

Dive Depth = 90 fsw (28 msw)
Mix = 36% nitrox, NN36
Maximum No-Stop Time at 90 fsw
= 50 mins
PO₂ = 1.34 ata (rounded to 1.35)
Ending repetitive group = J
Oxygen exposure for single dive
= 30% of allowable limit

Note: Maximum Operating Depth for this gas at 1.6 ata is 113 fsw (35 msw).

Dive Depth = 74 fsw (23 msw)
Mix = 36% nitrox, NN36
Dive Time at 74 fsw = 117 mins
Schedule use = 80 fsw/120 mins
Stop required = 26 mins @ 10 fsw
PO₂ = 1.17 ata at 74 fsw (rounded to 1.20)
Maximum Operating Depth @ 1.6 ata
= 113 fsw (35 msw)
Ending repetitive group = N

Should Read as Follows:

The stop time of 26 minutes is divided by the exposure limit of 720 resulting in 0.0361 (or 4% rounded up). Sum all the oxygen fractions (56 + 4) resulting in an oxygen exposure of 60%. Always round oxygen exposure to the next highest setting.

FIGURE 15.7
Dive Example 1

fraction for the decompression stop (PO₂ level of 0.47 ata) at the lowest PO₂ level on the oxygen exposure table of 0.6. The stop time of 26 minutes is divided by the exposure limit of 720 resulting in 0.0361 (rounded to 0.5 percent). Sum all the oxygen fractions (56 + 0.5) resulting in an oxygen exposure of 56.5% which is rounded up to 57%. Always round oxygen exposure fractions to the next highest number.

15.7.3 Application of Equivalent Air Depth and Air Tables

There may be times when NN32 and NN36 mixes and tables will not be appropriate for a specific dive. This could be because of mix availability or a specific mix is desired for an operation. In either case, an effective alternative is to apply the equivalent air depth conversion to the U.S. Navy Dive Tables. Any time the fraction of the oxygen in the breathing mixture is greater than 0.21, an air diving schedule for a depth shallower than the actual depth of the dive will result.

Dive Depth = 90 fsw (28 msw)
Mix = 32% nitrox, NN32
Maximum No-Stop Time at 90 fsw
= 40 mins
PO₂ = 1.2 ata at 90 fsw
Ending repetitive group = I
Oxygen exposure for single dive
= 19% of allowable limit

Note: Maximum Operating Depth for this gas at 1.6 ata is 132 fsw (41 msw)

FIGURE 15.8
Dive Example 2

lower depth.

15.7.4 Calculating the Equivalent Air Depth

In lieu of using the Equivalent Air Depth Conversion Table to look-up an EAD, a formula can be used to calculate the EAD. To accomplish this the absolute pressure (in “absolute” depth units) is multiplied by the ratio of the nitrogen fraction, FN₂, to that of air, then converted back to depth units.

EAD formula:

This equation shows the EAD formula, where

- EAD = equivalent air depth
- D = actual depth of the dive in fsw
- FO₂ = fraction of oxygen in the mix
- 1-FO₂ = yields the fraction of nitrogen in the mix, FN₂
- 0.79 = fraction of nitrogen in air
- 33 = number of fsw in one atmosphere

$$EAD \text{ fsw} = \left[\left(\frac{1-FO_2}{0.79} \right) \times (D+33) \right] - 33 \text{ fsw}$$

The equivalent air depth formula converts the actual depth of the dive, in fsw (D), to an absolute pressure by adding 33 fsw (10 msw) to the number. The number is then multiplied by the product of a fraction consisting of the nitrogen percentage in the nitrox mixture in the numerator divided by the nitrogen percentage in air (.79) in the denominator. The fraction of nitrogen in the nitrox mixture (FN₂) is obtained by subtracting the fraction of oxygen in the mix (FO₂) from the number one (i.e. 1-FO₂). Both numbers in the fraction must be converted to decimal equivalents before dividing the denominator into the