

**27C Under Keel Clearance Table****1. CONTAINER SHIPS****ST. LAWRENCE RIVER, QUEBEC TO MONTREAL****Changing Table: Effective on: 2013-04-01**

Information concerning Pre-Arrival Information Report (PAIR) made pursuant to the Marine Transportation Security Regulations, can be found in Part 3 and 4 of the publication Radio Aids to Marine Navigation (RAMN). <http://www.ccg-ccc.gc.ca/Marine-Communications/Home>

The actual amendment establishes new parameters for vessels width between 40.0 m and 44.0 m. To promote safety and efficiency of navigation and environmental protection, the Marine Communications and Traffic Services Officer (MCTSO) has the power to issue, in some cases, directions to a vessel under section 126 of the 2001 Canada Shipping Act. In exercising its powers, the MCTSO will consider the under-keel clearance for vessels transiting the area above Québec. The Marine Communications and Traffic Services will determine the required under-keel clearance of the ship according to the parameters given in the table below:

Vessel Beam not exceeding	Vessel's speed over water not exceeding (Knots)								
	7	8	9	10	11	12	13	14	15
	<b>Required under-keel clearance (metres ; which included estimated squat and the manoeuvrability's safety margin)</b>								
24 m	0,79	0,88	0,96	1,04	1,22	1,41	1,63	1,88	2,17
26	0,83	0,90	0,98	1,07	1,25	1,45	1,68	1,93	2,23
28	0,84	0,91	1,00	1,09	1,28	1,48	1,72	1,98	2,29
30	0,86	0,93	1,01	1,11	1,31	1,52	1,76	2,03	2,34
32	0,87	0,94	1,03	1,14	1,34	1,55	1,80	2,08	2,40
34	0,88	0,96	1,05	1,16	1,36	1,58	1,84	2,12	2,45
36	0,89	0,97	1,07	1,18	1,39	1,62	1,88	2,16	2,50
38	0,90	0,98	1,08	1,20	1,42	1,65	1,92	2,20	2,55
40	0,91	1,00	1,10	1,22	1,44	1,68	1,96	2,24	2,60
42	0,92	1,01	1,12	1,24	1,47	1,71	1,99	2,29	2,65
44	0,93	1,02	1,13	1,26	1,49	1,74	2,03	2,33	2,70
	<b>Estimated squat (metres)</b>								
24 m	0,21	0,27	0,35	0,43	0,53	0,65	0,79	0,97	1,18
26	0,22	0,29	0,37	0,46	0,56	0,69	0,84	1,02	1,24
28	0,23	0,30	0,39	0,48	0,59	0,72	0,88	1,07	1,30
30	0,25	0,32	0,40	0,50	0,62	0,76	0,92	1,12	1,35
32	0,26	0,33	0,42	0,53	0,65	0,79	0,96	1,17	1,41
34	0,27	0,35	0,44	0,55	0,67	0,82	1,00	1,21	1,46
36	0,28	0,36	0,46	0,57	0,70	0,86	1,04	1,25	1,51
38	0,29	0,37	0,47	0,59	0,73	0,89	1,08	1,29	1,56
40	0,30	0,39	0,49	0,61	0,75	0,92	1,12	1,33	1,61
42	0,31	0,40	0,51	0,63	0,78	0,95	1,15	1,38	1,66
44	0,32	0,41	0,52	0,65	0,80	0,98	1,19	1,42	1,71
	<b>Manoeuvrability/safety margin (metres)</b>								
	0,61	0,61	0,61	0,61	0,69	0,76	0,84	0,91	0,99

\*An exception to the margin of safety / manoeuvrability is allowed for a ship with a width not exceeding 24m at a speed of 6 to 7 knots. Only in this case, a margin of 0.58m is accepted instead of 0.61m.

The above parameters are presented on the basis that the vessel's Master or Officer-in-charge has given consideration to other specific elements which may have an impact on under-keel clearance, some of which are: the accurate determination of water level (including tides) during vessel's transit; the vessel's speed; the wind and waves effects and the vessel's response to it; the estimation of the vessel's draught (changes in ballast); any additional squat effects due to passing within close proximity to the bank of the channel or when meeting / overtaking another vessel. The vessel's Master or Officer-in-charge has the ultimate responsibility for the vessel's safety at all times.

Authority: Canadian Coast Guard (TC-L95-133; AMA8035-10-1);  
Notice to Mariners No. 462 of Edition No. 17 of 1995. Modification: 2013/03/21

## 2. OTHER SHIPS (Other than container ships)

### ST. LAWRENCE RIVER, QUEBEC TO MONTREAL

#### Changing Table: Effective on: 2013-04-01

The actual amendment establishes new parameters for vessels width between 40.0 m and 44.0m. To promote safety and efficiency of navigation and environmental protection, the Marine Communications and Traffic Services Officer (MCTSO) has the power to issue, in some cases, directions to a vessel under section 126 of the 2001 Canada Shipping Act. In exercising its powers, the MCTSO will consider the under-keel clearance for vessels transiting the area above Québec. The Marine Communications and Traffic Services will determine the required under-keel clearance of the ship according to the parameters given in the table below:

Vessel Beam not exceeding	Vessel's speed over water not exceeding (Knots)								
	7	8	9	10	11	12	13	14	15
	<b>Required under-keel clearance (metres ; which included estimated squat and the manoeuvrability's safety margin)</b>								
24 m	0,80	0,90	0,97	1,06	1,24	1,44	1,66	1,92	2,21
26	0,85	0,92	1,00	1,09	1,29	1,49	1,73	1,99	2,29
28	0,86	0,94	1,03	1,13	1,33	1,54	1,79	2,06	2,37
30	0,88	0,96	1,05	1,16	1,37	1,59	1,85	2,13	2,46
32	0,89	0,98	1,08	1,19	1,41	1,64	1,91	2,19	2,53
34	0,91	1,00	1,10	1,23	1,45	1,69	1,97	2,26	2,61
36	0,93	1,02	1,13	1,26	1,49	1,74	2,02	2,32	2,69
38	0,94	1,04	1,16	1,29	1,53	1,78	2,08	2,39	2,77
40	0,96	1,06	1,18	1,32	1,57	1,83	2,13	2,44	2,84
42	0,97	1,08	1,21	1,36	1,61	1,88	2,18	2,51	2,91
44	0,99	1,10	1,23	1,39	1,65	1,93	2,24	2,57	2,98
	<b>Estimated squat (metres)</b>								
24 m	0,22	0,29	0,36	0,45	0,55	0,68	0,82	1,01	1,22
26	0,24	0,31	0,39	0,48	0,60	0,73	0,89	1,08	1,30
28	0,25	0,33	0,42	0,52	0,64	0,78	0,95	1,15	1,38
30	0,27	0,35	0,44	0,55	0,68	0,83	1,01	1,22	1,47
32	0,28	0,37	0,47	0,58	0,72	0,88	1,07	1,28	1,54
34	0,30	0,39	0,49	0,62	0,76	0,93	1,13	1,35	1,62
36	0,32	0,41	0,52	0,65	0,80	0,98	1,18	1,41	1,70
38	0,33	0,43	0,55	0,68	0,84	1,02	1,24	1,48	1,78
40	0,35	0,45	0,57	0,71	0,88	1,07	1,29	1,53	1,85
42	0,36	0,47	0,60	0,75	0,92	1,12	1,34	1,60	1,92
44	0,38	0,49	0,62	0,78	0,96	1,17	1,40	1,66	1,99

## SECTION C – MARINE COMMUNICATIONS AND TRAFFIC SERVICES

	Manoeuvrability/safety margin (metres)								
	0,61	0,61	0,61	0,61	0,69	0,76	0,84	0,91	0,99

\*An exception to the margin of safety / manoeuvrability is allowed for a ship with a width not exceeding 24m at a speed of 6 to 7 knots. Only in this case, a margin of 0.58m is accepted instead of 0.61m.

The above parameters are presented on the basis that the vessel's Master or Officer-in-charge has given consideration to other specific elements which may have an impact on under-keel clearance, some of which are: the accurate determination of water level (including tides) during vessel's transit; the vessel's speed; the wind and waves effects and the vessel's response to it; the estimation of the vessel's draught (changes in ballast); any additional squat effects due to passing within close proximity to the bank of the channel or when meeting / overtaking another vessel. The vessel's Master or Officer-in-charge has the ultimate responsibility for the vessel's safety at all times.

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