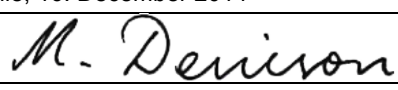
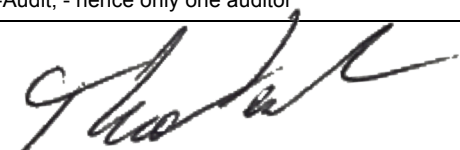


Minutes of Audits of the Certification of Scuba Diver Training Systems

Training Organisation Legal Name:	Verband Deutscher Sporttaucher e.V. Berliner Straße 312, 63067 Offenbach, Deutschland
Contract and Scope:	VDST und seine Mitgliedsvereine und Mitgliedstauchbasen im In- und Ausland NICHT jedoch andere Ausbildungsorganisationen, für die der VDST Tauchausweise (z.B. CMAS Karten) ausstellt.
Contact: (e-mail and postal)	Theo Konken theo.konken@t-online.de Mark Niederhöfer mark.niederhoefer@vdst.de

Levels to be certified

<input checked="" type="checkbox"/>	ISO 24801-1/EN 14153-1 "Supervised Diver"	VDST Basic
<input checked="" type="checkbox"/>	ISO 24801-2/EN 14153-2 "Autonomous Diver"	VDST – CMAS Taucher * (Ein Stern)
<input checked="" type="checkbox"/>	ISO 24801-3/EN 14153-3 "Dive Leader"	VDST – CMAS Taucher *** (Drei Stern)
<input checked="" type="checkbox"/>	ISO 24802-1/EN 14413-1 "Instructor Level 1"	VDST – Assistenz - Tauchlehrer (ATL)
<input checked="" type="checkbox"/>	ISO 24802-2/EN 14413-2 "Instructor Level 2"	VDST – CMAS Tauchlehrer * (TL1)
<input checked="" type="checkbox"/>	ISO 11107 "Nitrox diving"	DTSA – Nitrox* (Ein Stern)
<input type="checkbox"/>	ISO 11121 "Introductory dive"	XXXXXXXXXXXXXXXXXXXX Not Applicable
<input checked="" type="checkbox"/>	ISO/EN 13293 "Level 1 gas blender"	VDST Gasmischer
<input checked="" type="checkbox"/>	ISO/EN 13293 "Level 2 gas blender"	VDST Gasmischer
<input checked="" type="checkbox"/>	ISO13970:" Snorkelling Guide"	VDST Apnoe Instructor

Audits performed	Location, Date
Location	VDST Geschäftsstelle, 16. December 2014
Lead Auditor Martin Denison	Martin Denison 
Technical Auditor	NA – Re-Audit, - hence only one auditor
Training Organisation Representative(s) Mr. Theo Konken theo.konken@t-online.de Responsible for Instructor Training, Bernd Denz-Gerlach , Mitarbeiter der VDST Ausbildung, Ressortleiter Rebreathertauchen TL4 - Tauchlehrer seit 1991 bernd.denz-gerlach@vdst.de	  Bernd Denz-Gerlach
Training event: Instructor Course	23rd and 24th February 2015 Jasmin Diving Centre, Hurghada, Egypt Open Water Teaching Presentations, - Demonstration of rescue skills
Lead Auditor Martin Denison	Martin Denison 
Technical Auditor	NA – Re-Audit, - hence only one auditor
Training Organisation Representative(s) Mr. Theo Konken theo.konken@t-online.de Responsible for Instructor Training	

Audit Summary

Scope and purpose of the audit

- Purpose of the audit is the re-certification of the VDST recreational scuba diver training system. The scope is mainly Germany but also includes VDST member clubs and dive centres that implement the VDST training system abroad. It does NOT include other Training Organisation for which the VDST prints CMAS (or other) cards. This re-certification audit is aimed to verify that the VDST training system fulfils or exceeds the requirements laid out in ISO 24801 parts 1, 2 & 3, ISO 24802 parts 1&2, ISO 11107, ISO 13293 and ISO 11121 and that the certification is justified. Special attention was paid to the previous audit's "to do" items and to the expansion of the scope to include the new standards that were published after the last audit took place

Profile of the training organisation

- The "Verband Deutscher Sporttaucher e.V" (VDST) is a German registered federation which owns a registered limited company "VDST Tauchsport-Service GmbH". The National Federation is structured into regional federations (Landesverbände) and the individual clubs are members of the regional federations. Commercial diving centres (usually located abroad) can also be members of VDST

Programme of events

Tuesday, December 16th, 2014

09:30 – 16:30 Paperwork in VDST's central office in Offenbach, Germany

Monday, February 23rd, 2015 All day:

09:00 Meeting with training organisation representatives in Jasmin Diving Centre, Hurghada, Egypt

09:30 – 15:30 Training of scuba instructors (TL 2*), Boat trip, – lecture on wildlife (Dolphins) - Practical training sessions - teaching presentations

16:00 – Boat trip back to Jasmin Diving Centre

Tuesday, February 24th 2015 All day:

09:00 Meeting with training organisation representatives in Jasmin Diving Centre, Hurghada, Egypt

09:30 – 15:30 observing VDST Instructor course (TL 2*), Boat trip, – Practical training sessions - teaching presentations - Briefing, dive and debriefing – demonstration of rescue skills.

Interviews

16:00 – Boat trip back to Jasmin Diving Centre

Persons interviewed in the course of the audit (in addition to TO Representatives)

See Annex 1

Instructor Trainer:

Maik Römhold



Instructor Candidates:

Volker Gorski



Christoph Laß

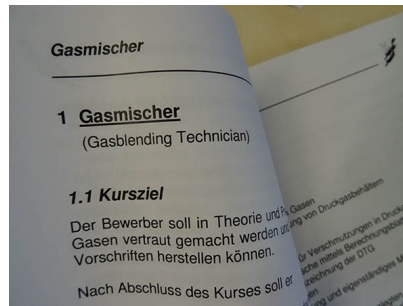
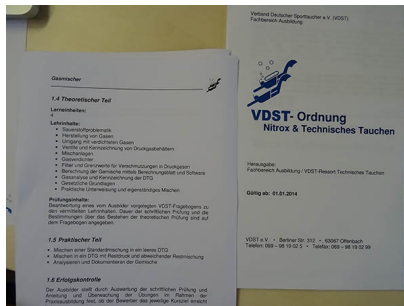


Christian Stegmayr





Available documentation that has been inspected in the course of the audit

- Digital or printed versions of:
 - Various Training Materials



Documents available prior to the audit	
Annex 1	Persons interviewed in the course of the audit (in addition to TO Representatives) See Annex 1
Training activities inspected in the course of the audit Instructor Course – Training dives including buddy breathing and rescue skills (documentary images in Annex 2)	
Deviations from standards:	None observed
Remarks, Recommendations	
Issue of certificate	The auditor recommends re-certification of VDST. The auditor recommends the validity be issued over the full 5-year period.

Summary of deviations / Action List

ISO 24801-1 / EN 14153-1 "Supervised Diver" No deviations were observed	
ISO 24801-2 / EN 14153-2 "Autonomous Diver" No deviations were observed	
ISO 24801-3 / EN 14153-3 "Dive Leader" No deviations were observed	
ISO 24802-1 / EN 14413-1 "Level 1 instructor" No deviations were observed	
ISO 24802-2 / EN 14413-2 "Level 2 instructor" No deviations were observed	
ISO 11107 "Nitrox diving" No deviations were observed	
ISO 11121 "Introductory diving" NOT APPLICABLE NOTE: The VDST "Schnuppertauchen" is a pool or confined water ONLY program and thus does not fall under ISO 11121 which explicitly applies "to programmes that include participants being taken into an open water environment. It does not apply to programmes that are exclusively conducted in a confined water environment (e.g. swimming pools)".	
ISO 13293 " Gas Blender" No deviations were observed	
ISO13970:" Snorkelling Guide" No deviations were observed	
General issues and remarks 1. Interviews indicate that virtually all VDST practical parts of Instructor training courses are carried out in countries other than Germany and under different environmental conditions than those typically found in Germany. Though it is not common, it is possible (ATL Auslandsbasis) to become VDST TL2 (level 2 instructor ISO 24802-2) without ever having dived in Germany or under environmental conditions similar to those in Germany. The Auditor recommends introducing measures to ensure that Instructors are familiar with teaching in environmental conditions typically found in Germany, before they are allowed to teach in cold water with bad visibility.	
Lead Auditor  Martin Denison	Training Organisation representative  Theo Konken

Competencies

Clause 4, ISO 24801-1 "Supervised Diver", ISO 24801-2 "Autonomous Diver", ISO 24801-3 "Dive Leader",	Y / N
<p>1. ISO 24801-1 "Supervised Diver"</p> <p>Scuba divers at level 1 — "Supervised diver" shall be trained such that when assessed in accordance with Clause 10 they are deemed to have sufficient knowledge, skill and experience to dive in open water under the direct supervision of a dive leader.</p> <p>Scuba divers at level 1 — "Supervised diver" are qualified to dive within the following parameters:</p> <ul style="list-style-type: none"> • dive to a recommended maximum depth of 12 m, • dive in groups of up to four level 1 scuba divers per dive leader, • make dives which do not require in-water decompression stops, • dive only when appropriate support is available at the surface, • dive under conditions that are equal or better than the conditions where they were trained. <p>NOTE If accompanied by a scuba instructor, a scuba diver at level 1 — "Supervised diver" may gain progressive experience beyond these parameters and develop competency in managing more challenging diving conditions designed to lead to higher qualifications. Where further instruction is required this can only be provided by a suitably qualified scuba instructor. Where only further experience is required, this may be supervised by a dive leader.</p>	OK
<p>2. ISO 24801-2 "Autonomous Diver"</p> <p>Scuba divers at level 2 — "Autonomous diver" shall be trained such that when assessed in accordance with Clause 10 they are deemed to have sufficient knowledge, skill and experience to dive with other scuba divers of at least the same level in open water without supervision of a scuba instructor. Scuba divers at level 2 — "Autonomous diver" are qualified to dive within the following parameters unless they have additional training or are accompanied by a dive leader:</p> <ul style="list-style-type: none"> • dive to a recommended maximum depth of 20 m with other scuba divers of the same level, • make dives, which do not require in-water decompression stops, • dive only when appropriate support (e.g. first aid kit, a dive leader, support vessel; as appropriate to the dive site and the divers' experience) is available at the surface, • dive under conditions that are equal or better than the conditions where they were trained. <p>NOTE If diving conditions are significantly different from those previously experienced, a scuba diver at level 2 — "Autonomous diver" requires an appropriate orientation from a dive leader. Where further instruction is required this can only be provided by a suitably qualified scuba instructor of level 2. If accompanied by a scuba instructor, a scuba diver at level 2 — "Autonomous diver" may gain progressive experience beyond these parameters and develop competency in managing more challenging diving conditions (e.g. increased depth and current, reduced visibility, extreme temperatures) designed to lead to higher qualifications.</p>	OK
<p>3. ISO 24801-3 "Dive Leader"</p> <p>Scuba divers at level 3 — "Dive leader" shall be trained such that when assessed in accordance with Clause 11 they are deemed to have sufficient knowledge, skill and experience to plan, organize and conduct their dives and lead other recreational scuba divers in open water.</p> <p>Scuba divers at level 3 — "Dive leader" are qualified to</p> <ul style="list-style-type: none"> • conduct any specialised recreational scuba diving activities for which they have received appropriate training, • plan and execute emergency procedures appropriate for the diving environment and activities. <p>Scuba divers at level 3 — "Dive leader" may help to control students and improve safety but may not assess or teach any skills or knowledge to students.</p> <p>NOTE If diving and environmental conditions are significantly different from those previously experienced, a scuba diver at level 3 — "Dive leader" requires an appropriate orientation with regard to local environmental conditions. In order to lead scuba divers on dives which have more demanding operational parameters a scuba diver at level 3 — "Dive leader" shall have appropriate specialised training and experience. Examples of such dives include:</p> <ul style="list-style-type: none"> • night dives, • limited visibility dives, • dives in underwater currents (e.g. drift dives), • deep dives, • wreck dives, • dry suit dives. <p>Where further scuba diving instruction is required, in order to meet the above mentioned competencies, this can only be provided by a suitably qualified scuba instructor.</p>	OK
Clause 4, ISO 24802-1 "Scuba Instructor Level 1" and ISO 24802-2 "Scuba Instructor Level 2"	Y / N
<p>4. ISO 24802-1</p> <p>Scuba instructors at level 1 shall be trained such that when assessed in accordance with Clause 13 they are deemed to be qualified to:</p> <ul style="list-style-type: none"> • teach and assess students up to level 1 in accordance with ISO 24801-1 on their theoretical knowledge, • teach and assess students up to level 1 in accordance with ISO 24801-1 in confined water, • if supervised and authorized by a scuba instructor level 2: 	OK

<ul style="list-style-type: none"> gain progressive experience in teaching and assessing the theoretical knowledge of scuba diver <ul style="list-style-type: none"> levels 2 to 3 in accordance with ISO 24801-2, respectively, ISO 24801-3, teach any level of scuba diver in confined water, gain progressive experience in teaching and assessing open water surface skills, if supervised and directly observed by a scuba instructor level 2: <ul style="list-style-type: none"> gain progressive experience in teaching and evaluating in confined and open water. 	
<p>5. ISO 24802-2</p> <p>A level 2 scuba instructor shall be trained such that when assessed in accordance with Clause 13 they are deemed to be qualified to:</p> <ul style="list-style-type: none"> plan, organize and conduct dives and lead other recreational scuba divers of all levels in open water, including rescue activities, teach and assess students up to scuba diver level 1, level 2 and level 3 in accordance with ISO 24801-1, ISO 24801-2 and ISO 24801-3, respectively, supervise level 1 scuba instructors in accordance with ISO 24802-1, plan, organize and conduct scuba diver training courses, with suitable additional training or experience to plan, organize and conduct appropriate speciality or diving operational activities. <p>Prior to certification the scuba instructor candidate shall be informed that if diving and environmental conditions are significantly different from those previously experienced, in order to meet the above mentioned competencies, an appropriate orientation with regard to local diving and environmental conditions may be required.</p>	OK
<p>Remarks, Recommendations</p>	-

Introductory information

Clause 6: ISO 24801series "Diver training" and ISO 24802 "Instructor training" (refers to 24803)		Y / N
<p>6. Information prior to provision of the service (ISO 24803)</p> <p>The service provider shall provide the following information to the client:</p> <ul style="list-style-type: none">contractual issues including conditions bearing on the signature, delivery and termination of the contract, prerequisites and any qualification requirements in order to obtain the service (e.g. medical certification, diver certifications),equipment requirements,costs,insurance requirements in accordance with national regulations,local environmental considerations incl. recommendations to divers for minimising their impact on it,diving related legislation and legal requirements concerned with the specific kind of service. <p>If the service provided involves training, the following additional information shall be provided:</p> <ul style="list-style-type: none">limitations of eventual qualification,scope of the training course,course procedures,means and methods for assessment, criteria for successful completion, that records will be kept of their personal data and these records may be passed on to a training organization. <p>In the case of guided dives or organized dives, the following additional information shall be provided:</p> <ul style="list-style-type: none">information concerning the dive site, in particular hazards which could affect the safety of the dive (e.g. under-water obstructions),arrangements concerning buddy teams and/or group size,depth and/or time limitations.		OK
Remarks, Recommendations		

Practical training parameters

Clause 9, ISO 24801-1 "Supervised Diver" and ISO 24801-2 "Autonomous Diver"		Y / N
9.2	All under-water skills in confined water shall be taught, directly supervised and evaluated by a scuba instructor, who shall be in the water during each session. The scuba instructor shall be in direct control of students throughout all sessions.	OK
9.3	Prior to the first open water dive the student shall effectively show proof of, or demonstrate, to a scuba instructor the following skills, without the use of mask, fins, snorkel, or other swimming aids: 50 m distance swimming, 10 minute survival	OK

swim/float.	
9.4 Before participating in open water dives a student shall have demonstrated sufficient theoretical knowledge and scuba skills in confined water to be able to perform the open water dives in the prevailing conditions.	OK
9.5 The maximum depth during training dives shall not exceed 12 m. – ISO 24801-1 9.5 No more than 3 open water dives shall be conducted on a given day. – ISO 24801-2	OK
9.6 All open water dives shall be conducted in water that allows direct vertical access to the surface. Open water dives therefore shall not be conducted in under-water caves, inside wrecks or below ice.	OK
9.7 During open water dives the student shall at least be equipped with diving equipment according to 3.8. <ul style="list-style-type: none"> • fins • mask • snorkel • demand regulator (also referred to as a regulator) • alternative breathing gas system (This could range from a simple octopus system to a duplicate breathing system with a separate breathing gas supply) • cylinder • cylinder-support-system • buoyancy compensator • a quick release weight system (if appropriate) • submersible pressure gauge (breathing gas pressure monitor) • means to measure depth and time and to safely limit exposure to inert gas • diving suit (if appropriate) 	OK
9.8 All under water skills in open water shall be taught, directly supervised and evaluated by a scuba instructor of level 2. The scuba instructor shall be in the water and in charge of each open water dive.	OK
9.9 The scuba instructor shall limit the number of students on open water dives so that either the scuba instructor or a safety diver is able to establish physical contact with every student at any time during the open water dive.	OK
9.10 The scuba instructor shall cancel or abort the open water dive if environmental conditions, equipment problems or a student's physical or mental condition make this necessary.	OK
Remarks, Recommendations	-

Prerequisites for training

Clause 5, ISO 24801 series "Diver training"		Y / N
ISO 24801 series		
5.2 Minors Documented parental or legal guardian consent shall be obtained when the applicant is a minor.		OK
5.3 Health requirements <ul style="list-style-type: none"> • Documented evidence shall be obtained that the student has been medically screened as suitable for recreational diving by means of an appropriate questionnaire or medical examination. In any case of doubt, or at the scuba instructor's discretion, students shall be referred to proper medical resources. • If the student is not examined by a physician the student shall be obliged to confirm by signature that he or she has understood written information given by the scuba instructor on diseases and physical conditions which may pose diving related risks. • Students shall be advised of the importance of appropriate regular medical examinations. 		OK
5.4 Minimum diving experience – ISO 24801-3 <ul style="list-style-type: none"> • Students shall have met all requirements for a level 2 scuba diver in accordance with ISO 24801-2. • Students shall have experience of night/limited visibility diving, deep diving (taking into account local environmental conditions), and navigation (as documented in bearer's log). 		OK
Remarks, Recommendations		
Clause 5, ISO 24802 "Instructor training"		Y / N
5.1 Practical experience The scuba instructor trainer shall ensure that scuba instructor candidates have certification to at least scuba diver level 3 — "Dive leader" with additional practical experience gained after level 3 certification in accordance with ISO 24801-3 prior to their assessment in accordance with Clause 13.		OK
5.2 Health requirements		OK

Scuba instructor candidates shall be medically screened as suitable for diving in accordance with procedures laid down by a competent medical authority. If such procedures are not specified scuba instructor candidates shall provide evidence of a diver medical examination not older than one year unless the medical doctor who has carried out the examination specifies longer validity.	
Remarks, Recommendations	-

Theoretical knowledge

Clause 7 "Required theoretical knowledge", ISO 24801 series "Diver training"		Y / N
ISO 24801 - 1 "Supervised Diver"		
7.1 Equipment Students shall have an appropriate level of knowledge concerning the practical use of diving equipment items according to 3.8.		OK
7.2 Physics of diving Students shall have an appropriate knowledge of the influence and effects of changing pressure in particular regarding: <ul style="list-style-type: none"> • equalization (e.g. ears and mask), • breathing (not holding breath and effect of pressure on air consumption), • buoyancy and how to control it. 		OK
7.3 Medical problems related to diving 7.3.1 General Students shall have a basic knowledge of avoiding problems resulting from those listed in 7.3.2 to 7.3.3. 7.3.2 Direct effects of pressure 7.3.2.1 Increasing pressure (descent phase) <ul style="list-style-type: none"> • gas compression (e.g. ears, sinuses, masks, lungs, suits, teeth). 7.3.2.2 Decreasing pressure (ascent phase) <ul style="list-style-type: none"> • gas expansion (e.g. ears, sinuses, lungs, stomach, intestines, teeth), • decompression illness (DCI) (e.g. decompression sickness, arterial gas embolism). 7.3.3 Other hazards <ul style="list-style-type: none"> • physical and mental stress, • effects of temperature on the scuba diver, • medication, drugs, alcohol. 		OK
7.4 Diving environment Students shall have a basic knowledge concerning the local and general conditions of the diving environment and their possible effects on the scuba diver and the scuba diver's impact on the environment.		OK
7.5 Scuba diver separation procedures Students shall have knowledge concerning correct actions in the event of separation from the group or their buddy.		OK
ISO 24801 - 2 "Autonomous Diver"		OK
Equipment Students shall have an appropriate knowledge concerning the physical characteristics, operating principles, maintenance and use of the following equipment items: <ul style="list-style-type: none"> • mask, • fins, • snorkel, • diving suits, • quick release weight systems, • float and flag, • cylinders, • cylinder valves, • regulators, • submersible pressure gauge (breathing gas pressure monitor), • alternative breathing gas source, • cylinder-support systems, • buoyancy control devices, • timing devices, • underwater navigational aids, • depth gauge/depth monitor, • dive tables, • dive computers, 		OK

<ul style="list-style-type: none"> • knife/cutting devices, • lights, • emergency signalling device (acoustical, optical), • first aid and oxygen kit, • personal diving log. 	
<p>7.2 Physics of diving</p> <p>Students shall have an appropriate knowledge concerning the physical principles and their application to diving activities, equipment and hazards relating to:</p> <ul style="list-style-type: none"> • sound, • light, • buoyancy, • pressure/gas laws, • temperature. 	OK
<p>7.3 Decompression management</p> <p>Students shall have an appropriate knowledge of decompression management using dive tables, dive computers and/or dive planning software, including:</p> <ul style="list-style-type: none"> • how to determine dive profiles which do not require in-water decompression stops for single and repetitive dives, • be able to determine required stage decompression. 	OK
<p>7.4 Dive planning</p> <p>Students shall have appropriate knowledge concerning dive planning issues:</p> <ul style="list-style-type: none"> • planning and preparation, with emphasis on the prevention of out-of-breathing-gas situations and emergencies, • emergency procedures, • accident management/prevention, • communications, both underwater and on the surface, • diver assistance (self/buddy), • recommended diving practices (e.g. separation procedures, safety stops), • procedures for diving from boats, • proper use of personal diving log. 	OK
<p>7.5 Medical problems related to diving</p> <p>Students shall have an appropriate knowledge concerning the causes, symptoms, prevention, first-aid and treatment of diving medical problems.</p> <p>7.5.1 Direct effects of pressure</p> <p>7.5.1.1 Increasing pressure (descent phase)</p> <ul style="list-style-type: none"> • gas compression (e.g. ears, sinuses, masks, lungs, suits, teeth). <p>7.5.1.2 Decreasing pressure (ascent phase)</p> <ul style="list-style-type: none"> • gas expansion (e.g. ears, sinuses, lungs, stomach, intestines, teeth), • forms of decompression illness (DCI) (e.g. decompression sickness, arterial gas embolism). <p>7.5.1.3 Other pressure related conditions</p> <p>decompression illness (DCI) (including on-gassing, post-dive effects),</p> <ul style="list-style-type: none"> • nitrogen narcosis, • hypercapnia (excess carbon dioxide), • oxygen toxicity, • contaminated breathing gas. <p>7.5.2 Other hazards</p> <ul style="list-style-type: none"> • physical stress (incl. fatigue and exhaustion), • exposure/hypothermia/hyperthermia, • in-water injuries, • drowning, • hyperventilation, • airway control and related problems, • medication, drugs, alcohol. <p>7.5.3 First aid after diving incidents</p> <ul style="list-style-type: none"> • cardio-pulmonary resuscitation (CPR), • normobaric oxygen first aid. 	OK
<p>7.6 Psychological problems related to diving</p> <p>Students shall have an appropriate knowledge concerning causes, symptoms, prevention and management of:</p> <ul style="list-style-type: none"> • mental stress, • panic, 	OK

<ul style="list-style-type: none"> • overconfidence.. 		
7.7 Dive environment Students shall have appropriate knowledge concerning the local and general conditions of the diving environment and their possible effects on the scuba diver and the scuba divers' impact on the environment. 7.7.1 Water <ul style="list-style-type: none"> • temperature/thermoclines, • visibility, • movement (surface action, currents, tides, and the like), • density (fresh and salt water). 7.7.2 Topography <ul style="list-style-type: none"> • bottoms, • shorelines. 7.7.3 Aquatic life <ul style="list-style-type: none"> • animal, • plant. 7.7.4 Environmental awareness <ul style="list-style-type: none"> • preventive behaviour, • conservation, • preservation. 7.7.5 Other topics <ul style="list-style-type: none"> • weather conditions, • precautions for diving in new diving environments, • surface hazards, • overhead environments, • entanglement. 		OK
7.8 Use of breathing gases other than air Where a breathing gas other than air is used during the training course, the student shall be made aware of any depth limits, oxygen exposure management issues and equipment considerations relevant to the dives planned.		OK
ISO 24801 - 3 "Dive Leader"		
Students shall have sufficient understanding and knowledge of the following topics to plan and execute their dives in all typical conditions encountered in the local environment and to plan for and respond to possible emergencies during such dives: <ul style="list-style-type: none"> • equipment, • physics of diving, • medical issues related to diving, • use of diving tables and dive computers, • diving environment, • dive planning and dive management, • communications, both underwater and on the surface, • recommended safe diving practices, • boat diving procedures, • night diving procedures, • limited visibility diving procedures, • deep diving procedures, • tides and currents, • limitations of diving with no direct access to the surface, • navigation, • accident management, • lost diver procedures, • competencies scuba divers at level 1 — "Supervised diver" and level 2 — "Autonomous diver", • awareness and understanding of diving related legislation and legal requirements. 		OK
Remarks, Recommendations	-	
Clause 7 "Required theoretical knowledge", ISO 24802 series "Instructor training"		Y / N
ISO 24802-1 "Level 1" Scuba instructor candidates shall have extensive theoretical knowledge regarding the scuba skills specified in ISO 24801-1, ISO 24801-2 and ISO 24801-3 and sufficient knowledge to be able to give presentations on topics from ISO 24801-1:2007, Clause 7, ISO 24801-2:2007, Clause 7, and ISO 24801-3:2007, Clause 7.		OK
Additionally scuba instructor candidates shall have appropriate knowledge of the following issues:		

<ul style="list-style-type: none"> • medical and psychological contraindications for scuba diving, • training requirements for scuba diver level 1 in accordance with ISO 24801-1, level 2 in accordance with ISO 24801-2 and level 3 in accordance with ISO 24801-3, • duty of care of a scuba instructor, • safety regulations affecting scuba diving service provision (e.g. regulations affecting schools, centres, clubs, organizations), • methods of safely filling diving cylinders including relevant local regulations concerning cylinder working pressures and testing requirements, • relationships and communication with relevant public authorities (e.g. police, customs, rescue organizations, fire-brigade), • teaching principles and methodology, • selection of confined water dive sites, • personal scuba skills. <p>Scuba instructor candidates shall be able to perform all of the personal scuba skills of a level 1, level 2 and level 3 scuba diver in accordance with ISO 24801-1, ISO 24801-2 and ISO 24801-3, respectively, to demonstration quality.</p>	OK
<p>ISO 24802-2 "Level 2"</p> <p>Scuba instructor candidates shall have extensive theoretical knowledge regarding the scuba skills specified in ISO 24801-1, ISO 24801-2 and ISO 24801-3 and sufficient knowledge to be able to give presentations on topics from ISO 24801-1:2007, Clause 7, ISO 24801-2:2007, Clause 7, and ISO 24801-3:2007, Clause 7.</p>	
<p>Additionally scuba instructor candidates shall have appropriate knowledge of the following issues:</p> <ul style="list-style-type: none"> • medical and psychological contraindications for scuba diving, • the training requirements for scuba diver level 1 in accordance with ISO 24801-1, level 2 in accordance with ISO 24801-2 and level 3 in accordance with ISO 24801-3 and level 1 scuba instructor in accordance with ISO 24802-1, • the duty of care of a scuba instructor, • safety regulations affecting scuba diving service provision (e.g. regulations affecting schools, centres, clubs, organizations), • methods of safely filling diving cylinders including relevant local regulations concerning cylinder working pressures and testing requirements, • relationships and communication with relevant public authorities (e.g. police, customs, rescue organizations, fire-brigade), • administration within a diving centre/club/training organization with regard to diving and training activities, • teaching principles and methodology, • selection of dive sites using appropriate navigational aids (e.g. maps, navigational charts, tide tables). 	OK
<p>Remarks, Recommendations</p>	-

Scuba Skills

Clause 8 "Scuba skills" – ISO 24801 series "Diver training"	Y / N
<p>ISO 24801-1 "Supervised Diver"</p> <p>8.1 Confined water scuba skills</p> <p>Students shall be able to demonstrate capability in the following skills; each skill shall be satisfactorily practised in confined water before in open water:</p> <ul style="list-style-type: none"> • use of mask, fins and snorkel, • diving equipment assembly and disassembly (at water's edge), • entry and exit, • mouthpiece clearing of snorkel and regulator, • regulator/snorkel exchanges, swimming at the surface, • proper descent and ascent procedures (e.g. equalizing pressure in ears and mask), • swim underwater, • mask-clearing, including removal and replacement, • underwater and surface buoyancy control, • underwater regulator recovery, • basic instrument monitoring, • surface operation of the quick release of the weight ballast system, • act as receiver of an alternative breathing gas source, • equipment care, • basic hand signals. 	OK

<p>8.2 Open water scuba skills</p> <p>Students shall be able to perform the following skills in conditions typical of the local environment:</p> <ul style="list-style-type: none"> • use of use of mask, fins and snorkel, • diving equipment assembly and disassembly (at water's edge), • entry and exit, • mouthpiece clearing — snorkel and regulator, • regulator/snorkel exchanges, swimming at the surface, • proper descent and ascent procedures (e.g. equalizing pressure in ears and mask), • swim underwater, • mask-clearing, • underwater and surface buoyancy control, • underwater regulator recovery, • basic instrument monitoring, • surface operation of the quick release of the weight ballast system, • act as receiver of an alternative breathing gas source, • equipment care, • basic hand signals. 	<p>OK</p>
<p>ISO 24801-2 "Autonomous Diver"</p> <p>8.1 Confined water scuba skills</p> <p>Students shall be able to demonstrate capability in the following skills; each skill shall be satisfactorily practised in confined water before that skill is performed in open water:</p> <ul style="list-style-type: none"> • use of mask, fins and snorkel, • diving equipment assembly and disassembly (at water's edge), • pre-dive inspection of diving equipment and in and out of water buddy checks, • entries and exits, • proper weighting, • mouthpiece clearing — snorkel and regulator, • regulator/snorkel exchanges at the surface, • proper descent and ascent procedures (e.g. equalizing pressure in ears and mask), • swim underwater efficiently with appropriate buoyancy and attitude control, • mask-clearing, including removal and replacement, • controlled breathing underwater without mask, • buddy-system techniques (e.g. appropriate hand signals, staying close, monitoring the buddy), • underwater and surface buoyancy control, • underwater problem solving (e.g. regulator recovery), • monitoring instruments, • surface snorkel swimming with full diving equipment, • surface operation of the quick release of the weight ballast system, • removal and replacement of weight ballast system, • removal and replacement of scuba system, • procedures allowing a scuba diver to ascend to the surface in the event of an out-of-breathing gas situation, acting as both receiver and donor; this may include emergency ascents and the use of alternative breathing gas supply (own and buddy's), • equipment care and maintenance. 	<p>OK</p>
<p>8.2 Open water scuba skills</p> <p>Students shall be able to demonstrate the following skills in a comfortable and relaxed manner. Students shall satisfactorily practise each skill using appropriate equipment and techniques for the local environment. They shall be capable of performing each skill in conditions typical of the local environment. Skills involving swimming shall be conducted over distances appropriate to local conditions and diving techniques:</p> <ul style="list-style-type: none"> • use of mask, fins and snorkel, • diving equipment assembly and disassembly (at water's edge), • pre-dive inspection of diving equipment and in and out of water buddy checks, • entries and exits, • proper weighting, • mouthpiece clearing — snorkel and regulator, • regulator/snorkel exchanges at the surface, • proper descent and ascent procedures (e.g. equalizing pressure in ears and mask), • swim under water efficiently with appropriate buoyancy and attitude control, • mask-clearing, including removal and replacement, • controlled breathing under water without mask, • buddy-system techniques (e.g. appropriate hand signals, staying close, monitoring the buddy), • underwater and surface buoyancy control, 	<p>OK</p>

<ul style="list-style-type: none"> underwater problem-solving (e.g. regulator recovery), monitoring instruments including the means to measure depth and time and to safely limit exposure to inert gas, surface-snorkel swimming with full diving equipment; the student shall be able to swim back to the point of safe exit but no less than 50 m, surface operation of the quick release of the weight ballast system, removal and replacement of weight ballast system, removal of scuba system on the surface, procedures allowing a scuba diver to ascend to the surface in the event of an out-of-breathing gas situation, acting as both receiver and donor; this may include emergency ascents and the use of alternative breathing gas supply (own and buddy's), equipment care and maintenance (at water's edge), diver assistance techniques (self/buddy) (i.e. to assist a buddy to the surface and provide support on the surface), simple underwater navigation. 	
<p>ISO 24801-3 "Dive Leader"</p> <p>8.1 Scuba skills</p> <p>The competence of students in all scuba skills shall be suitable to cope with the most demanding operational factors of their region. Influencing factors may include the following:</p> <ul style="list-style-type: none"> depth range exceeding that of level 2 scuba diver, underwater visibility, size and experience of the group, equipment in use, current, surface conditions, water temperature. <p>Students shall competently conduct the following skills in a manner showing highest level mastery and competence:</p> <ul style="list-style-type: none"> use of mask, fins and snorkel, diving equipment assembly and disassembly (at water's edge), pre-dive inspection of diving equipment and in and out of water buddy checks, entries and exits, proper weighting, mouthpiece clearing — snorkel and regulator, regulator/snorkel exchanges at the surface, proper descent and ascent procedures (e.g. equalizing pressure in ears and mask), swim under water efficiently with appropriate buoyancy and attitude control, mask-clearing, including removal and replacement, controlled breathing under water without mask, buddy-system techniques (e.g. appropriate hand signals, staying close, monitoring the buddy), underwater and surface buoyancy control, underwater problem-solving (e.g. regulator recovery), monitoring instruments, surface-snorkel swimming with full diving equipment; the diver shall be able to swim back to the point of safe exit, surface operation of the quick release of the weight ballast system, removal and replacement of weight ballast system, removal of scuba system on the surface, procedures allowing a scuba diver to ascend to the surface in the event of an out-of-breathing gas situation, acting as both receiver and donor; this may include emergency ascents and the use of alternative breathing gas supply (own and buddy's), equipment care and maintenance (at water's edge), diver assistance techniques (self/buddy) (i.e. to assist a buddy to the surface and provide support on the surface), underwater navigation, use of a surface marker buoy (delayed or permanent). 	<p>OK</p>
<p>8.2 Deep diving</p> <p>Students shall demonstrate mastery of the techniques involved in planning and executing dives beyond the depth ranges typical for recreational scuba diving in the local environment. Specifically these techniques shall address the following issues:</p> <ul style="list-style-type: none"> nitrogen narcosis, air consumption and breathing, decompression limits, proper ascent procedures including in-water stops, buoyancy changes, use of specific equipment (e.g. emergency breathing gas supply), emergency equipment and procedures. 	<p>OK</p>
<p>8.3 Navigation</p>	

Students shall demonstrate mastery of underwater navigation. They shall demonstrate their ability to plan, organize and conduct their dives and to safely lead other recreational scuba divers using both instruments and natural navigation.		
Clause 9.1 "Leadership skills" – ISO 24801-3 "Dive Leader"		Y / N
<p>The following skills shall be competently conducted in depth ranges and environmental conditions typical to those usually met in level 3 — "Dive leader" scuba diving activities.</p> <p>9.1.1 Dive planning and preparation</p> <ul style="list-style-type: none"> • site selection taking into account dive team capabilities and environmental factors, • emergency plan and equipment preparation, • decompression calculation and consideration of other factors affecting off-gassing (e.g. flying and other changes in altitude, physical activities), • dive limits, • descent and ascent aids (e.g. shot line, emergency breathing gas supply), • indicating diving operations where required (e.g. by means of A-flag or other signals). <p>9.1.2 Dive briefing</p> <ul style="list-style-type: none"> • team assignments, • time/depth limits, • problem/emergency procedures, • site/environmental considerations, • communication, • pre-dive equipment preparation. <p>9.1.3 Dive conduct</p> <ul style="list-style-type: none"> • kitting up and pre-dive checks, • entry control, • descent control, • monitoring of depth, time, progress of the dive plan and scuba divers' breathing gas supplies, • continued monitoring of environmental conditions, • awareness of scuba divers stress levels, • identification of under water hazards, • appropriate reaction to problems and emergencies, • underwater navigation (see 8.3), • safe ascent and exit control. <p>9.1.4 Post-dive procedures</p> <ul style="list-style-type: none"> • check out procedures, • debriefing, • check decompression calculation and consideration of other factors affecting off-gassing (e.g. flying and other changes in altitude, physical activities), • equipment care and post-dive maintenance, • recording the dive. 		OK
Remarks, Recommendations	-	
Clause 8 "Personal scuba skills" – ISO124802 series "Instructor training"		Y / N
ISO 24802-1 "Scuba Instructor level 1"		
Scuba instructor candidates shall be able to perform all of the personal scuba skills of a level 1, level 2 and level 3 scuba diver in accordance with EN 14153-1, EN 14153-2 and EN 14153-3, respectively, to demonstration quality.		OK
ISO 24802-2 "Scuba Instructor level 2"		
Scuba instructor candidates shall be able to perform all of the personal scuba skills of a level 1, level 2 and level 3 scuba diver in accordance with EN 14153-1, EN 14153-2 and EN 14153-3, respectively, to demonstration quality.		OK
Remarks, Recommendations	-	

Emergency procedures

Clause 9, ISO24801-3 "Dive Leader"		Y / N
9.2 Diver rescue		
Students shall complete level 3 scuba diver training in scuba diver rescue skills. Upon completion students shall demonstrate		

<p>diver rescue skills by completing at least one open water rescue.</p> <ul style="list-style-type: none"> Rescue skills shall include: recognition of emergency situations (e.g. loss of breathing gas supply, lack of response), basic underwater search techniques, controlled casualty recovery from depth, effective emergency surface actions, casualty recovery from the water, emergency situation management including co-ordination with emergency services. 	OK
<p>9.3 First aid</p> <p>Students shall complete a course/courses in first-aid and cardiopulmonary resuscitation (CPR) approved by the training organization and have a valid qualification or certificate.</p>	OK
<p>9.4 Emergency oxygen administration</p> <p>Students shall have completed training in emergency administration of oxygen. This training shall include theoretical instruction of the medical principles involved and practical tuition on the use of an emergency oxygen unit.</p>	OK
Clause 10, ISO 24802-1 "Scuba instructor level 1", Clause 11, ISO 24802-2 "Scuba instructor level 2"	Y / N
<p>10.1 Diver rescue</p> <p>Scuba instructor candidates shall be competent in diver rescue skills including:</p> <ul style="list-style-type: none"> recognition of emergency situations (e.g. loss of breathing gas supply, lack of response), controlled casualty recovery from depth, effective emergency surface actions, casualty recovery from the water, emergency situation management including co-ordination with emergency services in accordance with local emergency procedures. 	OK
<p>10.2 First Aid</p> <p>Students shall complete a course/courses in first-aid and cardiopulmonary resuscitation (CPR) approved by the training organization and have a valid qualification or certificate.</p>	OK
<p>10.3 Oxygen Administration</p> <p>Scuba instructor candidates shall be competent in the emergency administration of oxygen. This shall include knowledge of the medical principles involved and practical use of an emergency oxygen unit.</p>	OK
<p>Remarks, recommendations</p>	-

Teaching skills

Clause 9 "Theoretical teaching skills" – ISO 24802 series	Y / N
<p>9 Theoretical teaching skills</p> <p>Scuba instructor candidates shall be able to conduct lesson preparation, planning and delivery of theoretical teaching presentations.</p>	OK
Clause 10 "Teaching and supervision of scuba skills" – ISO 24802 series	Y / N
<p>10 Teaching and supervision of scuba skills</p> <p>Scuba instructor candidates shall be able to conduct in-water lessons for students at level 1, level 2 and level 3 from the topics outlined in ISO 24801-1, ISO 24801-2 and ISO 24801-3. Assessment shall include activities demonstrating skills relevant to confined and open water. The open water activities shall be performed at an open water site representative of local conditions. Lesson elements to be assessed shall include</p> <ul style="list-style-type: none"> preparation, planning, briefing and debriefing, group control and supervision, skill demonstration, problem recognition and solving, student evaluation. 	OK
<p>Remarks, Recommendations</p>	-

Assessment – Diver Training

Clause 10 "Assessment" – ISO 24801-1		Y / N
10.1 Knowledge The student shall demonstrate to a scuba instructor knowledge of scuba diving by taking and passing an oral or written examination as prescribed by a training organization. This examination shall test scuba diver level 1 theoretical knowledge in accordance with Clause 7 and knowledge of scuba skills in accordance with Clause 8 (see Annex A for an explanatory example).		OK
10.2 Scuba Skills The student shall satisfactorily demonstrate to a scuba instructor, the scuba skills in accordance with Clause 8 (see Annex A for an explanatory example). Scuba skills in open water shall be evaluated by a level 2 scuba instructor. Students to be certified shall complete at least two qualifying open water dives in the range between 4 m and 12 m in accordance with 9.1 under the direct supervision of a level 2 scuba instructor. The underwater duration of each of these two qualifying open water dives shall be at least 15 min.		OK
Clause 11 "Assessment" – ISO 24801-2		Y / N
10.1 Knowledge The student shall demonstrate to a scuba instructor knowledge of scuba diving by taking and passing an oral or written examination as prescribed by a training organization. This examination shall test scuba diver level 1 theoretical knowledge in accordance with Clause 7 and knowledge of scuba skills in accordance with Clause 8 (see Annex A for an explanatory example).		OK
10.2 Scuba skills The student shall satisfactorily demonstrate to a scuba instructor, the scuba skills in accordance with Clause 8 (see Annex A for an explanatory example). Students to be certified shall complete at least four qualifying open water dives in accordance with 9.1 in the range between 4 m and 20 m under the direct supervision of a scuba instructor. The underwater duration of each of these four qualifying open water dives shall be at least 15 min. Each student shall have logged a total accumulated minimum duration of 80 min underwater before certification. NOTE The amount of underwater time, the number of dives and the depths needed for competence may vary. In determining these details, the scuba instructor and the training organization need to take into account that the training is for competence to 20 m and additional underwater time or dives may be required. As an option a training organization may allow that students, after having acquired all skills required by this part of ISO 24801, but before they are awarded their certificates, demonstrate their maturity for autonomous diving by carrying out a dive without direct supervision, satisfying the following conditions: <ul style="list-style-type: none"> • this dive is carried out in buddy groups, • each pair is deploying a surface marker buoy, • provisions are in place for monitoring the students' movements at all times, with means for rapid intervention in case of danger, • all other parameters must be suitable for the competencies the students have achieved. 		OK
Clause 11 "Assessment" – ISO 24801-3		Y / N
11. 1 Knowledge Students shall demonstrate to a scuba instructor mastery of the knowledge of scuba diving by passing an examination as prescribed by a training organization (see Annex A for an explanatory example). This examination shall test theoretical knowledge in accordance with Clause 7 and knowledge of skills in accordance with Clause 8 and Clause 9. Mastery of a theory topic is defined as being able to demonstrate a detailed understanding of the causes and effects related to each item and further to demonstrate a complete understanding of all aspects of such topics that are relevant to the conduct of the diving activities as addressed in this part of ISO 24801.		OK
11.2 Scuba skills Students shall demonstrate mastery to a scuba instructor of the scuba skills in accordance with Clause 8 and capabilities in accordance with Clause 9 (see Annex A for an explanatory example). Students shall be able to demonstrate skills in group control and supervision of diving activities. Mastery of practical skills is defined as the ability to consistently perform a skill in a controlled manner with low levels of personal stress in conditions typical of the local environment.		OK
11.3 Minimum number of open water dives To be certified as a scuba diver level 3 — "Dive leader" the student shall have logged at least 60 open water dives or 50 open water dives with a total accumulated underwater time of 25 h. At least 40 of these dives shall have been completed after level 2 in accordance with ISO 24801-2. At least 30 open water dives shall include as wide a range of environmental factors as possible to ensure that the student has a wide range of experience. Examples of more demanding environmental factors may be: <ul style="list-style-type: none"> • low visibility (less than 2 m horizontal), • currents [more than 0,25 m/s (approximately half a knot)], • cold water (less than 10 °C). 		OK

If the local environment does not include any such factors, the candidate's diving experience should be broadened by completing a greater number of dives and/or including dives of greater depth (e.g. more than 30 m).	
Remarks, Recommendations	-

Certification – Instructor Training

Clause 13 "Certification" – ISO 24802 series	Y / N
13.1 Minimum age The minimum age for receiving certification as a level 1/level 2 scuba instructor shall be 18 years.	OK
13.2 Minimum practical experience ISO 24802-1 and 2: Scuba instructor candidates shall have gained teaching experience by playing the role of an instructor in a structured series of training sessions (in the classroom and in confined and open water) which will expose them to a comprehensive range of duties and problems they will be expected to encounter once qualified. Situations to which they will be exposed should include simulated in-water emergencies, group dynamics and behavioural problems and typical learning difficulties. Scuba instructor candidates shall have gained sufficient diving experience to demonstrate competency in all of the abilities specified in this part of ISO 24802. 13.2 Minimum practical experience ISO 24802- 2: Scuba instructor candidates shall have met all requirements for a level 1 scuba instructor in accordance with ISO 24802-1 and a level 2 scuba instructor in accordance with this part of ISO 24802 prior to certification.	OK
13.3 Theoretical knowledge Scuba instructor candidates shall satisfactorily demonstrate to a scuba instructor-trainer knowledge of scuba diving training by taking and passing an examination. This examination shall test theoretical knowledge in accordance with Clause 7 and knowledge of skills in accordance with Clauses 8, 9, 10 and 11..	OK
13.4 Teaching techniques Scuba instructor candidates shall satisfactorily demonstrate to a scuba instructor-trainer their ability to prepare and present theoretical and practical presentations that are technically correct, of an appropriate content and are delivered in an effective manner suited to the students' needs. An example for the assessment of teaching and supervision of scuba skills is given in Annex A.	OK
12.5 Teaching and supervision of scuba skills – ISO 24802-1 Scuba instructor candidates shall satisfactorily demonstrate to a scuba instructor-trainer their ability to perform, teach and evaluate confined water scuba skills in accordance with ISO 24801-1. Scuba instructor candidates shall not be given information prior to the assessment on the precise exercise to be used. An example for the assessment of teaching and supervision of scuba skills is given in Annex A. 13.5 Teaching and supervision of scuba skills – ISO 24802-2 Scuba instructor candidates shall satisfactorily demonstrate to a scuba instructor-trainer their ability to perform, teach and evaluate scuba skills in accordance with ISO 24801-1, ISO 24801-2 and ISO 24801-3. This assessment shall include both confined water and open water activities. Scuba instructor candidates shall not be given information in advance of the assessment session on the precise exercise to be used. An example for the evaluation of teaching and supervision of scuba skills is given in Annex A.	OK
12.6 Supervision and guidance of diving activities – ISO 24802-1 Scuba instructor candidates shall demonstrate to a scuba instructor-trainer skills in group control and supervision of students' diving activities in confined water. 13.6 Supervision and guidance of diving activities – ISO 24802-2 Scuba instructor candidates shall demonstrate to a scuba instructor-trainer skills in group control and supervision of students' diving activities including responsible judgement on relevant site criteria such as weather, depth, visibility, water movement and level of supervision required.	OK
13.7 Emergency procedures Scuba instructor candidates shall demonstrate to a scuba instructor-trainer skills selected from those specified in clause 11 by completing at least one simulated open water rescue.	OK
Clause 12 "Scuba instructor-trainers" – EN 14413-1 and -2	Y / N
12 Scuba instructor-trainers Scuba instructor-trainers shall be responsible for instructor training and certification. Scuba instructor-trainers shall be scuba instructors of senior standing and of higher qualification than a level 2 scuba instructor and shall have received specific training in the education and development of scuba instructors. Scuba instructor-trainers shall have an extensive knowledge of pedagogy and relevant educational systems and shall be qualified and sanctioned by a training organization or competent public authority as being able to teach and evaluate scuba instructors. Scuba instructor-trainers may take the role of trainers or examiners of scuba instructor candidates in accordance with the procedures defined by such training organizations or competent public authorities.	OK

The process of training and certification of scuba instructor candidates shall involve at least one scuba instructor-trainer and one level 2 scuba instructor of senior standing.	
Remarks, Recommendations	-

Assessment criteria – Quality control

Assessment criteria – Quality control		Y / N
1. The training organisation has implemented quality control measures to ensure that standards relevant to the respective ISO standards are adhered to by the training provider.		OK
2. Checks of records and the procedural audits show that quality control measures are actually carried out on a regular and systematic basis.		OK
Remarks, Recommendations		

ISO 11107 "Nitrox diving"

Clause4 "Competences of a certified enriched air nitrox diver"	Y / N
<p>The training programme shall ensure that, when assessed in accordance with Clause 10, scuba divers are qualified to</p> <ul style="list-style-type: none"> plan, conduct and log EAN open-water, no-decompression dives, when accompanied by another scuba diver of at least level 2 — "Autonomous diver", in accordance with ISO 24801-2; procure EAN mixes, EAN equipment and other services to engage in recreational EAN diving without supervision. <p>The training programme does not qualify divers to make dives which require mandatory in-water decompression stops or dives using more than one breathing gas and/or rebreathers. Such dives are beyond the scope of this International Standard and require additional training.</p>	OK
Clause 5 "Prerequisites for training"	Y / N
<p>5.1 Minors</p> <p>Documented parental or legal guardian consent shall be obtained when the applicant is a minor. The training system/training organisation requires the training provider to seek:</p> <ul style="list-style-type: none"> Checks of training/certification records reflect that, parental or legal guardian consent was given in all cases of training of minors 	OK
<p>5.2 Health requirements</p> <p>If training dives are to be conducted as part of the training programme, documented evidence shall be obtained that the student has been medically screened as suitable for recreational diving, by means of an appropriate questionnaire or medical examination. In case of doubt, or at the scuba instructor's discretion, students shall be referred to proper medical resources. If the student is not examined by a physician, the student shall be obliged to confirm by signature that he or she has understood written information given by the scuba instructor on diseases and physical conditions which may pose risks in relation to diving. Students shall be advised of the importance of appropriate regular medical examinations.</p> <p>Checks of training/certification records reflect that:</p> <ul style="list-style-type: none"> documentary evidence of medical screening has been provided by students. 	OK
Clause 6 "Required theoretical knowledge"	Y / N
<p>6.1 Equipment</p> <p>The training programme shall ensure that students have appropriate knowledge of the physical characteristics, operating principles, maintenance requirements and use of EAN diving equipment. This shall include at least the following:</p> <ul style="list-style-type: none"> how EAN use impact diving equipment (e.g. increased oxidation and wear); the suitability of scuba equipment for use with EAN, including national and/or regional regulations; the suitability of scuba cylinders for EAN (e.g. when oxygen service may be required); EAN cylinder markings. <p>The students should be made aware of the importance of following the recommendations of equipment manufacturers regarding the use of their equipment with EAN.</p>	OK
<p>6.2 Physics of diving with EAN</p> <p>The training programme shall ensure that students have appropriate knowledge of the physical principles of EAN and its application to diving activities. This shall include at least the following:</p> <ul style="list-style-type: none"> what EAN is; partial pressures; the benefits of reduced exposure to nitrogen on decompression, e.g. equivalent air depth (EAD); EAN use and bottom time. 	OK
<p>6.3 EAN handling risks</p> <p>The training programme shall ensure that students have appropriate knowledge of risks related to the handling of EAN mixtures with elevated oxygen levels. This shall include at least knowledge about factors likely to increase the risk of fire or explosion.</p>	OK
<p>6.4 Medical issues</p> <p>The training programme shall ensure that students have appropriate knowledge of the causes, symptoms, prevention, first-aid and proper handling of EAN-related diving medical problems. This shall include at least the following:</p> <ul style="list-style-type: none"> EAN and narcosis; oxygen toxicity; decompression illness. <p>Instructions shall include why buddy teams must plan their dive in accordance with:</p> <ul style="list-style-type: none"> the limits of the diver with the most conservative maximum operating depth, no decompression limit, or oxygen toxicity limit. 	OK
<p>6.5 Use of dive tables and dive computers</p>	OK

<p>The training programme shall ensure that students have an appropriate knowledge of using dive tables, dive computers and/or dive planning software, including:</p> <ul style="list-style-type: none"> • how to determine oxygen partial pressure (PO₂); • managing exposure to nitrogen, e.g. by using the equivalent air depth concept; • how to determine the maximum operating depth for a particular EAN mixture, taking into consideration its oxygen content; • how to use EAN dive tables and/or a EAN-programmable dive computer to plan and execute single and repetitive dives. 		
Checking the training/certification records shows that students have been provided with the required theoretical training.		OK
Clause 7 "Practical skills"		Y / N
<p>The training programme shall ensure that students are able to perform the following practical skills:</p> <ul style="list-style-type: none"> • how to use an oxygen analyzer to determine the oxygen content in an EAN blend; • how to fill out cylinder content tags/stickers; • how to complete and sign a filling station's EAN fill log, including maximum operating depth and oxygen content. 		OK
Checking the training/certification records shows that students have been provided with the required training in necessary practical skills.		OK
Clause 10 " Practical training parameters"		Y / N
If the training programme includes open water dives using EAN as a breathing gas, the maximum PO ₂ shall not exceed 160 kPa (1,6 bar).		OK
Clause 9 "Scuba instructors"		Y / N
1. The training system / training materials supplied by the training organisation requires scuba instructors who teach Nitrox programmes to have completed a formal training for EAN training programmes.		OK
2. Checking the training/certification records shows that students have been instructed by scuba instructors with the required training.		OK
Clause 10 "Certification"		Y / N
<p>The training programme may be conducted in conjunction with scuba diver training in accordance with ISO 24801-2, but the certification shall not be issued until such time as the student has finalized all certification requirements in accordance with ISO 24801-2.</p> <p>The student shall demonstrate EAN knowledge to a scuba instructor by taking and passing an oral or written examination. This examination shall test EAN knowledge in accordance with Clause 6.</p> <p>The scuba instructor shall ensure that the student has the ability to analyze EAN and plan dives using EAN, prior to certification in accordance with Clause 7.</p> <p>NOTE Open water dives using EAN are not a requirement in order to complete the training programme in accordance with this International Standard, but they are encouraged.</p>		OK
1. Checking the training/certification records shows that assessment of theoretical knowledge and practical skills of students took place as a prerequisite for issuing the certificate.		OK
Remarks, Recommendations	-	

ISO 11121 " Requirements for introductory programmes to scuba diving "

Clause 4 "Competences"	Y / N
The programme shall ensure that participants are able to participate safely in an introductory open water dive. The completion of the programme in accordance with this International Standard does not qualify the participants to procure breathing gas, diving equipment or any other scuba diving services, nor does it allow the participant to engage in recreational diving without direct supervision by an instructor.	NA
Clause 5 "Prerequisites for training"	Y / N
5.1 Minors Documented parental or legal guardian consent shall be obtained when the applicant is a minor. The training system/training organisation requires the training provider to seek: <ul style="list-style-type: none"> • Checks of training/certification records reflect that, parental or legal guardian consent was given in all cases of training of minors 	NA
5.2 Health requirements Documented evidence shall be obtained that the participant has been medically screened as suitable for recreational diving, by means of an appropriate questionnaire or medical examination. In case of doubt, or at the scuba instructor's discretion, participants shall be referred to proper medical resources. If the participant is not examined by a physician the participant shall be obliged to confirm by signature that he or she has understood written information given by the scuba instructor on diseases and physical conditions which may pose risks in relation to diving. Checks of training/certification records reflect that: <ul style="list-style-type: none"> • documentary evidence of medical screening has been provided by students. 	NA
Clause 6 "Introductory information"	Y / N
Information in accordance with ISO 24803 shall be made available to the participants prior to the programme taking place. In addition, participants shall be informed that the completion of a programme in accordance with this International Standard does not qualify the participants to procure breathing gas, diving equipment or any other scuba diving services, nor does it allow the participant to engage in recreational diving without direct supervision by an instructor.	NA
Clause 7 "Theoretical knowledge"	Y / N
7.1 Equipment The programme shall ensure that participants have appropriate introductory knowledge on the use of the following equipment items: <ul style="list-style-type: none"> • mask; • fins; • buoyancy compensator; • quick release weight system (if appropriate); • demand regulator; • submersible pressure gauge (breathing gas pressure monitor); • alternative breathing gas system. 	NA
7.2 Dive conduct The programme shall ensure that participants have appropriate introductory knowledge of diving and the diving environment, i.e. reasons for: <ul style="list-style-type: none"> • not holding one's breath; • breathing continuously during the introductory dive; • ascending slowly; • equalization techniques; • potential local hazards (e.g. harmful aquatic life); • hand signals; • necessity for seeking further training, and where to obtain it. 	NA
Checking the training/certification records shows that participants have been provided with the required theoretical training.	
Clause 8 "Scuba skills"	Y / N
The following scuba skills shall be introduced to, and demonstrated by, participants in confined water in accordance with 9.2 prior to diving in open water: <ul style="list-style-type: none"> • underwater breathing; • mask clearing; • ear clearing/equalization techniques; • mouthpiece clearing and retrieval. 	NA
Checking the training/certification records shows that participants have been provided with the required introduction in necessary scuba skills.	NA
Clause 9 " Requirements for in- water activities"	Y / N

<p>9.1 General</p> <p>9.1.1 Activities in confined water (see 9.2) and open water (see 9.3) may be conducted separately or they may be combined into a single session, with skills being initially introduced in shallow water before participants are taken into deeper water.</p> <p>9.1.2 The safe supervision of students is exclusively the responsibility of the scuba instructor. Where environmental conditions are less than ideal (e.g. where underwater visibility is poor, or where there is significant water movement), the scuba instructor shall limit the number of students under his/her responsibility. The scuba instructor may also use additional aids to improve safety, e.g. ascent lines, surface support stations or safety scuba divers. Where safety scuba divers are used, they shall have an appropriate level of rescue competence, i.e. at least dive leader level.</p>	NA
<p>9.2 Confined water</p> <p>9.2.1 During any in-water activities, a scuba instructor shall be present. All scuba skills shall be directly supervised by a scuba instructor. The scuba instructor shall determine whether the participant's performance is sufficient to be able to participate in the open water dive.</p> <p>9.2.2 Participants shall be introduced to, and shall be required to demonstrate, scuba skills in accordance with Clause 8.</p> <p>9.2.3 In a swimming pool, the maximum number of participants per scuba instructor shall be eight. If a natural site is used for confined water activities (e.g. a sheltered area of shallow sea),</p> <ul style="list-style-type: none"> the maximum number of participants shall be four, or when the scuba instructor is assisted by a dive leader, the maximum number of participants shall be six. <p>Additional dive leaders may be used as assistants, however, no additional participants shall be added to the responsibility of the individual scuba instructor.</p> <p>9.2.4 All scuba skills shall be conducted in daylight conditions, in confined water shallow enough for the participant to stand up in. When water shallow enough to stand up in is not available, these skills may be conducted from a device such as a descent line, bar, ladder or platform within 2 m of the surface.</p>	NA
<p>9.3 Open water dive</p> <p>9.3.1 Open water scuba dives shall be directly supervised by a scuba instructor in accordance with ISO 24802-2.</p> <p>NOTE For the purposes of this subclause, a scuba instructor in accordance with ISO 24802-2 is designated as a "level 2 scuba instructor".</p> <p>9.3.2 For open water dives,</p> <ul style="list-style-type: none"> the maximum number of participants per level 2 scuba instructor shall be four, or when the level 2 scuba instructor is assisted by a dive leader, the maximum number of participants shall be six. <p>The level 2 scuba instructor shall limit the number of students where environmental conditions are less than ideal, e.g. where underwater visibility is poor or where there is significant water movement.</p> <p>9.3.3 All open water dives shall be conducted during daylight conditions, at depths not in excess of 12 m, and in water that allows direct vertical access to the surface.</p> <p>9.3.4 During an open water dive, the level 2 scuba instructor may delegate responsibility for direct supervision to a dive leader for the purposes of escorting participants during surface excursions and exits.</p> <p>9.3.5 During open water dives, the level 2 scuba instructor shall be equipped with</p> <ul style="list-style-type: none"> diving equipment as defined in 3.8, a dive knife/diver's tool, and an emergency-signalling device. <p>NOTE When appropriate, the use of a surface support-station with dive flag is encouraged.</p> <p>9.3.6 During open water dives, participants shall at least be equipped with diving equipment as defined in 3.8, except that a snorkel, an alternative breathing gas system and a means to measure depth and time and to safely limit exposure to inert gas are not required.</p> <p>9.3.7 During open water dives, level 2 scuba instructors shall not engage in any activities other than direct supervision of the participants.</p> <p>9.3.8 Descents shall be conducted in a controlled manner that allows participants to equalize their air spaces.</p>	NA
<p>Remarks, Recommendations</p>	

ISO 13970 "Requirements for the training of recreational snorkelling guides"

Clause 4 "Competences"	Y / N
<p>Snorkelling guides shall be trained such that, when evaluated in accordance with Clause 10, they are deemed to have sufficient knowledge, skill and experience to plan, organize and conduct snorkelling excursions and lead recreational snorkelers in open water.</p> <p>Snorkelling guides are qualified to do the following:</p> <ul style="list-style-type: none"> • provide all elements of snorkelling excursion management; • oversee groups of snorkelers from the shore, a boat, or other platform; • lead groups of snorkelers in confined water and/or open water; • provide advice and guidance to participants of snorkelling excursions including issues regarding participants' safety and techniques to minimize impact on the environment; • conduct any specialized recreational snorkelling activities for which they have received appropriate training; • plan and execute appropriate emergency procedures. <p>If snorkelling and environmental conditions are significantly different from those previously experienced, a snorkelling guide requires an appropriate orientation with regard to local environmental conditions.</p> <p>In order to lead snorkelers on excursions which have more demanding operational parameters, a snorkelling guide shall have appropriate specialized training and/or experience.</p> <p>Examples of such excursions include the following:</p> <ul style="list-style-type: none"> • night snorkelling excursions; • snorkelling excursions in currents; • snorkelling excursions on wreck sites. <p>Where further snorkelling instruction is required, in order to meet the above mentioned competencies, this can only be provided by a suitably qualified snorkelling instructor.</p>	OK
Clause 5 "Prerequisites for training"	Y / N
<p>5.2 Minors</p> <p>Documented parental or legal guardian consent shall be obtained when the applicant is a minor.</p>	OK
<p>5.3 Health requirements</p> <p>Documented evidence shall be obtained that the student has been medically screened as suitable for guiding recreational snorkelling by means of an appropriate questionnaire or medical examination.</p> <p>NOTE In some countries, and according to some training organizations, a medical examination might be mandatory. Students shall be advised of the importance of appropriate regular medical examinations.</p>	OK
Clause 6 "Introductory information"	Y / N
<p>Relevant information in accordance with ISO 24803:2007, 4.1, shall be made available to the students prior to, or during, the first class meeting.</p>	OK
Clause 7 " Required theoretical knowledge "	Y / N
<p>Students shall have sufficient understanding and knowledge of the following topics in order to plan and execute snorkelling excursions in accordance with ISO 13289, in typical conditions encountered in the local environment, and to plan for and respond to possible emergencies during such excursions:</p> <ul style="list-style-type: none"> • equipment; • physiology of snorkelling; • medical issues related to snorkelling; • environmental considerations and responsible practices; • excursion planning and management; • communications; • recommended safe snorkelling practices; • snorkelling techniques; • accident management; • awareness and understanding of local snorkelling related legislation and legal requirements. 	OK
Clause 8 " Personal snorkelling skills "	Y / N
<p>8.1 The competence of students in all snorkelling skills shall be suitable to cope with the most demanding operational factors of their region. Influencing factors may include the following:</p> <ul style="list-style-type: none"> • size and experience of the group; • underwater visibility; • current and tides; • surface conditions; • water temperature; • surface traffic; • equipment in use; 	OK

<p>8.2 Students shall be able to perform the following skills in a manner showing highest level mastery and competence:</p> <ul style="list-style-type: none"> • flora and fauna. • use of mask, fins and snorkel; • snorkelling equipment preparation; • pre-dive inspection of snorkelling equipment; • safe entries and exits; • proper weighting (if appropriate); • snorkel clearing; • proper descent and ascent procedures (e.g. equalising pressure in ears and mask); • swim on the surface and under water efficiently with snorkelling equipment using different finning techniques (e.g. flutter kick, dolphin kick); • equipment care and maintenance; • snorkeller assistance techniques (self and others) (i.e. to assist another person and provide support on the surface). 	
Clause 9 "Leadership skills"	Y / N
<p>9.1 General</p> <p>The skills specified in 9.2 to 9.4 shall be competently conducted in environmental conditions typical of those usually met when snorkelling excursions are conducted in the region.</p>	OK
<p>9.2 Snorkelling related skills</p> <p>Snorkelling related skills shall include the following:</p> <p>a) excursion planning and preparation:</p> <ul style="list-style-type: none"> • site selection taking into account participant capabilities and environmental factors; • emergency plan and emergency equipment (first aid equipment, communication devices etc.); • equipment preparation; • limiting parameters for participants in the excursion (e.g. area boundaries, time limits, danger zones, depth limits); • use of ancillary support equipment (e.g. floats, boundary markers); <p>b) Snorkelling excursion briefing:</p> <ul style="list-style-type: none"> • group assignments (buddy teams); • time limits; • problem/emergency procedures; • site/environmental considerations; • communications; • pre excursion equipment preparation; <p>c) conduct of snorkelling excursion:</p> <ul style="list-style-type: none"> • selection of equipment; • kitting up; • equipment fit and function check; • participant accounting procedures (e.g. roll call of participants entering and exiting the water); • group control techniques; • continued monitoring of environmental conditions; • awareness of snorkellers' stress levels; • ensuring environment is respected (e.g. avoiding contact with delicate marine organisms); • identification of in water hazards; • appropriate reaction to problems and emergencies; <p>d) post excursion procedures:</p> <ul style="list-style-type: none"> • debriefing; • equipment care. 	OK
<p>9.3 Snorkeler rescue</p> <p>Students shall demonstrate rescue skills by completing at least one open water rescue. Rescue skills shall include the following:</p> <ul style="list-style-type: none"> • dealing with cramps; • recognition and management of emergency situations (e.g. tired, panicked, or unresponsive snorkeller); • effective emergency surface actions; • casualty recovery to the surface from a depth of at least 5 m; • transportation techniques on the surface; • conscious and unconscious casualty recovery from the water. 	OK
<p>9.4 First aid</p> <p>Students shall complete a course/courses in first aid and cardiopulmonary resuscitation (CPR) approved by the training organization and shall have a valid qualification.</p>	OK
Clause 10 " Evaluation"	Y / N
<p>10.1 Watermanship and snorkel skills</p> <p>Students shall be able to demonstrate to a snorkelling guide trainer the following skills using snorkelling equipment:</p>	OK

<ul style="list-style-type: none"> • dive vertically headfirst from the surface in water too deep to stand; • swim at least 25 m under water on a single breath of air; • ascend safely by looking up and around while swimming, and by holding one hand over the head; • clear a snorkel of water and resume breathing through the snorkel without lifting the face from the water; • make a face down, surface 800 m snorkel swim in 15 min or less. 		
10.2 Excursion management skills Students shall demonstrate to a snorkelling guide instructor mastery of the planning and conduct of a snorkel excursion in accordance with ISO 13289. Such demonstrations may take the form of simulated or actual snorkel excursions, but in either case, shall be supervised by a snorkelling guide trainer.		OK
10.3 Rescue skills Students shall demonstrate to a snorkelling guide instructor mastery of the rescue evaluation in accordance with 9.3.		OK
Clause 11 "Minimum age "		Y / N
The minimum age for conducting snorkelling excursions in accordance with ISO 13289 shall be 18 years.		OK
Clause 12 "Requirements for training organizations "		Y / N
A training organization shall provide training programmes for snorkelling guides and shall define procedures for the conduct of snorkelling excursions. The training organization shall: <ul style="list-style-type: none"> • establish, implement and maintain quality control procedures in order to monitor the snorkelling excursions conducted by the service providers that are authorized by the training organization, • establish, implement and maintain a system for intervening when those snorkelling guides are found to be failing to follow ISO 13289 or the training organization's requirements, and • have a permanent headquarters and maintain records of all currently authorized snorkelling guides: information on the current status of authorization of snorkelling guides shall be made available to the public upon request. 		OK
Clause 13 "Requirements for snorkelling guide instructors "		Y / N
Snorkelling guide instructors shall: <ul style="list-style-type: none"> • be responsible for snorkelling guide training and evaluation; • have received specific training in the education and development of snorkelling guides; • be qualified and sanctioned by a training organization as being able to teach and evaluate snorkelling guides. NOTE The above requirement is fulfilled by a scuba instructor of level 2 in accordance with ISO 24802-2.		OK
Remarks, Recommendations		

ISO 13293 "Requirements for Gas Blender training programmes "

Clause 4 "Competencies of Gas Blenders"	Y / N
<p>The Gas Blender training programme shall ensure that persons when assessed in accordance with clause 8 are qualified to blend gases for diving purposes following accepted safety protocols and standards.</p> <ul style="list-style-type: none"> Level 1 Gas Blenders are qualified to blend Enriched Air Nitrox (EAN). Level 2 Gas Blenders are qualified to blend and supply any gases and gas mixes covered by this International Standard. <p>Gas Blenders are competent to provide specific mixture of gases in a compatible cylinder (e.g. working pressure, correct marking, test validity).</p> <p>The completion of a training programme in accordance with this International Standard does not qualify a person</p> <ul style="list-style-type: none"> to advise a diver on the gas mixture to be used for a given dive; to establish operational parameters for a diver such as the maximum operating depth or maximum partial pressure of a component gas; to provide oxygen cleaning and servicing of diving equipment. 	OK
Clause 5 " Theoretical knowledge "	Y / N
<p>5.1 Purpose of Gas Blender training</p> <p>The training programme shall ensure that students have knowledge on issues relating to safe production, analysis, handling and use of diver breathing gas mixes (appropriate to Level 1 or Level 2 Gas Blender qualification) for diving purposes and associated risks.</p>	OK
<p>5.2 Gas blending and delivery methods</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification have knowledge on operating principles, design features, advantages, disadvantages, safety issues of the following gas blending and delivery methods:</p> <ul style="list-style-type: none"> nitrogen reduction methods (e.g. using a membrane or a molecular sieve), continuous blending, partial pressure blending, using premixed gases, mixing by weight, booster pumps. 	OK
<p>5.3 Gases and gas blends</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification have knowledge of uses, characteristics, advantages, disadvantages, safety issues of the following gases and gas mixtures used by divers:</p> <p>NOTE Gases obtained from a third party which will be used in breathing mixtures for diving purposes need to be formally certified to be fit for use for breathing purposes (e.g. diving grade oxygen, medical grade oxygen, aviator grade oxygen or any other formally certified breathing-grade oxygen).</p> <ul style="list-style-type: none"> Oxygen, Nitrogen, Air, Enriched Air Nitrox (EAN). <p>In addition to the items listed above, the training programme shall ensure that students for the Level 2 Gas Blender qualification have knowledge of uses, characteristics, advantages, disadvantages, safety issues of the following gases and gas mixtures used by divers:</p> <ul style="list-style-type: none"> Helium, Argon, Trimix, Heliox. 	OK
<p>5.4 Considerations for elevated oxygen levels</p> <p>5.4.1 Oxygen hazards</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification have knowledge on risks related to the handling of gas mixtures with elevated oxygen levels. This shall include:</p> <ul style="list-style-type: none"> the "fire triangle" (oxygen, fuel and heat), fire (and explosion) causes such as adiabatic compression, particle impingement, contamination accumulation, frictional heat, inappropriate components, electrical arcing, static discharge, corrosion. <p>5.4.2 Oxygen service</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification understand the requirements for oxygen service, i.e:</p> <ul style="list-style-type: none"> oxygen compatible, oxygen clean, component design features, avoiding contamination of oxygen service equipment (e.g. using oxygen compatible air, not contaminating parts of equipment that come into contact with elevated concentrations or partial pressures of oxygen). <p>The training programme shall ensure that students know that oxygen equipment, like cylinders, valves and other equipment parts subjected to high partial pressures of oxygen must be oxygen cleaned.</p>	OK

<p>NOTE Recommended oxygen cleaning procedures are specified in ISO 11621:1997 Annex A and ISO 15001:2010 Annex A.</p> <p>5.4.3 Specific filling station features</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification have knowledge on selection, use and maintenance of the following items or components:</p> <ul style="list-style-type: none"> • valves, • gauges, • non return valves (check valves), • manifolds, filling whips and connectors, • analysers, • storage cylinders/banks, • filters, • lubricants, • gas flow rate control. 	
<p>5.5 Cylinder marking and handling</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification have knowledge of:</p> <ul style="list-style-type: none"> • relevant national and/or regional regulations and/or standards, • colour coding related to the use of particular gases, • variable and permanent marking of cylinders (e.g. gas composition, maximum operating depth (MOD), oxygen clean), • cylinder valves (use of dedicated threads, O-rings, lubricants), • the use of adapters. 	OK
<p>5.6 Gas analysis and record keeping</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification have knowledge of</p> <ul style="list-style-type: none"> • analysis and recording of cylinder content and pressure before and after blending; • completion of the filling station log when blending gases (role of the Gas Blender and the recipient). 	OK
<p>5.7 Gas blending calculations</p> <p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification have knowledge of methods of computing final desired mixtures of gases when a cylinder contains a given mixture of initial gases. Such methods may include manual calculations, tables or computer software.</p>	OK
<p>Clause 6 " Practical Skills "</p>	Y / N
<p>The training programme shall ensure that students for both the Level 1 and the Level 2 Gas Blender qualification are able to perform the following practical skills demonstrating best practice at all times:</p> <ul style="list-style-type: none"> • how to use an oxygen analyser to determine the oxygen content in an EAN mixture, • how to fill a cylinder with a blend of EAN so that the final oxygen content is within ± 1 % of the target amount (e.g. if the target was 32 % oxygen then between 31 % and 33 % oxygen would be acceptable), • how to complete cylinder content tags/stickers, • how to complete and sign a filling station's fill log when blending gases <p>In addition to the items listed above, the training programme shall ensure that students for the Level 2 Gas Blender qualification are able to perform the following practical skills demonstrating best practice at all times:</p> <ul style="list-style-type: none"> • how to use a helium analyser to determine the helium content in helium based gas mixtures, • how to fill a cylinder with a mixture of gases including helium so that the final oxygen content is within ± 1 % of the target amount and the final helium content is within ± 3 % of the target amount. 	OK
<p>Clause 7 " Gas Blender instructors"</p>	Y / N
<p>Instructors shall be authorised by a training organisation as either:</p> <ul style="list-style-type: none"> • Level 1 Gas Blender instructor, • Level 2 Gas Blender instructor. <p>Level 1 Gas Blender instructors shall be able to train and certify Level 1 Gas Blender students. Level 2 Gas Blender instructors shall be able to train and certify both Level 1 and Level 2 Gas Blender students.</p> <p>Level 1 Gas Blender instructors shall be qualified as Level 1 Gas Blender and have practical experience of blending EAN mixes.</p> <p>Level 2 Gas Blender instructors shall be qualified as Level 2 Gas Blender and have practical experience of blending helium based mixes.</p> <p>Instructors teaching the training programme and assessing students in accordance with this International Standard shall have the theoretical teaching capabilities of a scuba instructor.</p>	OK
<p>Clause 8 " Certification"</p>	Y / N
<p>8.1 Students shall have completed EAN training in accordance with ISO 11107:2009, clause 6.</p> <p>8.2 The student shall demonstrate to a Gas Blender instructor gas blending knowledge by taking and passing an oral or written examination. This examination shall test gas blending knowledge in accordance with clause 5 at the applicable level.</p> <p>8.3 For certification as a level 1 Gas Blender the student shall demonstrate to a Gas Blender instructor the ability to fill and analyse EAN gas blends in accordance with clause 6.</p> <p>8.4 For certification as a level 2 Gas Blender the student shall demonstrate to a Gas Blender instructor the ability to fill and analyse helium based gas mixtures in accordance with clause 6.</p> <p>8.5 The Gas Blender instructor shall ensure that the student has the ability to complete cylinder tags/stickers and filling station's fill logs in accordance with clause 6.</p> <p>8.6 The certificate issued by the training organisation shall specify the level of qualification in accordance with this International Standard as follows:</p>	OK

- "Level 1 Gas Blender" or
- "Level 2 Gas Blender".

8.7 In order to be certified as a Gas Blender a student shall be at least 18 years of age.

Remarks, Recommendations	
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Annex 1

The following interviews were conducted in German on 24.02.2015:

Volker Gorski (zum Instructor-Kurs TL 2)
TL1 im Landesverband NRW 2013
Taucht seit 1973
Hat ca. 1090 TG
Voraussetzung TL 1 – Trainer C – Tauchen
TL1 = automatisch Trainer B
TL2 muss Ausbildungstätigkeit bestätigen und mindesten einem CMAS * Kurs
eigenverantwortlich (unter Aufsicht) durchführen
Muss bei xx oder xxx als Beobachter dabei sein.
TL2 Kurs dauert 2 Tage, 12 TG, 12 Teilnehmer, 3 Ausbilder
Jeder Teilnehmer macht 3 „Lehrauftritte“ als Gruppenführer (bei jedem Ausbilder 1 x)

Christoph Laß
Taucht seit 2009
TG 380
TL1 seit 2014 Trainer C 2012
Basic und Pool und Abnahme Grundtauchschein
Theorie x Pool ABC – Pool PTG (5x9
TL1 Kurs 10 Tage in der Türkei
Statt Trainer C wäre auch Assistenz TL (ATL) auf Auslandsbasis möglich

Christian Stegmayr
(Ausbildungsleiter im Verein TC Martin)
Taucht seit 2006 TG 500 +
Aus Pfaffenhofen
TL1 Trainer C
1 Jahr aktiver Mitarbeiter mit mindestens 150 TG seit 3*
TL1 (2012) bei WLT – 1 Woche Theorie Vorbereitung – 1 Woche Theorie Prüfung
Praxis: 10 Tage Praxis in Krotien
Poolausbildung und als TL1 auch selbständig
*Ausbildung im Wasser

Maik Römhold
(Ausbilder)
VDST TL 3, ca. 2000 TG

Prüfung und Theorie und Praxis
Hier nur Praxis (Theorie schon vorher in Landesverbänden abgelegt)
Theoretisch wäre es möglich, dass jemand TL2 wird ohne jemals in Deutschland getaucht
zu sein
Maik ist seit vielen Jahren bei TL1 Prüfungen und Kursen dabei.
Dies ist sein dritter TL2 Kurs, bei dem er unterrichtet

CONCLUSION:

Interviews confirm that standards are being adhered to and requirements are met.

Interviews back up statements made by Training Organisation representatives of the implementation of the VDST training system.

Annex 2

