

9. Diving Skills

The tables include four sets of dive tables:

- A. Total bottom timetable
- B. Surface interval timetable
- C. Residual nitrogen timetable
- D. Decompression timetable



SEI & PDIC International Air Diving Tables are designed to enhance diver safety and assist in dive planning. The Air Diving Tables should be used only by persons properly trained in their use. SEI & PDIC International Air Diving Tables provide a conservative safety margin to help avoid decompression sickness. Use of these Air Diving Tables is not guaranteed to eliminate the possibility of decompression sickness. To gain the greatest conservative margin from these tables, divers must carefully plan their dives in accordance with the No-Decompression Stop Limits and ascend no faster than 30 feet per minute with appropriate safety stops. Do not exceed the No-Decompression Stop Limits. Do not dive deeper than 100 feet. Do not use these tables for high altitude diving without calculating an adjustment for high altitude. Susceptibility to decompression sickness varies in accordance with a diver's physical wellness and readiness, environmental conditions, ascent rates, and many other situations and conditions.

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AIR DIVING TABLES

Table A

DEPTH		TOTAL BOTTOM TIME (TBT) IN MINUTES													
Meters	Feet	57	101	158	245	426									
3	10														
4.6	15	36	60	88	121	163	217	297	449						
6.1	20	26	43	61	82	106	133	165	205	256	330	461			
7.6	25	354	20	33	47	62	78	97	117	140	166	198	236	285	354
9.1	30	223	17	27	38	50	62	76	91	107	125	145	167	193	223
10.7	35	168	14	23	32	42	52	63	74	87	100	115	131	148	168
12.2	40	135	12	20	27	36	44	53	63	73	84	95	108	121	135
13.7	45	102	11	17	24	31	39	46	55	63	72	82	92	102	
15.2	50	80	9	15	21	28	34	41	48	56	63	71	80		
16.7	55	63	8	14	19	25	31	37	43	50	56	63			
18.3	60	51	7	12	17	22	28	33	39	45	51				
21.3	70	42	6	10	14	19	23	28	32	37	42				
24.4	80	32	5	9	12	16	20	24	28	32					
27.4	90	24	4	7	11	14	17	21	24						
30.5	100	18	4	6	9	12	15	18							
33.5	110	16	3	6	8	11	14	16							
36.6	120	10	3	5	7	10									
39.6	130	6	2	4	6										

START
HERE

Table C

RESIDUAL NITROGEN TIME (RNT) IN MINUTES

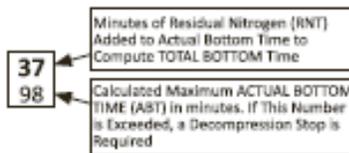
35	40	45	50	55	60	70	80	90	100	110	120	130
11	12	14	15	17	18	21	24	27	30	33	36	39
15	13	12	11	10	9	8	7	6	5	5	5	4
153	122	90	69	53	42	34	25	18	13	11	9	8
24	21	18	17	15	14	12	10	9	8	8	7	6
144	114	84	63	48	37	30	22	15	10	8	7	6
33	29	25	23	20	19	16	14	12	11	10	9	9
135	106	77	57	43	32	26	18	12	7	6	5	4
48	37	32	29	26	24	20	18	16	14	13	12	11
125	98	70	51	37	27	22	14	8	4	3	2	1
53	45	40	35	32	29	25	22	19	17	16	14	13
115	90	62	45	31	22	17	10	5	1	1	1	1
64	55	48	42	38	35	29	25	22	20	18	17	15
104	80	54	38	25	16	13	7	3	2	2	2	2
75	64	56	49	44	40	34	29	25	23	21	19	18
95	71	46	31	19	11	8	3	2	2	2	2	2
88	74	64	57	51	46	39	33	29	26	24	22	20
80	61	38	23	12	5	3	3	3	3	3	3	3
101	85	73	65	58	5	44	38	33	30	27	24	22
67	50	29	15	5								
116	97	83	73	65	58	49	42	37	33	30	27	25
52	38	19	7									
132	109	93	81	72	65	54	46	41	36	33	30	27
30	26	9										
149	122	104	90	80	72	59	51	44	40	36	32	30
19	13											
169	136	115	99	88	79	65	55	48	43	39	35	32

Note: For repetitive dives less than 35 feet use the RNT values for 35 feet

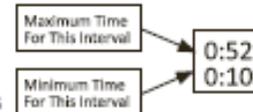
Repetitive Group Designation	A	B	C	D	E	F	G	H	I	J	K	L	M
A	2:20 0:10	3:36 1:17	4:31 2:12	5:23 3:04	6:15 3:56	7:08 4:49	8:00 5:41	8:52 6:33	9:44 7:25	10:36 8:17	11:29 9:10	12:21 10:02	13:13 10:54
B		1:16 0:10	2:11 0:56	3:03 1:48	3:55 2:40	4:48 3:32	5:40 4:24	6:32 5:17	7:24 6:09	8:16 7:01	9:09 7:53	10:01 8:45	10:53 9:38
C			0:55 0:10	1:47 0:53	2:39 1:45	3:31 2:38	4:23 3:30	5:16 4:22	6:08 5:14	7:00 6:07	7:52 6:59	8:44 7:51	9:37 8:43
D				0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59	8:42 7:51
E					0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 6:59
F						0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07
G							0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14
H								0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22
I									0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30
J										0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38
K											0:52 0:10	1:44 0:53	2:37 1:45
L												0:52 0:10	1:44 0:53
M													0:52 0:10

Table B

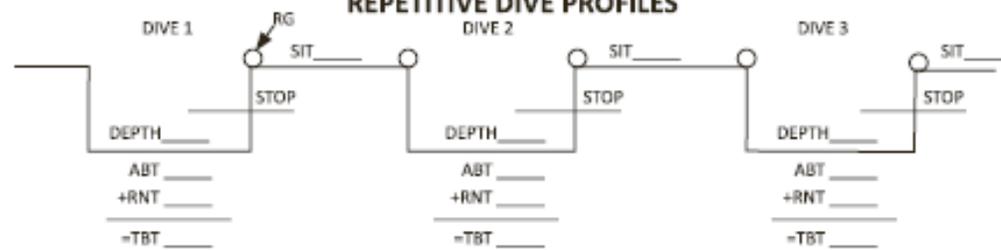
SURFACE INTERVAL TIME (SIT) IN HOURS AND MINUTES



SEI & PDIC INTERNATIONAL ACCEPTS
NO RESPONSIBILITY FOR ACCIDENTS
ARISING FROM THE USE OF THESE TABLES



REPETITIVE DIVE PROFILES



DEFINITIONS

BOTTOM TIME (BT). The elapsed time in minutes, starts when the diver leaves the surface in descent and stops when the diver begins safety stop or surfaces (round up to next whole minute). On repetitive dives this is Actual Bottom Time (ABT).

DEPTH. The depth of a dive; use the maximum depth attained during the dive in feet or meters of seawater. When depth is not indicated on the table use the next greater depth available.

NO-DECOMPRESSION STOP LIMIT. The longest amount of time a diver can spend at depth without requiring a decompression stop. Table A lists these for all depths. For repetitive dives the Residual Nitrogen Time (RNT) must be added to the Bottom Time (BT) and the Total Bottom Time (TBT) must not exceed the No-Decompression Stop Limit.

REPETITIVE DIVE. Any dive conducted within the time period specified by the surface interval table (Table B) of a previous dive with a minimum surface interval of 10 minutes. For repetitive dives of less than 35 feet, use the RNT (Table C) values for 35 feet to calculate Total Bottom Time (TBT).

REPETITIVE GROUP DESIGNATION (RG). Letters that relate to the amount of residual nitrogen in a diver's tissues for the time specified in the Surface Interval Table.

RESIDUAL NITROGEN TIME (RNT). Located in Table C, an amount of time, in minutes, which must be added to the Bottom Time (BT) of a repetitive dive to calculate Total Bottom Time (TBT). Represents residual nitrogen still in a diver's tissues from previous dives.

SAFETY STOP. A 3 minute minimum safety stop at 15-25 feet is recommended at the end of all dives.

SURFACE INTERVAL TIME (SIT). Located in Table B, the elapsed time from when a diver surfaces following a dive to the time (next whole minute) that diver starts the descent of the next dive. SIT must be a minimum of 10 minutes.

TOTAL BOTTOM TIME (TBT). Calculated by adding the Bottom Time (BT) and the Residual Nitrogen Time (RNT). For times not indicated at a particular depth, use the next longer time available for that depth.

RULES

ASCENT RATE. Divers should ascend at 30 feet per minute or slower.

DIVES LESS THAN 35 FEET. Dives less than 35 feet do not have a specific No-Decompression Stop Limit. However, if conducted as repetitive dives, they must be calculated as a 35 foot dive for Residual Nitrogen Times (RNT), Table C.

EXCEEDING THE NO-DECOMPRESSION STOP LIMITS. If divers err and stay longer than the times allowed on the No-Decompression Stop Limit, Table A, the divers have exposed themselves to an increased decompression requirement and must refer to the Decompression Stops Table, Table D, for required decompression stops to complete the dive. Once on the surface these divers should not dive again for at least 12 hours or fly for at least 24 hours.

FLYING AFTER DIVING. The longer the surface interval before flying the less likely a diver will experience decompression sickness. A minimum surface interval of 12 hours is required before ascent to altitude in a pressurized aircraft (or a ground altitude of 1000 feet above sea level). Divers who plan to make multiple dives for several days or computer assisted dives should take extra precaution and wait an extended surface interval of greater than 12 hours before flying or ascending to altitude. Divers who have made dives requiring decompression stops should wait a minimum of 24 hours before flying or ascending to altitude.

HIGH ALTITUDE DIVING. These Air Diving Tables are not to be used for diving at altitudes greater than 1000 feet above sea level without calculating altitude adjustments.

ORDER OF DIVES. All repetitive dives should be conducted with each successive dive equal in depth or shallower than the previous dive.

SPORT DIVING MAXIMUM DEPTH. Sport divers should not exceed 100 feet of depth.

SPORT DIVING TIME LIMIT. On any dive the Total Bottom Time (TBT) should not exceed the No-Decompression Stop Limit. Dives requiring mandatory decompression stops should not be planned.

Table D
DECOMPRESSION STOPS TABLE

Depth Feet Meters	Bottom Time (min.)	Time to First Stop (min:sec)	Decompression Stops (min) @ 20ft.	Total Ascent (min:sec)	Repetitive Group
40	135		0		M
	150	0:40	6	7:20	O
	160	0:40	14	15:20	Z
	170	0:40	21	22:20	Z
12.2	180	0:40	27	28:20	Z
50	80		0		K
	90	1:00	2	3:40	M
	95	1:00	4	5:40	N
	100	1:00	8	9:40	O
15.2	110	1:00	21	22:40	O
60	51		0		I
	60	1:20	2	4:00	L
	65	1:20	7	9:00	L
	70	1:20	14	16:00	N
18.3	80	1:20	23	25:00	O
70	42		0		I
	50	1:40	9	11:20	L
	55	1:40	14	16:20	M
	60	1:40	24	26:20	N
21.3	70	1:40	44	46:20	O
80	32		0		H
	35	2:00	1	3:40	J
	40	2:00	10	12:40	K
	45	2:00	17	19:40	M
24.4	50	2:00	24	26:40	M
90	24		0		G
	30	2:20	4	7:00	J
	35	2:20	14	17:00	L
	40	2:20	23	26:00	N
27.4	45	2:20	31	34:00	N
100	18		0		F
	25	2:40	3	6:20	J
	30	2:40	15	18:20	L
	35	2:40	26	29:20	N
30.5	40	2:40	36	39:20	N
110	16		0		F
	20	3:00	3	6:40	I
	25	3:00	14	17:40	K
	30	3:00	27	30:40	M
33.5	35	3:00	39	42:40	N
120	10		0		D
	15	3:20	2	6:00	H
	20	3:20	8	12:00	J
	25	3:20	24	28:00	L
36.6	30	3:20	38	42:00	N
130	6		0		C
	10	3:40	1	5:20	G
	15	3:40	4	8:20	I
	20	3:40	17	21:20	K
39.6	25	3:40	34	38:20	M

Dive Table Terms

Actual Bottom Time (ABT)—The elapsed time in minutes (rounded up to the next whole minute) from when a diver leaves the surface in descent until the diver begins a rest stop or surfaces.

No Decompression Stop Limit (NDSL)—The maximum time that a diver may stay at a specified depth (indicated in table A). For repetitive dives, the residual nitrogen time (RNT) from table C must be added to the actual bottom time (ABT) to obtain the total bottom time (TBT), which must not exceed the NDSL specified in table A. Table C also indicates the maximum ABT for various depth and repetitive group combinations that will prevent the TBT from exceeding the NDSL.

Repetitive Dive—Any dive conducted within 12 hours of a previous dive with a minimum 10-minute surface interval. For repetitive dives of less than 40 feet, use the 40-foot (12 m) values in table C (RNT table) to determine the TBT.

Repetitive Group Designation (RGD or RG)—A letter that indicates the amount of residual nitrogen in a diver's tissues for 12 hours after diving.

Residual Nitrogen Time (RNT)—An amount of time (in minutes) that must be added to the actual bottom time (ABT) of a repetitive dive to determine the total bottom time (TBT). RNT compensates for residual nitrogen remaining in a diver's tissues from previous dives.

Surface Interval Time (SIT)—The elapsed time (rounded up to the next whole minute) from when a diver surfaces after a dive to the time the diver begins the descent of a repetitive dive. The minimum SIT is 10 minutes.

Total Bottom Time (TBT)—The sum of ABT and RNT. For times not indicated at a particular depth, use the next longest time available for that depth.

Table A provides the NDSL, without required decompression stops for various depths. This table also provides a letter designation for various dive profiles. The letter designation indicates the amount of excess nitrogen remaining in your body after a dive.

Table A

DEPTH		No-Decompression Stop Limit													
Meters	Feet	TOTAL BOTTOM TIME (TBT) IN MINUTES													
3	10		57	101	158	245	426								
4.6	15		36	60	88	121	163	217	297	449					
6.1	20		26	43	61	82	106	133	165	205	256	330	461		
7.6	25	354	20	33	47	62	78	97	117	140	166	198	236	285	354
9.1	30	223	17	27	38	50	62	76	91	107	125	145	167	193	223
10.7	35	168	14	23	32	42	52	63	74	87	100	115	131	148	168
12.2	40	135	12	20	27	36	44	53	63	73	84	95	108	121	135
13.7	45	102	11	17	24	31	39	46	55	63	72	82	92	102	
15.2	50	80	9	15	21	28	34	41	48	56	63	71	80		
16.7	55	63	8	14	19	25	31	37	43	50	56	63			
18.3	60	51	7	12	17	22	28	33	39	45	51				
21.3	70	42	6	10	14	19	23	28	32	37	42				
24.4	80	32	5	9	12	16	20	24	28	32					
27.4	90	24	4	7	11	14	17	21	24						
30.5	100	18	4	6	9	12	15	18							
33.5	110	16	3	6	8	11	14	16							
36.6	120	10	3	5	7	10									
39.6	130	6	2	4	6										

Repetitive Group Designation → A | B | C | D | E | F | G | H | I | J | K | L | M

Dive table courtesy of Scuba Educators International.

Table B, the surface interval timetable, provides letter group information based on your surface interval time (SIT). You begin a surface interval with one letter group designation; as you outgas nitrogen, you acquire lower letter group designations.

		Repetitive Group Designation													
		A	B	C	D	E	F	G	H	I	J	K	L	M	
Repetitive Dive Depth in Feet/Meters		↓													
130	←														
39	←														
4	←	A	2:30 0:10	3:36 1:17	4:31 2:12	5:23 3:04	6:15 3:56	7:08 4:49	8:00 5:41	8:52 6:33	9:44 7:25	10:36 8:17	11:29 9:10	12:21 10:02	13:13 10:54
6	←	B		1:16 0:10	2:11 0:56	3:03 1:48	3:55 2:40	4:48 3:32	5:40 4:24	6:32 5:17	7:24 6:09	8:16 7:01	9:09 7:53	10:01 8:45	10:53 9:38
9	←	C			0:55 0:10	1:47 0:53	2:39 1:45	3:31 2:38	4:23 3:30	5:16 4:22	6:08 5:14	7:00 6:07	7:52 6:59	8:44 7:51	9:37 8:43
11	←	D				0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 7:51	8:42 8:43
13	←	E					0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14	6:58 6:07	7:50 7:51
15	←	F						0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 6:07	6:58 6:59
18	←	G							0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22	6:06 5:14
20	←	H								0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30	5:13 4:22
22	←	I									0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38	4:21 3:30
25	←	J										0:52 0:10	1:44 0:53	2:37 1:45	3:29 2:38
27	←	K											0:52 0:10	1:44 0:53	2:37 1:45
30	←	L												0:52 0:10	1:44 0:53
32	←	M													0:52 0:10

Table B
SURFACE INTERVAL TIME (SIT) IN HOURS AND MINUTES

New Repetitive Group

Dive table courtesy of Scuba Educators International.

Table C, the residual nitrogen timetable, provides adjusted (reduced) no-stop time limits based on the amount of nitrogen in your body from a previous dive or dives. The table also converts your residual nitrogen to an amount of time for each depth. This residual nitrogen time (RNT) must be added to your actual dive time to obtain the total bottom time (TBT) for the repetitive dive.

Table C
RESIDUAL NITROGEN TIME (RNT) IN MINUTES

35	40	45	50	55	60	70	80	90	100	110	120	130
11	12	14	15	17	18	21	24	27	30	33	36	39
15	18	12	11	10	9	8	7	6	5	5	5	4
153	122	90	69	53	42	34	25	18	13	11	5	2
24	21	18	17	15	14	12	10	9	8	8	7	6
144	114	84	63	48	37	30	22	15	10	8	3	2
33	29	25	23	20	19	16	14	12	11	10	9	9
135	106	77	57	43	32	26	18	12	7	6	1	1
43	37	32	29	26	24	20	18	16	14	13	12	11
125	98	70	51	37	27	22	14	8	4	3	1	1
53	45	40	35	32	29	25	22	19	17	16	14	13
115	90	62	45	31	22	17	10	5	1	1	1	1
64	55	48	42	38	35	29	25	22	20	18	17	15
104	80	54	38	25	16	13	7	2	2	1	1	1
75	64	56	49	44	40	34	29	26	23	21	19	18
93	71	46	31	19	11	8	3	1	1	1	1	1
88	74	64	57	51	46	39	33	29	26	24	22	20
80	61	38	23	12	5	3	1	1	1	1	1	1
101	85	73	65	58	52	44	38	33	30	27	24	22
67	50	29	15	5	1	1	1	1	1	1	1	1
118	97	83	73	65	58	49	42	37	33	30	27	25
52	38	19	7	1	1	1	1	1	1	1	1	1
132	109	93	81	72	65	54	46	41	36	33	30	27
36	26	9	1	1	1	1	1	1	1	1	1	1
149	122	104	90	80	72	59	51	44	40	36	32	30
19	13	1	1	1	1	1	1	1	1	1	1	1
169	136	115	99	88	79	65	55	48	43	39	35	32

Repetitive Dive Depth in Feet/Meters

A

B

C

D

E

F

G

H

I

J

K

L

M

New Repetitive Group

Note: For repetitive dives less than 35 feet use the RNT values for 35 feet

Dive table courtesy of Scuba Educators International.

Table D
DECOMPRESSION STOPS TABLE

Depth Feet Meters	Bottom Time (min.)	Time to First Stop (min:sec)	Decompression Stops (min) @ 20ft.	Total Ascent (min:sec)	Repetitive Group
40 12.2	135		0		M
	150	0:40	6	7:20	O
	160	0:40	14	15:20	Z
	170	0:40	21	22:20	Z
	180	0:40	27	28:20	Z
50 15.2	80		0		K
	90	1:00	2	3:40	M
	95	1:00	4	5:40	N
	100	1:00	8	9:40	O
	110	1:00	21	22:40	O
60 18.3	51		0		I
	60	1:20	2	4:00	L
	65	1:20	7	9:00	L
	70	1:20	14	16:00	N
	80	1:20	29	25:00	O
70 21.3	42		0		I
	50	1:40	9	11:20	L
	55	1:40	14	16:20	M
	60	1:40	24	26:20	N
	70	1:40	44	46:20	O
80 24.4	32		0		H
	35	2:00	1	3:40	J
	40	2:00	10	12:40	K
	45	2:00	17	19:40	M
	50	2:00	24	26:40	M
90 27.4	24		0		G
	30	2:20	4	7:00	J
	35	2:20	14	17:00	L
	40	2:20	23	26:00	M
	45	2:20	31	34:00	N
100 30.5	18		0		F
	25	2:40	3	6:20	J
	30	2:40	13	16:20	L
	35	2:40	26	29:20	M
	40	2:40	36	39:20	N
110 33.5	16		0		F
	20	3:00	3	6:40	I
	25	3:00	14	17:40	K
	30	3:00	27	30:40	M
	35	3:00	39	42:40	N
120 36.6	10		0		D
	15	3:20	2	6:00	H
	20	3:20	8	12:00	J
	25	3:20	24	28:00	L
	30	3:20	38	42:00	N
130 39.6	6		0		C
	10	3:40	1	5:20	G
	15	3:40	4	8:20	I
	20	3:40	17	21:20	K
	25	3:40	34	38:20	M

Dive table courtesy of Scuba Educators International.

