

Introduction and background

Commercial diving typically refers to professional divers who have completed specialized commercial diving training programs and who utilize diving equipment better suited to performing underwater work than common recreational diving gear.

This gear typically includes a surface supplied air system with rugged diving suits, communications and protective dive helmets that allow longer dives in a more diverse marine environment than conventional scuba equipment. A commercial dive station may also include video systems, recompression chambers, mixed gas racks and other pieces of equipment for performing work too dangerous for recreational divers.

Commercial divers are commonly utilised on offshore oil rigs, to perform dockside repairs, to install underwater pipelines, to inspect water tanks, salvage sunken vessels, evaluate subsurface dam conditions and a host of other water related services and one-off projects. Divers may work offshore or inland with the opportunity to work in many locations around the world.

Divers are used across a multitude of subsectors, including: -

- Marine civil/construction work
- Marine maintenance
- Salvage
- Aquaculture or fish-farming
- Renewable energy
- Oil and Gas
- Inland waters (e.g. dam inspections)
- Subsea pipeline and cable installation and maintenance

World-wide there continues to be a high demand for experienced divers. Skills shortages in terms of diving on a global basis are to be found across the world – from Scotland to South-East Asia. In 2010, the shortage in Scotland was estimated to be about 2000 commercial divers to support the development of the expanding wind power sector alone.

Divers will always be needed – even during the so called “lean” periods in the oil & gas industry and, as oil prices start to improve in the short - to medium term, postponed maintenance and repair contracts will be actioned.

Current Diving Training Landscape

Training framework

Dive Schools need to be accredited by:-

- i. Department of Labour
- ii. International Maritime Contractors Association (IMCA)

So as to ensure that their diving qualifications are acceptable to local and international employers as well as to ensure South Africa's continued accreditation internationally.

Training Ladder

Below in table format is the basic diving training ladder – which is laid down in both the Department of Labour Diving Regulations locally, as well as internationally in the International Maritime Contractors Association (IMCA) regulations.

Course	Duration	Description
Diver Class 4	4 weeks	30 m SCUBA Commercial Diver
Diver Class 3	4 weeks	30 m SSDE Commercial Diver
Diver Class 2	4 weeks	50M Air-Diver

As can be seen from the above, to achieve one's qualification as an Air Diver Class 2 (the very minimum a diver needs to be able to eligible for employment commercially on the whole, but especially internationally), requires 12 weeks of formal training at a dive school. These are referred to in more detail below.

Thinking about becoming a diver

Firstly you need to ask yourself a few questions:

- What background do you have that may be useful in diving?
- Have you any previous diving experience?
- Do you want to spend long periods away from home?
- Do you mind living in confined spaces with a small group of people?

Some backgrounds that may be useful in the industry are:

- Mechanical
- Rigging
- Welding
- Electronics
- Pipe Fitting
- Engineering
- Inspection

These are just a few of the sort of backgrounds that might help you get work, especially if you are just starting out. If you don't have a background in any of these fields, don't worry, you can still get work.

Starting Out

You need to get trained to a recognized standard. Choosing the right school is important, you must check to see what type of certificate you will be issued after completing the course. If you want to work in any country in the world you need to get an HSE, IMCA or equivalent certificate. These include the Canadian, Australian and South African certificates as well as some others.

Once you get to school you will learn the physics and physiology of diving, it might be an idea to get hold of a diving manual and study up on these first so as to give yourself a head start before going to school. Pay attention to the different physics laws and the formulas. Together with this you will learn about different types of diving equipment, decompression chambers, and some of the tools you will use once you start working. No school can teach you every aspect of the trade, so once you have finished school your training really begins. Once you have finished school, you will need to start looking for work.

Training to be a diver

The starting point or entry level for commercial diver training is the Class IV 30 metres Scuba. A student must complete Class IV before Class III, Class III before Class II, and Class II before Class I.

Class IV - 30 Metre Scuba Diver (Unrestricted Scuba Diver)

The 30 metre Scuba qualification is the starting point of the commercial diver's training. This scuba qualification is used by the Police Force; Fire Department; various rescue teams; Marine Archaeologists; certain Aqua Culture divers; Media Divers; and Scientific Divers. Scuba is the start of basic training for the Professional Diver using surface supply. This qualification limits the diver to Scuba diving using small hand tools and conducting simple inspections where no decompression is required with direct access to the water surface. The diver may not operate large surface controlled power tools, or dive where the use of cranes, air lifts, diver dredging or winches are required.

Pre-Requisites for Class IV:

- Minimum age of 18 years
- Completed and passed Diving Medical Examination as per South African Diving Regulations and be in a healthy fit state
- Be a competent swimmer (pass a swim test 200 metres freestyle in under 10 minutes is just one of the tests)
- Preferably hold a recreational sport diver basic certification
- Be able to add, subtract, multiply and divide, calculate percentages, solve simple formulas such as gas laws
- Understand written and verbal communications in English and communicate comfortably with other people
- Have a practical aptitude

Class III commercial diver surface supply

The Commercial Surface Supply Diver qualification is the next step after Scuba training. This qualification is needed by commercial divers working in harbours, doing inland dam wall outlet maintenance, as well as ship-ping repairs and close inshore salvage. The qualification allows divers to use scuba and surface supply diving equipment and the diver can do more tasks in the underwater working field. These training tasks include under-water welding and cutting, underwater dredging, air lifting, using salvage equipment, construction tools and a range of hydraulic and pneumatic tools used in the onshore / inland diving tasks. The Class III diver may not work in the oil & gas offshore diving industry.

Pre-Requisites

- Have completed 30 metre Scuba course for 4 weeks or start Scuba course before attending Class III.
- Have a valid diving first aid certificate

Class II 50 metre commercial air diver (IMCA offshore Air Diver)

This course can be done after completing Class III. The 50 metre Commercial Air diver is the highest level of commercial air diving that a diver can take. This is the minimum qualification a diver needs to work offshore in the oil and gas industry, although a diver completing Class II still needs to spend 2 years doing what is called "civil" work. "Civil" work is working in the local harbours and at sea doing general diving work to gain extra water time and experience before applying for work in the offshore industry, after which the diver then again starts as a new inexperienced diver in the offshore oil and gas industry. To get a job in the offshore oil and gas industry is not that easy therefore a diver should have more than 2 years' experience in "civils" in as many aspects as possible.

The qualification allows the diver to use hydraulic and pneumatic power tools; high pressure water jets; under-water welding and cutting; hand tools; thermic lances; explosive tools; air lifts; LP and HP compressors; operate deck decompression chambers; manage air quads; hot water suits; dry suits; surface decompression with oxy-gen; diving baskets and stages; wet bells type I and type II; do dives with over 20 minutes decompression; inspection and measurements; photography and CCTV inspection; explosive procedures underwater; surface sup-ply diving control panels; underwater dredging; understanding of therapeutic decompression tables; principles of closed and semi-closed circuit breathing apparatus; operate a deck decompression chamber during surface decompression and therapeutic treatments; understand the permit to work systems, and much more.

Pre-Requisites

- Have completed 30 metre Scuba course (for 4 weeks) and 30 metre Surface Supply course (for 4 weeks.) recognized by the IDRF and HSE
- Have an in-date South African Commercial diving medical examination as per South African Diving Regulations.
- Have a valid diving first aid certificate.

Commercial Diving Schools in South Africa

School Name	Located	Contact Details
BS Divers	Hermanus	bsdivingschool@yahoo.com +27 (0)28 313 0894 +27 (0)86 546 5340 +27 (0)82 589 3892
Jacks Dive Chest	Gordons Bay/Strand	Trevor Bailey jacksdivechest@live.co.za trevordivesupervisor@hotmail.com +27 0 763703463
Professional Dive Centre (PDC)	Durban	Grant Jameson OFFICE: +27 (31) 466 6902 FAX: +27 (31) 466 6302 EMAIL: pdgrant@mweb.co.za
Seadog	Saldanha	Seadog Commercial Diving School Tel: +27 (0) 22 714 0222 Tel: +27 (0) 22 714 0333 Fax: +27 (0) 86 583 6646 info@divingschool.co.za admin@divingschool.co.za