



IS 10245 (Part 3): 1999, BREATHING APPARATUS, PART 3- FRESH AIR HOSE AND COMPRESSED AIR LINE BREATHING APPARATUS-SPECIFICATION

Breathing apparatus enables a person to remain in irrespirable and poisonous atmosphere for long or short periods and to still retain his full physical and mental capacity. It is also known as **rescue apparatus** anti-gas apparatus, respirator, smoke helmet and gas mask.

The apparatus is **required in mines, gas works, chemical factories, iron works, steel plants and oil refineries etc.** It may also be used by **fire brigade, municipality, army, navy and air force** personnel and mountaineers.

Breathing apparatus should be of such efficiency and reliability as to **ensure safety in toxic gases, oxygen-deficient atmosphere, extreme heat, high humidity, and wreckage and falls during disaster.**

It is, therefore, necessary that breathing apparatus **should have an appropriate design; efficiency; leak protection, quality of materials and safety** under various adverse conditions. Besides, it should ensure purity of air/oxygen breathed and should pass rigorous physiological, physical, chemical and mechanical tests. It is also expected that the apparatus should have comfortable wearability including adjustable and secure harness design and soft, flexible, and secure mouthpiece comfort.

In view of the above BIS has formulated an Indian Standard IS 10245 (Part 3). **The Standard covers three types of apparatus** viz. Type 1 - Fresh air hose apparatus; without blower, Type 2 - Fresh air hose apparatus in which air is drawn from a fresh source with hand or motor-operated blower; and Type 3 - Compressed air line apparatus in which the wearer is supplied air from a source of compressed air.

The Standard **IS 10245 (Part 3): 1999, specifies requirements of design, construction and performance** for breathing apparatus and their methods of tests.

The requirements specified in the Standard ensures that materials used in the construction has adequate mechanical strength, durability, resistance to corrosion and resistance to deterioration by heat, fire and water. It is also taken care that the apparatus shall be such that it may be worn without avoidable discomfort with **hood completely covering the head, neck** and portions of the shoulders **and prevent the leakage.** The Standard also ensures that the apparatus shall be provide with a harness or belt to prevent a pull on the breathing tube or on the mouthpiece. Importantly this Standard also put a check on carbon dioxide content of the inhaled air.

These quality parameters ensure that breathing apparatus meets the required standards for its intended applications and provides consumers with a reliable and effective product.



Type-1



Type-2



Type-3