

Standard 2.B.28

CMAS Wreck Diver Level 2 Training Programme

1. Aim of the training programme

- 1.1 This training programme aims to build on the skills and knowledge learnt during the CMAS Wreck Diver Level 1 training programme and advanced the skills of individuals in recreational, penetration wreck diving. This course will also to provide candidates with the necessary skills and a clear understanding of:
- 1.1.1 An overview of wreck penetration diving,
 - 1.1.2 Revision of the physical, physiological and basic legal aspects of wreck diving,
 - 1.1.3 Basic external ship architecture and internal ship architecture and terminology,
 - 1.1.4 Wreck navigation using ship architecture and the distance-reel & line technique for wreck penetration,
 - 1.1.5 Internal wreck navigation using distance-reel and line,
 - 1.1.6 Pit falls, dangers and avoidance,
 - 1.1.7 Finning techniques to limit/prevent slit disturbance,
 - 1.1.8 Advanced buoyancy and trim control to achieve the least possible environmental disturbance when couple with appropriate finning techniques,
 - 1.1.9 Advanced line-laying techniques, tying-off methods, including line belaying, types of reel and line choice,
 - 1.1.10 Penetration of wreck diving procedures, including the setting of the chain of command,
 - 1.1.11 Extent of the range of dive planning and plan enactment required for penetration wreck diving, including the laying of spare Scuba sets within the wreck and Risk Assessment, equipment selection, equipment configuration including the need for a two-metre hose on one demand valve, back-up gas, escape methods, planning and enactment,
 - 1.1.12 Stress recognition and stress recovery,
 - 1.1.13 Hand and torch signalling for penetration wreck diving and
 - 1.1.14 Revision of setting Red and Yellow DSMBs.

2. Classification

- 2.1 The CMAS Wreck Diver Level 2 Training Programme is classified as an advanced level which can be undertaken after satisfying the course requirements. This classification is for penetration Wreck Diving.

3. Instructor and Assistant Requirements

- 3.1 The CMAS Wreck Diver Training Programme may be presented by any CMAS Instructor with a minimum of a CMAS Two Star Instructor grading that complies with the requirements as prescribed by Clause 2.1.20 of the definitions in Chapter 1
- 3.2 To be a Level 2 Wreck Instructor one needs to be a Level 2 Wreck diver plus 15 additional Wreck Penetration dives plus has assisted on one Wreck Diver Level 2 course.
- 3.3 The CMAS Two Star Instructor may be assisted by a CMAS One Star Instructor that complies with requirements as prescribed by Clause 2.1.16 of the definitions in Chapter 1 and/or CMAS Dive Leader that complies with Clause 2.1.15 of the definitions in Chapter 1.
- 3.4 The CMAS Instructor must hold a current CMAS Wreck Diving Instructor Level 2 or equivalent.

4. Competencies of a certified CMAS Wreck Diver

- 4.1 CMAS Level 2 Wreck Divers shall be trained such that when assessed by a CMAS Instructor, they shall be deemed to have sufficient knowledge, skills and experience to procure breathing gas, equipment, other diving services. Furthermore, they must demonstrate the skill to plan, conduct, and log penetration wreck dives in open-water without the direct supervision of a CMAS Instructor or CMAS Dive Leader. CMAS Level 2 Wreck Divers may be partnered by another Wreck Diver of same level, provided the dive conditions are at least similar to those in which their training was received.
- 4.2 CMAS Level 2 Wreck Divers and candidates may, subject to their qualification, dive using either air or Nitrox.
- 4.3 Candidates will use familiar equipment.

5. Prerequisites for participation in the training programme

- 5.1.1 Candidates must:
- 5.1.2 Be at least a CMAS Two Star Diver or equivalent,
- 5.1.3 Be at least 18 years of age,
- 5.1.4 Have logged a minimum of 45, post qualifying, dives and
- 5.1.5 Hold a current diving medical certificate or complete a Federation/CDC medical history/statement form.

6. Requirements for certification

- 6.1 In qualify as a CMAS Wreck Diver Level 2, the candidates shall:
 - 6.1.1 Comply with the prerequisites for participation, as prescribed by Clause 5 of this Standard;
 - 6.1.2 Successfully complete the theoretical assessment as provided for in Clause 10.1 of this Standard;
 - 6.1.3 Successfully complete the open water assessment as provided for in Clause 10.2 of this Standard;
 - 6.1.4 Successfully complete four (4) penetration Safety-stop wreck dives.
 - 6.1.5 Candidates will determine their decompression obligation for each of the four dives related to the breathing gas used. This will include determining the required primary and back-up gas as indicated in Clause 10.2 of this Standard.
 - 6.1.5.1 Preceding the in-water training all practical skills training will be on land and line recovery will be achieved while wearing a blackout mask. This work will be followed by two in-water practical exercise dives and the final two dives will be qualifying dives when all new skills will successfully demonstrated by each candidate.
 - 6.1.6 Candidates will provide their own diving equipment that must also include Scuba with a buoyancy control device (BCD).
 - 6.1.7 The dive cylinders must be of equal size in a Twin manifolded or independent etc with one demand valve (DV) fitted with a two-metre supply hose. The capacity of this equipment will be sufficient to meet the needs of the dive plus emergency gas to supply to two exiting divers from the furthest planned depth/penetration. Emergency gas may be side-mounted subject to the diver's qualification. All breathing systems will be fitted with their own submersible contents pressure gauges, see Clause 4.4 in this Standard.
 - 6.1.7.1 In addition candidates will provide the following equipment for their personal use:
 - i. A back-up face mask
 - ii. a primary torch and back-up torch
 - iii. a sharp knife for cutting entanglements and back-up cutting device
 - iv. two delayed surface marker buoy (DSMB), one red and the other yellow, with a reels and sufficient line on each for the planned maximum operating depth (MOD), see Clause 6.1 in Chapter 1.
 - v. a personal decompression computer (PDC) and/or timing device and depth gauge and back-up device.

7. Required theoretical knowledge and diving skills

- 7.1 The participant shall receive tuition in the theoretical knowledge and diving skills as prescribed in this Syllabus and the following:
- 7.2 An overview of wreck penetration diving, revision of the physical, physiological and basic legal aspects of wreck diving.
- 7.3 Basic external and internal ship architecture and terminology.
- 7.4 Wreck navigation using, Ship architecture and Distance-reel & line technique.
- 7.5 Pit falls, dangers and avoidance, including the dangers of breathing from air pockets within a wreck.
- 7.6 Advanced buoyancy and trim control and finning techniques to achieve the least environmental (silt) disturbance.
- 7.7 Wreck penetration procedures.
- 7.8 Dive planning and plan enactment for penetration wreck diving, including Risk Assessment, equipment selection, equipment configuration including the need for two-metre hose on one demand valve, back-up gas, escape methods, planning and enactment
- 7.9 Stress recognition and stress recovery.

- 7.10 Hand and torch signalling for penetration wreck diving.
- 7.11 Revision of setting Red and Yellow DSMBs.
- 7.12 Revision of both hand signal and torch signalling related to wreck diving.

8. Theoretical training parameters

- 8.1 The CMAS Instructor shall conform to the standard theoretical training parameters as prescribed by Clause 4.5 of Chapter 1 and Clause 1 of this Standard.

9. Practical training parameters

- 9.1 The CMAS Instructor shall conform to the standard practical training parameters as prescribed by Clause 4.6 of Chapter 1.

10. Assessment

10.1 **Knowledge**

- 10.2 The student shall demonstrate to the CMAS Instructor knowledge of Wreck diving by taking and passing an oral or written examination. This examination shall test entry level theoretical knowledge and knowledge of SCUBA skills as prescribed in Syllabus 3.B.27 in Chapter 3.
- 10.3 They shall demonstrate the knowledge required for penetration wreck diving, including:
 - 10.3.1 Wreck legislation
 - 10.3.2 Basic external ship architecture and internal ship architecture and terminology
 - 10.3.3 Wreck navigation using ship architecture and the distance-reel & line technique for wreck penetration
 - 10.3.4 Wreck penetration pit falls, dangers and avoidance
 - 10.3.5 Finning techniques to limit/prevent slit disturbance
 - 10.3.6 Penetration of wreck diving procedures and the chain of command.
 - 10.3.7 Extent of the range of dive planning and plan enactment required for penetration wreck diving, including the laying of spare Scubas within the wreck and Risk Assessment, equipment selection, equipment configuration including the need for a two-metre hose on one demand valve
 - 10.3.8 Stress recognition and stress recovery
 - 10.3.9 Hand and torch signalling for penetration wreck diving and the revision of setting Red and Yellow DSMBs

10.4 **Open water SCUBA skills**

- 10.4.1 The participants shall successfully demonstrate to the CMAS Instructor their mastery of the wreck diving skills, as prescribed in Clause 2.1 of this Syllabus, during two wreck dives and successfully demonstrate the following:
 - 10.4.2 The skills of dive planning for wreck penetration including the use of a minimum two-metre DV hose within a wreck and risk assessment.
 - 10.4.3 Internal wreck navigation using ship architecture and distance line and reel.
 - 10.4.4 Finning techniques for avoiding/minimising slit disturbance.
 - 10.4.5 Advanced buoyancy and trim control to achieve the least environmental disturbance when couple with appropriate finning techniques.
 - 10.4.6 Advanced line-laying techniques, tying-off methods, including line belaying, types of reel and line choice – note initial line-laying training shall be done on dry land.
 - 10.4.7 In-water, ie in a shallow and protected place, practical training shall be provided on the cutting of monofilament line and 15mm diameter rope whilst wearing a blacked-out mask.
 - 10.4.8 Hand and torch signalling whilst penetrating a wreck
 - 10.4.9 The setting of a DSMBs (Red) from the wreck, including anchoring the reel to the wreck before inflation and the setting a yellow emergency DSMB from the Safety-stop.

11. Certification

- 11.1 Upon successful completion of the training programme the participant shall be awarded with a CMAS Wreck Diver Level 1 C-card.