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Principal Working Party on Inland
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Working Party on the Standardization
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in Inland Navigation
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HARMONIZATION OF THE REQUIREMENTS CONCERNING ANCHORS FOR
INLAND NAVIGATION VESSELS

Transmitted by the Government of Romania*

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Type and tonnage of vessels/convoys	Dimensions			Number, type and weight of		Length of chain of bow/stern anchors	Region of operation of the vessel/convoy	Basic current velocity	$k = \frac{M_A}{B \times d}$	$C = \frac{M_A \times L}{d} \sqrt{\frac{8}{L \times B}}$	Carrying capacity	
	L		B	d	bow anchors							stern anchors
	m	m	m	m	kg							kg
-							-	km/h	-	-	t	
1	2	3	4	5	6	7	8	9	10	11	12	
SELF-PROPELLED VESSELS												
(1) Self-propelled barge (1850 t)	95.0	11.4	2.8	2x700 Speck	2x1000 Speck	2x100/2x75	Danube	≤ 6 km/h	43.86/62.66	42.97/61.39	1000-4000	
(2) Self-propelled barge (1500 t)	89.2	11.0	2.7	2x700 Speck	2x500 Speck	2x100/2x75	"	"	47.14/33.67	46.82/33.44	1000-4000	
(3) Self-propelled tanker (500 t)	49.3	11.6	1.8	2x400 Hall	-	2x50/ -	"	"	38.31/ -	52.57/ -	400-650	
TUGS, PUSH-TUGS AND PUSHERS												
(4) Tug 200 HP	24.0	4.2	1.0	1x75 4 fathoms	-	1x60/ -	Danube	≤ 6 km/h	17.86/ -	21.13/ -	-	
(5) Tug 400 HP	35.0	5.9	1.6	1x200Tb Hall 1x250Bb Hall	-	2x75/ -	"	"	42.37/ -	49.21/ -	-	
(6) Tug 500 HP	33.4	6.3	1.7	2x250 Hall	-	1x75Tb/ - 1x100Bb/ -	"	"	46.68/ -	57.35/ -	-	
(7) Tug 540 HP	35.0	6.1	1.7	1x350Tb Hall 1x250Bb Hall	-	2x75/ -	Danube	≤ 6 km/h	57.86/ -	68.32/ -	-	

1	2	3	4	5	6	7	8	9	10	11	12
(8) Push-tug 600 HP	21.0	7.8	1.5	-	2x200 Hall	- /2x75	"	"	- /34.19	- /53.93	-
(9) Push-tug 800 HP	30.4	11.0	1.3	-	2x400 Hall	- /2x100	"	"	- /55.94	- /95.1	-
(10) Pusher 840 HP	31.0	11.0	1.2	-	2x500 Speck	- /2x75	"	"	- /75.76	- /127.67	-
(11) Pusher 1640 HP	34.7	10.2	1.7	-	2x900 Hall	- /2x75	"	"	- /103.81	- /159.1	-
(12) Pusher 2400 HP	34.6	11.0	2.0	-	2x940 Speck	- /2x75	"	"	- /85.45	- /136.2	-
(13) Pusher 1850 kW	35.0	11.0	1.8	-	2x2100 Speck	- /2x100	"	"	- /212.12	- /336.3	-
(14) Pusher 2000 kW	46.5	14.0	1.9	-	2x1750 Speck	- /2x75	"	"	- /131.58	- /204.2	-
(15) Pusher 3600 HP	35.5	17.0	2.0	-	2x1500 Speck	- /2x82.5	"	"	- /88.24	- /172.7	-
(16) Pusher 4800 HP	35.7	17.0	2.3	-	2x1320 Hall	- /2x75	"	"	- /67.52	- /131.7	-

Note: For push-tugs or for pushers (single vessels considered), the "k" and "c" values are not conclusive, because their anchoring equipment has been calculated for a specific convoy, but not for the vessel itself.

1	2	3	4	5	6	7	8	9	10	11	12
BARGES AND LIGHTERS											
(17) Ordinary barge 3000 t	89.0	11.0	3.8	1x2100 Hall	-	1x100/ -	Danube	≤ 6 km/h	50.24/ -	49.96/ -	1000-4000
(18) Ordinary barge 2000 t	76.2	11.0	3.0	1x1920 Hall	-	1x100/ -	"	"	58.18/ -	62.52/ -	1000-4000
(19) Ordinary barge 1500 t	70.3	11.0	2.5	1x1980 Hall	-	1x120/ -	"	"	69.82/ -	78.11/ -	1000-4000
(20) Ordinary barge 1000 t	61.4	11.0	2.0	1x1920 Hall	-	1x75/ -	"	"	87.27/ -	104.48/ -	650-1000
(21) Ordinary barge 1000 t	71.0	11.0	1.8	2x600 Hall	-	2x75/ -	"	"	60.60/ -	67.47/ -	650-1000
(22) Roll-on/roll-off vessel 500 t (Ro-Ro)	82.4	11.4	1.7	1x1290 Speck	-	1x100/ -	"	"	66.56/ -	70.03/ -	400-650
(23) Self-trimming barge 1500 t	71.0	11.6	2.4	1x1000 Hall	1x1000 Hall	1x110/1x110	"	"	41.67/41.67	41.06/41.06	1000-4000
(24) Tank-barge 1300 t	70.2	11.0	2.5	1x2000 Hall	-	1x120/ -	"	"	72.72/ -	81.43/ -	1000-4000
(25) Tank-barge 1600 t	70.2	10.0	2.5	1x2100 Hall	-	1x100/ -	Danube	≤ 6 km/h	84.00/ -	89.67/ -	1000-4000

1	2	3	4	5	6	7	8	9	10	11	12
(26) Tank-barge 2000 t	86.3	11.4	2.9	1x1740 Hall	-	1x100/ -	"	"	52.63/ -	54.11/ -	1000-4000
(27) EUROPA barge IIb 1700 t	76.5	11.0	2.7	1x1250 Hall	-	1x100/ -	"	"	42.09/ -	45.14/ -	1000-4000
(28) EUROPA barge IIb 2000 t	76.5	11.0	3.1	1x1920 Hall	-	1x100/ -	"	"	56.30/ -	60.39/ -	1000-4000
(29) Barge 1100 t	77.0	10.0	2.4	2x600 Hall	-	2x75/ -	"	"	50.00/ -	50.96/ -	1000-4000
(30) Lighter 1000 t	50.0	20.0	2.0	2x500 Hall	-	2x50/ -	"	"	25.00/ -	44.72/ -	650-1000

Note: For pushed barges or barges (single vessels considered), the "k" and "c" values are not conclusive, because their anchoring equipment has been calculated for a specific convoy, but not for the vessel itself.

1	2	3	4	5	6	7	8	9	10	11	12
PUSHED CONVOYS											
(16)+2x(17)+2x(17)	213.7	22.0	3.8	2x2100 Hall	2x1320 Hall	2x100/2x75	Lower Danube	≤ 6 km/h	50.24/31.58	45.59/28.66	Over 4000
(16)/(17)+3x(17)	178.0	33.0	3.8	3x2100 Hall	2x1320 Hall	3x100/2x75	"	"	50.24/21.05	61.18/25.64	Over 4000
(16)+4x(17)+4x(17)	213.7	44.0	3.8	4x2100 Hall	2x1320 Hall	4x100/2x75	"	"	50.24/15.79	64.48/20.26	Over 4000
(16)/2x(17)+3x(17)+3x(17)	267.0	390	3.8	3x2100 Hall	2x1320 Hall	3x100/2x75	"	"	42.51/17.81	45.95/19.26	Over 4000
(15)+2x(18)+2x(18)+2x(18)	264.1	22.0	3.0	2x1920 Hall	2x1500 Speck	2x100/2x82.5	Danube	"	58.18/45.45	47.49/37.11	Over 4000
(15)+3x(18)+3x(18)	187.9	33.0	3.0	3x1920 Hall	2x1500 Speck	3x100/2x82.5	"	"	58.18/30.30	68.96/35.92	Over 4000
(12)+2x(26)+2x(26)	207.2	22.8	2.9	2x1740 Hall	2x940 Speck	2x100/2x75	"	"	52.63/28.43	49.38/26.68	Over 4000
(12)+3x(26)	120.9	34.2	2.9	3x1740 Hall	2x940 Speck	3x100/2x75	"	"	52.63/18.96	79.19/28.52	Over 4000
(11)+1x(22)+1x(22)	199.5	11.4	1.7	1x1290 Speck	2x900 Hall	1x100/2x75	"	"	66.56/92.88	45.00/62.80	650-1000
(11)+2x(22)	117.1	22.8	1.7	2x1290 Speck	2x900 Hall	2x100/2x75	"	"	66.56/46.44	83.07/57.96	650-1000

Note: Lower Danube = Danube from km 0 to km 170.

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