Health and Safety Executive

Exposure limits for air diving operations

HSE information sheet

Diving Information Sheet No 5(rev1)

Introduction

This information sheet is part of a series of information sheets providing guidance on diving at work. It gives guidance on the maximum time that a diver using air should spend under water on a single dive.

Diving carries an inherent risk of decompression illness (DCI). The incidence of DCI drops if the length of time that a diver spends at any particular depth is limited. The depth/time limitations applicable to a single dive are outlined in Table 1 below. Use of this table has resulted in a significant reduction in the incidence of DCI, and diving project plans should incorporate these maximum time limits.

When breathing oxy-nitrogen mixtures with oxygen percentages higher than in natural air, the equivalent air depth should be established. It is this equivalent air depth that should be used to establish bottom time limits.

For repetitive dives, established decompression tables should be used and the procedures accompanying those tables should be followed. The risk assessment for the diving project should consider the increased risk of decompression illness for such dives.

Table 1 Maximum bottom time limitation for surface decompression, in-water decompression, and transfer under-pressure decompression diving.

Depth		Bottom time limits (minutes)*	
Metres	Feet	Transfer under-pressure	Surface decompression and in-water decompression
0-12	0-40	240	240
15	50	240	180
18	60	180	120
21	70	180	90
24	80	180	70
27	90	130	60
30	100	110	50
33	110	95	40
36	120	85	35
39	130	75	30
42	140	65	30
45	150	60	25
48	160	55	25
51	170	50	20

* Bottom time: the total elapsed time from when the diver is first exposed to a pressure greater than atmospheric, ie when leaving the surface, or on the start of pressurisation when a closed bell is employed in the observation mode, to the time (next whole minute) that the diver begins decompression (measured in minutes)

Further reading

Commercial diving projects inland/inshore. Diving at Work Regulations 1997. Approved Code of Practice and guidance L104 (Second edition) HSE Books 2014 ISBN 978 0 7176 6593 8 www.hse.gov.uk/pubns/books/l104.htm

Commercial diving projects offshore. Diving at Work Regulations 1997. Approved Code of Practice and guidance L103 (Second edition) HSE Books 2014 ISBN 978 0 7176 6592 1 www.hse.gov.uk/pubns/books/l103.htm

Recreational diving projects. Diving at Work Regulations 1997. Approved Code of Practice and guidance L105 (Second edition) HSE Books 2014 ISBN 978 0 7176 6594 5 www.hse.gov.uk/pubns/books/l105.htm

Media diving projects. Diving at Work Regulations 1997. Approved Code of Practice and guidance L106 (Second edition) HSE Books 2014 ISBN 978 0 7176 6595 2 www.hse.gov.uk/pubns/books/l106.htm

Scientific and archaeological diving projects. Diving at Work Regulations 1997. Approved Code of Practice and guidance L107 (Second edition) HSE Books 2014 ISBN 978 0 7176 6596 9 www.hse.gov.uk/pubns/books/l107.htm

The Diving at Work Regulations 1997 SI 1997/2776 The Stationery Office 1997 ISBN 0 11 065170 7

Are you involved in a diving project at work? A brief guide to complying with health and safety law. Leaflet INDG266(rev 2) www.hse.gov.uk/pubns/indg266.htm

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

This leaflet is available at: http://www.hse.gov.uk/pubns/dvis5.pdf.