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1.0 ABSTRACT

Ever since the introduction of Liquid oxygen explosives in India in 1927, these explosives are being extensively used in the various mining industries such as coal, ironore, limestone, bauxite, magnesite etc. The earlier LOX compositions were based on cellulosic material of Weberlox series of French origin. They contained the basic ingredients of saw dust with an admixture of cork dust, some hydrocarbons and some metallic powders. However, there were some inherent defects in the soaking characteristics of these compositions, in as much as, absorption and retention of liquid oxygen in the cartridges were not properly regulated in the fine pores and in the inter-granular spaces inside the ingredients in a uniform manner.

Subsequently, as a result of an extensive R & D work conducted by Indian Oxygen Limited, a new series of cartridge compositions were developed which resulted in making LOX cartridges simpler, economical and safer than the old compositions. These compositions developed on a cellulosic base have been given the trade name Loxite and are being extensively used in the various mining industries both for shallow and deep hole blasting successfully.

By admixture of Aluminium powder, it is now possible to even make stronger cartridges without unduly affecting the soaking and absorption characteristics and IOL have on its range a series Of compositions to suit the varying strata conditions encountered in the Indian Mines.

The Paper describes the principle technological characteristics viz., soaking, explosives and sensitivity of liquid oxygen explosives being marketed in India for different rock materials as well as broad adaptability for various opencast applications.