
Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to safe operation of vessels operating in polar waters	<p><i>Basic knowledge of ice characteristics and areas where different types of ice can be expected in the area of operation:</i></p> <ul style="list-style-type: none"> .1 ice physics, terms, formation, growth, ageing and stage of melt .2 ice types and concentrations .3 ice pressure and distribution .4 friction from snow covered ice .5 implications of spray-icing; danger of icing up; precautions to avoid icing up and options during icing up .6 ice regimes in different regions; significant differences between the Arctic and the Antarctic, first year and multiyear ice, sea ice and land ice .7 use of ice imagery to recognize consequences of rapid change in ice and weather conditions .8 knowledge of ice blink and water sky .9 knowledge of differential movement of icebergs and pack ice .10 knowledge of tides and currents in ice 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved training programme 	<p>Identification of ice properties and their characteristics of relevance for safe vessel operation</p> <p>Information obtained from ice information and publications is interpreted correctly and properly applied</p> <p>Use of visible and infrared satellite images</p> <p>Use of egg charts</p> <p>Coordination of meteorological and oceanographic data with ice data</p> <p>Measurements and observations of weather and ice conditions are accurate and appropriate for safe passage planning</p>

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	.11 knowledge of effect of wind and current on ice		
	<p><i>Basic knowledge of vessel performance in ice and low air temperature:</i></p> <p>.1 vessel characteristics</p> <p>.2 vessel types, hull designs</p> <p>.3 engineering requirements for operating in ice</p> <p>.4 Ice strengthening requirements</p> <p>.5 limitations of ice-classes</p> <p>.6 winterization and preparedness of vessel, including deck and engine</p> <p>.7 low-temperature system performance</p> <p>.8 equipment and machinery limitation in ice condition and low air temperature</p> <p>.9 monitoring of ice pressure on hull</p> <p>.10 sea suction, water intake, superstructure insulation and special systems</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training, where appropriate</p> <p>.4 approved training programme</p>	<p>Identification of vessel characteristics and limitations under different ice conditions and cold environmental impact</p> <p>Procedures are made for risk assessment before entering ice</p> <p>Awareness of fresh water ballast freezing in ballast tanks</p> <p>Actions are carried out in accordance with accepted principles and procedures to prepare the vessel and the crew for operations in ice and low air temperature</p> <p>Communications are clear, concise and effective at all times in a seamanlike manner</p>
	<p><i>Basic knowledge and ability to operate and manoeuvre a vessel in ice:</i></p> <p>.1 safe speed in the presence of ice and icebergs</p> <p>.2 ballast tank monitoring</p> <p>.3 cargo operations in polar waters</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p>	<p>Use Polar Code and Polar Water Operations Manual to correctly determine the recommended procedures to load/unload cargo and/or embark/disembark passengers in low temperatures, monitor ballast water</p>

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	<p>.4 awareness of engine loads and cooling problems</p> <p>.5 safety procedures during ice transit</p>	<p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training, where appropriate</p> <p>.4 approved training programme</p>	<p>for icing, monitor engine temperatures, anchor watch concerns in ice, and transit near ice</p> <p>Interpretation and analysis of information from radar is in accordance with lookout procedures with special caution regarding identification of dangerous ice features</p> <p>Information obtained from navigational charts, including electronic charts, and publications is relevant, assessed, interpreted correctly and properly applied</p> <p>The primary method of position fixing is frequent and the most appropriate for the prevailing conditions and routing through ice</p> <p>Performance checks and tests of navigation and communication systems comply with recommendations for high latitude and low air temperature operation</p>

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<p>Monitor and ensure compliance with legislative requirements</p>	<p><i>Basic knowledge of regulatory considerations:</i></p> <ul style="list-style-type: none"> .1 Antarctic Treaty and the Polar Code .2 accident reports concerning vessels in polar waters .3 IMO standards for operation in remote areas 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved training programme 	<p>Locate and apply relevant parts of the Polar Water Operations Manual</p> <p>Communication is in accordance with local/regional and international standard procedures</p> <p>Legislative requirements related to relevant regulations, codes and practices are identified</p>
<p>Apply safe working practices, respond to emergencies</p>	<p><i>Basic knowledge of crew preparation, working conditions and safety:</i></p> <ul style="list-style-type: none"> .1 recognize limitations of search and rescue readiness and responsibility, including sea area A4 and its SAR communication facility limitation .2 awareness of contingency planning .3 how to establish and implement safe working procedures for crew specific to polar environments such as low temperatures, ice-covered surfaces, personal protective equipment, use of buddy system, and working time limitations .4 recognize dangers when crews are exposed to low temperatures 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved training programme 	<p>Identification and initial actions on becoming aware of hazardous situations for vessel and individual crew members</p> <p>Actions are carried out in accordance with Polar Water Operations Manual, accepted principles and procedures to ensure safety of operations and to avoid pollution of the marine environment</p> <p>Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times</p> <p>Response actions are in accordance with established plans and are appropriate to the situation and nature of the emergency</p>

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	<p>.5 human factors including cold fatigue, medical-first aid aspects, crew welfare</p> <p>.6 survival requirements including the use of personal survival equipment and group survival equipment</p> <p>.7 awareness of the most common hull and equipment damages and how to avoid these</p> <p>.8 superstructure-deck icing, including effect on stability and trim</p> <p>.9 prevention and removal of ice including the factors of accretion</p> <p>.10 recognize fatigue problems due to noise and vibrations</p> <p>.11 identify need for extra resources, such as bunker, food and extra clothing</p>		<p>Correctly identifies and applies legislative requirements related to relevant regulations, codes and practices</p> <p>Appropriate safety and protective equipment is correctly used</p> <p>Defects and damages are detected and properly reported</p>

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<p>Ensure compliance with pollution-prevention requirements and prevent environmental hazards</p>	<p><i>Basic knowledge of environmental factors and regulations:</i></p> <ul style="list-style-type: none"> .1 identify particularly sensitive sea areas regarding discharge .2 identify areas where shipping is prohibited or should be avoided .3 special areas defined in MARPOL .4 recognize limitations of oil-spill equipment .5 plan for coping with increased volumes of garbage, bilge water, sewage, etc. .6 lack of infrastructure .7 oil spill and pollution in ice, including consequences 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training, where appropriate .4 approved training programme 	<p>Legislative requirements related to relevant regulations, codes and practices are identified</p> <p>Correctly identify/select the limitations on vessel discharges contained in the Polar Code</p> <p>Correctly apply Polar Water Operations Manual/Waste Management Plan to determine limitations on vessel discharges and plans for storing waste</p> <p>Identify references that provide details of areas to be avoided, such as wildlife refuges, ecological heritage parks, migratory pathways, etc. (MARPOL, Antarctic Treaty, etc.)</p> <p>Identify factors that must be considered to manage waste stream during polar voyages</p>