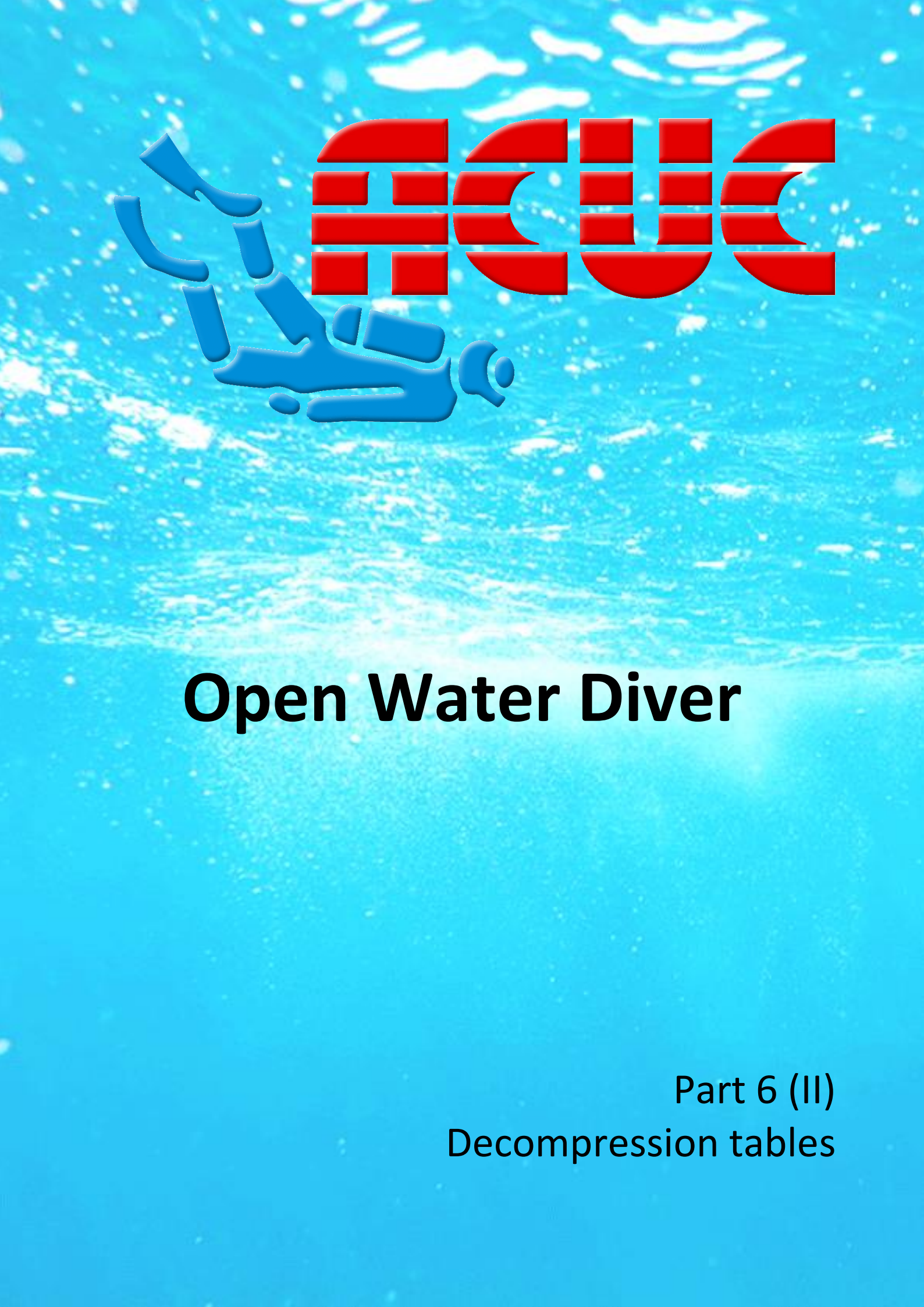


# Open Water Diver

Part 6 (II)
Decompression tables

## 6.2 Decompression tables

The ACUC tables are based on the DCIEM (Defence and Civil Institute for Environmental Medicine) tables, the main reason for the adoption of these tables being their great safety.

In these pages we will see how the decompression tables are distributed and we will learn their use, so that we are able to calculate our dive profile even during the same, since plasticized tables to be carried while diving can be acquired through your Instructor or on the ACUC website.

**Table A: Residual nitrogen group (RNG) and safety or decompression stops**

| Depth | Dive length in minutes (safety or deco stop code) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 m | 30 | 60 | 90 | 120 | 150 | 180 | 240 | 300 | 360 | 420 | 480 | 600 |
| 9 m | 30 | 45 | 60 | 90 | 100 | 120 | 150 | 180 | 190 | 210 | 240 | 270 |
| 12 m | 22 (S) | 30 (S) | 40 (S) | 60 (S) | 70 (S) | 80 (S) | 90 (S) | 120 (S) | 130 (S) | 150 (S) | 160 (1) | 170 (1) |
| 15 m | 18 (S) | 25 (S) | 30 (S) | 40 (S) | 50 (S) | 60 (S) | 75 (S) | 85 (1) | 95 (1) | 105 (2) | 115 (2) | 124 (3) |
| 18 m | 14 (S) | 20 (S) | 25 (S) | 30 (S) | 40 (S) | 50 (S) | 60 (1) | 70 (2) | 80 (2) | 85 (3) | 92 (4) | |
| 21 m | 12 (S) | 15 (S) | 20 (S) | 25 (S) | 35 (S) | 40 (1) | 50 (2) | 60 (5) | 63 (5) | 66 (6) | | |
| 24 m | 10 (S) | 13 (S) | 15 (S) | 20 (S) | 25 (S) | 29 (1) | 35 (2) | 48 (5) | 52 (6) | | | |
| 27 m | 9 (S) | 12 (S) | 15 (S) | 20 (S) | 23 (1) | 27 (2) | 35 (5) | 40 (6) | 43 (6) | | | |
| 30 m | 7 (S) | 10 (S) | 12 (S) | 15 (S) 18 (1) | 21 (2) | 25 (5) | 29 (5) | 36 (6) | | | | |
| 33 m | 6 (S) | 10 (S) | 12 (S) | 15 (1) | 18 (2) | 22 (5) | 26 (6) | 30 (6) | | | | |
| 36 m | 6 (S) | 8 (S) | 10 (S) | 12 (1) | 15 (2) | 19 (5) | 25 (6) | | | | | |
| 39 m | 5 (S) | 8 (S) | 10 (1) | 13 (2) | | 16 (5) | 21 (6) | | | | | |
| 42 m | 5 (S) | 7 (S) | 9 (1) | 11 (2) | | 14 (5) | 18 (6) | | | | | |
| RNG | A | B | C | D | E | F | G | H | I | J | K | L |

| Deco code | (S) | (1) | (2) | (3) | (4) | (5) | | (6) | |
|---|---|---|---|---|---|---|---|---|---|
| Minutes: | 3 | 5 | 10 | 15 | 20 | 5 | 10 | 10 | 10 |
| Deco depth | 4,5 m | 3 m | 3 m | 3 m | 3 m | 6 m | 3 m | 6 m | 3 m |

The decompression table itself is table A. In this table we find the different possible depths of our dive (in 3 metres sets), the maximum times without decompression and the decompression times if we exceed said maximum times. They also provide us with our residual nitrogen group (a capital letter) in case we want to do a successive dive.

**Table B: Surface Interval Group (SIG)**

| RNG > SIT | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:15-0:29 | R4 | R5 | R6 | R8 | R9 | R10 | | | | | | |
| 0:30-0:59 | R2 | R3 | R4 | R5 | R6 | R7 | R9 | | | | | |
| 1:00-1:29 | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R9 | R10 | | | |
| 1:30-1:59 | R1 | R2 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | |
| 2:00-2:59 | R1 | R2 | R2 | R3 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 |
| 3:00-3:59 | R1 | R1 | R2 | R2 | R3 | R3 | R4 | R5 | R5 | R6 | R7 | R7 |
| 4:00-5:59 | R1 | R1 | R1 | R2 | R2 | R3 | R3 | R4 | R4 | R5 | R5 | R6 |
| 6:00-8:59 | R1 | R1 | R1 | R1 | R2 | R2 | R2 | R3 | R3 | R3 | R3 | R4 |
| 9:00-11:59 | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R2 | R2 | R2 |
| 12:00-14:59 | Free | Free | Free | Free | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R1 |
| 15:00-18:00 | Free | Free | Free | Free | Free | Free | Free | R1 | R1 | R1 | R1 | R1 |

**Table C: Maximum No Decompression Time (MNDT) and Nitrogen Penalty Times (NPT) for subsequent dives**

| RD→ SIG↓ | 6 m | | 9 m | | 12 m | | 15 m | | 18 m | | 21 m | | 24 m | | 27 m | | 30 m | | 33 m | | 36 m | | 39 m | | 42 m | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R1 | 665 | 55 | 272 | 28 | 136 | 14 | 60 | 15 | 40 | 10 | 30 | 5 | 20 | 5 | 16 | 4 | 13 | 2 | 10 | 2 | 8 | 2 | 7 | 1 | 6 | 1 |
| R2 | 600 | 120 | 250 | 50 | 125 | 25 | 55 | 20 | 35 | 15 | 25 | 10 | 18 | 7 | 14 | 6 | 11 | 4 | 9 | 3 | 7 | 3 | 6 | 2 | 5 | 2 |
| R3 | 554 | 166 | 230 | 70 | 115 | 35 | 50 | 25 | 31 | 19 | 21 | 14 | 16 | 9 | 12 | 8 | 10 | 5 | 8 | 4 | 7 | 3 | 6 | 2 | 5 | 2 |
| R4 | 515 | 205 | 214 | 86 | 107 | 43 | 45 | 30 | 29 | 21 | 19 | 16 | 15 | 10 | 11 | 9 | 9 | 6 | 8 | 4 | 6 | 4 | 5 | 3 | 5 | 2 |
| R5 | 480 | 240 | 200 | 100 | 100 | 50 | 41 | 34 | 27 | 23 | 18 | 17 | 14 | 11 | 11 | 9 | 9 | 6 | 7 | 5 | 6 | 4 | 5 | 3 | 4 | 3 |
| R6 | 450 | 270 | 187 | 113 | 93 | 57 | 38 | 37 | 26 | 24 | 17 | 18 | 13 | 12 | 10 | 10 | 8 | 7 | 7 | 5 | 6 | 4 | 5 | 3 | 4 | 3 |
| R7 | 424 | 296 | 176 | 124 | 88 | 62 | 36 | 39 | 24 | 26 | 16 | 19 | 12 | 13 | 9 | 11 | 8 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 3 |
| R8 | 400 | 320 | 166 | 134 | 83 | 67 | 34 | 41 | 23 | 27 | 15 | 20 | 12 | 13 | 9 | 11 | 7 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 4 |
| R9 | 379 | 341 | 157 | 143 | 78 | 72 | 32 | 43 | 22 | 28 | 14 | 21 | 11 | 14 | 8 | 12 | 7 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 4 |
| R10 | 360 | 360 | 150 | 150 | 75 | 75 | 31 | 44 | 21 | 29 | 13 | 22 | 11 | 14 | 8 | 12 | 7 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 4 |

Tables B and C are for use in the case of successive dives. Table B allows us to convert the residual nitrogen group into another group called SIG (Surface Interval Group), depending on the time we remain at the surface after the first dive. That time in the tables is called SIT (Surface Interval Time). Table C tells us what that

residual nitrogen group we have (our SIG) means when we start the successive dive. What it tells us is the time we have to add to the real dive time, in order to calculate our successive dive using table A. Do not worry if this seems complex up to now, because following the examples on how to use the tables below, you will see it perfectly clear.

There is only one decompression table, as we have said, that contains all the data of depths and times for the calculation of the dive, as far as it is a simple dive. We call simple dive to that which it is not continuous or successive, that is, we start the dive saturated, since we have been a minimum time of 24 hours without diving. We talk about table A.

| Depth |
|---|
| 6 m |
| 9 m |
| 12 m |
| 15 m |
| 18 m |
| 21 m |
| 24 m |
| 27 m |
| 30 m |
| 33 m |
| 36 m |
| 39 m |
| 42 m |

To the left of the table, we see a column with a series of depths, expressed in metres, ranging from 6 metres to 42 metres at intervals of 3 metres. Shallower depths are not contemplated because you can ascend directly to the surface, regardless of the length of the dive. Depths greater than 42 metres are also not considered as they are outside of the recreational diving limit. Let's see an example of **calculating a dive to 20 metres (maximum depth of the dive), for 30 minutes**.

In that column is where we have to look for the real depth of our dive, understanding as depth, the maximum depth reached in the course of the dive. If the exact depth of our dive appears in the column, that is the row of times that corresponds to us. If it does not appear, then our depth in the tables will be the next higher, so in the dive of our example 20 metres, we will have to go to the row of 21 metres.

Each depth that appears is the start of a row. That row contains numbers that express dive minutes. In the following graphic we show you the row corresponding to the depth of 21 metres, where we see a relation of times corresponding to that depth. The shorter time is 12 minutes, for dives of up to 12 minutes and the longest 66 minutes.

| 21 m | 12 (S) | 15 (S) | 20 (S) | 25 (S) | 35 (S) | 40 (1) | 50 (2) | 60 (5) | 63 (5) | 66 (6) |
|---|---|---|---|---|---|---|---|---|---|---|

In this row we have to look for the time of our dive. If it does not coincide exactly, we will go to the next longer time. For example, if in our dive the maximum depth reached was greater than 18 metres and less than or equal to 21 metres, as is the case in our example at 20 metres, this is our row. If we have been diving for 30 minutes, since those 30 minutes are not in the row of 21 metres, we have to go to the 35 minutes, which do appear. We see that those 35 minutes are already in the limit of no decompression (yellow) and our decompression code is (S), which means that it is not necessary to do mandatory decompression stops, but we must do a safety stop, which in this case it is 3 minutes at 4.5 metres. In addition, if we follow that box down its column, we will see that it is in the column of the letter E, corresponding to the row entitled RNG (Residual Nitrogen Group). We now know our exit group (E) from the first dive, in case we wish to do a successive dive.

| RNG | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

The RNG are letters, from A to L, which form the bottom of the time columns. These letters symbolize a certain degree of nitrogen supersaturation. As the amount of nitrogen in supersaturation with which we exit the dive is variable, since it depends on the depth and time, these letters are used to express it, corresponding the A to the smallest quantity and the L corresponding to the largest quantity of nitrogen, but we will see more explanations later, when we talk about successive dives. If we observe the table, it uses the colour code of the traffic lights: the green for safer dives, the yellow to indicate the limit of no decompression (caution) and the red (pink so that the text is easier to read) to indicate dives with compulsory decompression stops (danger). Let us now identify the data given in table A.

At the end of the table, on a white background, we see 3 rows but they are related, since really what they represent are 7 columns: (S), (1), (2), (3), (4), (5) and (6), which correspond to the decompression codes that we see in parentheses in each of the times in the table. These codes are the headers of the column that indicates what type of decompression stops corresponds to that code.

| Deco code | (S) | (1) | (2) | (3) | (4) | (5) | | (6) | |
|---|---|---|---|---|---|---|---|---|---|
| Minutes: | 3 | 5 | 10 | 15 | 20 | 5 | 10 | 10 | 10 |
| Deco depth | 4,5 m | 3 m | 3 m | 3 m | 3 m | 6 m | 3 m | 6 m | 3 m |

The code (S) does not represent a mandatory decompression stop but refers to the safety decompression stop. The rest of the codes do represent mandatory decompression stops.

As these tables are of Canadian origin and expressed in feet, the safety stop is set at 15 feet, which equals 4.5 metres if we convert it. Just below each code we find the row of minutes which we must stop and below it, we find the depths to which we must stop, expressed in metres. Let's see all the codes:

Code (S): Safety decompressions stop for 3 min at 4.5 metres
Code (1): Mandatory decompression stop for 5 min at 3 metres
Code (2): Mandatory decompression stop for 10 min at 3 metres
Code (3): Mandatory decompression stop for 15 min at 3 metres
Code (4): Mandatory decompression stop for 20 min at 3 metres
Code (5): Mandatory decompression stops for 5 min at 6 metres and for 10 min at 3 metres
Code (6): Mandatory decompression stops for 10 min at 6 metres and for 10 min at 3 metres.

Now we have all the information. If we return to our previous case, in which we have seen a 20 metres dive for 30 minutes, we have seen that we had to go to 21 metres for 35 minutes, since there are not 20 metres nor 30 minutes, the code found in that time is (S) and below it indicates that the code (S) corresponds to a safety decompression stop of 3 minutes at 4.5 metres.

It may seem complicated at first, but you will see that it is very simple, since as soon as we do some more exercises, we will see the ease of use of the tables. Now let's look at table B, which is the upper half of the image in which we see tables B and C.

**Table B: Surface Interval Group (SIG)**

| RNG > / SIT | A | B | C | D | E | F | G | H | I | J | K | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0:15-0:29 | R4 | R5 | R6 | R8 | R9 | R10 | | | | | | |
| 0:30-0:59 | R2 | R3 | R4 | R5 | R6 | R7 | R9 | | | | | |
| 1:00-1:29 | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R9 | R10 | | | |
| 1:30-1:59 | R1 | R2 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | |
| 2:00-2:59 | R1 | R2 | R2 | R3 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 |
| 3:00-3:59 | R1 | R1 | R2 | R2 | R3 | R3 | R4 | R5 | R5 | R6 | R7 | R7 |
| 4:00-5:59 | R1 | R1 | R1 | R2 | R2 | R3 | R3 | R4 | R4 | R5 | R5 | R6 |
| 6:00-8:59 | R1 | R1 | R1 | R1 | R2 | R2 | R2 | R3 | R3 | R3 | R3 | R4 |
| 9:00-11:59 | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R2 | R2 | R2 |
| 12:00-14:59 | Free | Free | Free | Free | R1 | R1 | R1 | R1 | R1 | R1 | R1 | R1 |
| 15:00-18:00 | Free | Free | Free | Free | Free | Free | Free | R1 | R1 | R1 | R1 | R1 |

The first row of table B, entitled RNG (Residual Nitrogen Group) shows the letter with which we left the previous dive, each letter being the head of a column with other codes. The column on the left is called SIT (Surface Interval Time), it shows a series of time intervals, the shortest being 15 minutes and the longest 18 hours.

If our surface interval is not in this table and it is less than 18 hours, it means that it is a continuous dive. For example, if our letter is C and the surface interval is less than 15 minutes, we have to calculate it as a continuous dive. If our letter is J and the surface interval is less than 1 hour 30 minutes, it will also be a continuous dive, note that the upper boxes are blank.

As we have indicated, continuous dives are treated in a different way, since to calculate the second dive, it is necessary to take as bottom time the sum of the bottom times of the two dives and for the depth, the maximum depth of either of the two dives. It is easy to suppose that they are dives that entail risks, since it is very easy to enter in dive times with mandatory water decompression in the second dive, reason why they are not advisable.

Let's remember that in the dive of the previous example, 20 metres deep for 30 minutes, we had to go to table A, 21 metres for 35 minutes and that data was in the E column. Therefore, we left the dive with an amount of nitrogen in supersaturation, let's call it residual nitrogen, represented by the letter E, which we have to take into account in case we want to do a successive dive.

But the amount of nitrogen decreases with time because we eliminate it. As the minutes and hours pass, less nitrogen is left in our body, so if after a certain time we want to do the successive dive, we must know what the residual nitrogen that we still have could be. That is the function of this table, since according to the letter and the interval that we spend on the surface, this table allows us to obtain a new factor when starting the successive dive.

Table B: Surface Inte

| RNG > SIT | A | B | C | D | E |
|---|---|---|---|---|---|
| 0:15-0:29 | R4 | R5 | R6 | R8 | R9 |
| 0:30-0:59 | R2 | R3 | R4 | R5 | R6 |
| 1:00-1:29 | R1 | R2 | R3 | R4 | R5 |
| 1:30-1:59 | R1 | R2 | R2 | R3 | R4 |
| 2:00-2:59 | R1 | R2 | R2 | R3 | R3 |

Let's suppose that two and a half hours after surfacing from the previous dive, we will start another dive. Well, in the top row we look for our letter E and in the column on the left we look for the time interval in which our two and a half hours are. We see where the row and the column intersect and we get another code, in this case it is R3. Therefore, what this table tells us is that having been two and a half hours on the surface, our letter E has become a code called R3. That code R3 represents our residual nitrogen at the moment we start the successive dive. Of course, the code for the next dive gets smaller the longer we are at the surface before the next dive.

Now we need to know what this is for in our successive dive and for that we have table C. The upper row called RD (Repetitive Depth) is a ratio of depths, in 3 metres intervals as always, where we have to go to the depth to which we are going to descend in our successive dive. Each depth is the heading of two columns, the first, in green, gives us the maximum time that we can be at that depth without needing mandatory decompression stops and the second, in yellow, gives us the nitrogen penalty time due to the previous dive. On the left we find the column called SIG (Surface Interval Group) with the R (Repetitive) codes from R1 to R10.

Table C: Maximum No Decompression Time (MNDT) and Nitrogen Penalty Times (NPT) for subsequent dives

| RD→ / SIG↓ | 20 ft | | 30 ft | | 40 ft | | 50 ft | | 60 ft | | 70 ft | | 80 ft | | 90 ft | | 100 ft | | 110 ft | | 120 ft | | 130 ft | | 140 ft | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R1 | 665 | 55 | 272 | 28 | 136 | 14 | 60 | 15 | 40 | 10 | 30 | 5 | 20 | 5 | 16 | 4 | 13 | 2 | 10 | 2 | 8 | 2 | 7 | 1 | 6 | 1 |
| R2 | 600 | 120 | 250 | 50 | 125 | 25 | 55 | 20 | 35 | 15 | 25 | 10 | 18 | 7 | 14 | 6 | 11 | 4 | 9 | 3 | 7 | 3 | 6 | 2 | 5 | 2 |
| R3 | 554 | 166 | 230 | 70 | 115 | 35 | 50 | 25 | 31 | 19 | 21 | 14 | 16 | 9 | 12 | 8 | 10 | 5 | 8 | 4 | 7 | 3 | 6 | 2 | 5 | 2 |
| R4 | 515 | 205 | 214 | 86 | 107 | 43 | 45 | 30 | 29 | 21 | 19 | 16 | 15 | 10 | 11 | 9 | 9 | 6 | 8 | 4 | 6 | 4 | 5 | 3 | 5 | 2 |
| R5 | 480 | 240 | 200 | 100 | 100 | 50 | 41 | 34 | 27 | 23 | 18 | 17 | 14 | 11 | 11 | 9 | 9 | 6 | 7 | 5 | 6 | 4 | 5 | 3 | 4 | 3 |
| R6 | 450 | 270 | 187 | 113 | 93 | 57 | 38 | 37 | 26 | 24 | 17 | 18 | 13 | 12 | 10 | 10 | 8 | 7 | 7 | 5 | 6 | 4 | 5 | 3 | 4 | 3 |
| R7 | 424 | 296 | 176 | 124 | 88 | 62 | 36 | 39 | 24 | 26 | 16 | 19 | 12 | 13 | 9 | 11 | 8 | 7 | 6 | 6 | 5 | 5 | 4 | 4 | 4 | 3 |
| R8 | 400 | 320 | 166 | 134 | 83 | 67 | 34 | 41 | 23 | 27 | 15 | 20 | 12 | 13 | 9 | 11 | 7 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 4 |
| R9 | 379 | 341 | 157 | 143 | 78 | 72 | 32 | 43 | 22 | 28 | 14 | 21 | 11 | 14 | 8 | 12 | 7 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 4 |
| R10 | 360 | 360 | 150 | 150 | 75 | 75 | 31 | 44 | 21 | 29 | 13 | 22 | 11 | 14 | 8 | 12 | 7 | 8 | 6 | 6 | 5 | 5 | 4 | 4 | 3 | 4 |

If after the dive of the previous example, we are going to do another to 16 metres deep for 30 minutes, to know what we have to do we have to go to this table, knowing that our code is R3; we look in the top row for the 16 metres and, as they are not, we have to go to the 18 metres column. We look for our code R3 in the left column and follow the row to the point where the 18 metres column and the R3 row intersect. We see that the first column in green gives us the data of 31 minutes and the second column in yellow gives us the data of 19 minutes.

| SIG↓ |
|---|
| R1 |
| R2 |
| R3 |
| R4 |
| R5 |
| R6 |
| R7 |
| R8 |
| R9 |
| R10 |

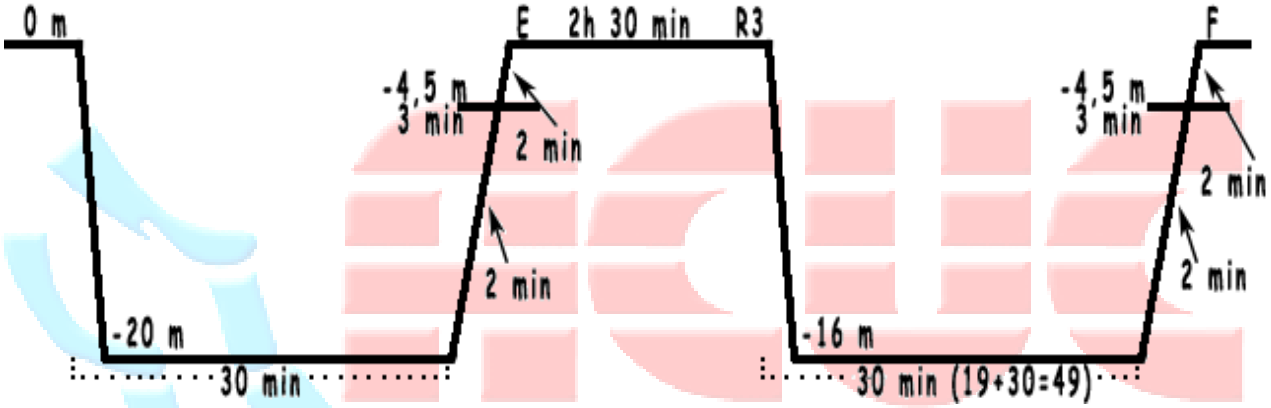
| 18 m | |
|---|---|
| 40 | 10 |
| 35 | 15 |
| 31 | 19 |
| 29 | 21 |
| 27 | 23 |
| 26 | 24 |
| 24 | 26 |
| 23 | 27 |
| 22 | 28 |
| 21 | 29 |

R3 — ~~554~~ ~~166~~ ~~230~~ ~~70~~ ~~115~~ ~~35~~ ~~50~~ 31 19

Well, this data means that the residual nitrogen that we have in our organism, in supersaturation, because of the previous dive, but already discounting what we have released in our surface interval, is equivalent to the nitrogen that we would dissolve in a simple dive to 18 metres deep, for 19 minutes.

That is why it is called penalty time, because **it is the time that we have to add** to our real bottom time in the second dive, obtaining what is known as FBT (Fictitious Bottom Time), which is the time which we can take back to table A for simple dives, which is the only decompression table we really have. The data of the column in green (31 minutes) represents the maximum time that we could be at that depth without the need to do decompression stops in the water. As we will be 30 minutes in our dive, we already know that the second dive will not require mandatory decompression stops.

Let's do an easy check: if we add the 31 min maximum time without decompression and the 19 min penalty time, it gives us a value of 31 + 19 = 50 min. In table A, we look for the depth of our successive dive, (we had to go to 18 metres); we see that the maximum time of no decompression in a simple dive for 18 metres is 50 minutes. If we add the penalty time (19 min), to the real bottom time of the second dive (30 min) gives us a total of 19 + 30 = 49 min, so going to table A we see that at 16 metres (they are not, then we have to go to 18 metres) 49 minutes, does not require a mandatory decompression stop but we have to do a safety stop at 4.5 metres for 3 minutes, using 2 min to go up from -16 m to -4.5 m, we have to take 2 minutes to exit to the surface from 4.5 metres and we will exit with the letter F, in case we want to calculate another successive dive. In the graph, in parentheses, we see the times calculation we have to look in the tables.




In the graph we see that in the first dive, we have to ascend from 20 metres to 4.5 metres, which means a displacement of 15.5 metres and we have to take 2 minutes to do so. From 4.5 m to the surface, as the speed is 3 metres per minute without decimals, we have to take 2 minutes. This is how the ascent time calculation in all the dives is done.

This is how the decompression tables are used. We have already explained the tables and it may be that for the reader it is, for now, something confusing or overwhelming, such data and data crossing, but we will do some exercises, which will oblige us to consult the tables and we will see that it is always the same. Once we have used them a few times it will be much easier and faster.

Although the tables allow you to do as many successive dives as you like, it is not recommended to do more than 3 dives a day, less if it is for several consecutive days.

In the following document, we will solve different decompression problems to acquire skill in handling the tables. In document 6_4 we offer you examples of dives so that you can solve them without seeing the solutions. You will also have the document 6_5 with the exercises solved, but use it only to check if you have made an error. If there is something that has not been sufficiently clear to you, do not hesitate to consult your instructor or ACUC directly if his answer is delayed.

In all the examples we will use a maximum ascent speed of 10 metres per minute but without decimals, which means that an ascent of up to 10 metres will have to be done in one minute, but if the ascent is a displacement of 10.1 to 20 metres, we will have to use 2 minutes. Remember that you never have to use decimals, but round to the next higher minute.

The ascent speed between decompression stops and the last decompression stop or safety stop and the surface is 3 metres per minute, also without decimals, therefore, when there are decompression stops at 3 or 6 metres, we indicate a minute in the ascent of each stage and when the stop is a safety stop, since it is at more than 3 metres deep, we indicate 2 minutes. It is important to follow these recommendations.

We recommend to use schemes like the one we have done on the previous page, to show all the data of the exercise (you will need to use them for the exam), when solving decompression exercises. The vertical represents the depth and the horizontal the time. As we can see, the time begins at the moment in which we begin the descent and ends at the moment we begin a direct ascent to the surface. That is why the descent and ascent lines are inclined, since it takes a while to go down and to come up. In the ascent we indicate the necessary time to reach the first stop (safety stop) and the two minutes we need to ascend from the safety stop to the surface. In the second dive we indicate the real bottom time and, in parentheses, the sum that tells us the time to look in the tables. In the theory exam there will be decompression table exercises and you will be asked to use the scheme. It helps you a lot and it will make it easier for you to arrive at a solution without errors. Look at the scheme used, as you will see, following it makes it very easy to see the design of the dives.

## Summary

- The depth of the dive is the maximum depth reached during the dive.
- The depth in the tables to which we have to go in the case of not finding our depth is the next higher.
- The dive time is from the beginning of the same, until we begin the direct ascent to the surface.
- The time of ascent is the sum of the time used to ascend to the first decompression or safety stop, plus the time spent at the stops, plus the ascent time between stops and between the last stop and the surface.
- The maximum speed of ascent is 10 metres per minute without decimals.
- The maximum ascent speed between decompression stops and safety stop and the surface is 3 metres per minute without decimals.
- In successive dives the time to be looked at in the tables is the real bottom time plus the penalty time for residual nitrogen.