CONSTITUTION OF SRI LANKA GLASS SANDS

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Silica sand is the principal constituent accounting for 50 - 80% of the batch in most industrial glasses, grains sizes in the range of 0.06 mm to 1.00 mm are internationally considered as the standard particle size range for glass sands. The demands made on glass and depend on the end use and the type of glass being made. The properties of industrial glasses are strongly influenced by the composition of the silica sand in the batch. The values that are important in a high purity glass sand include in terms of chemical specifications - the contents of Fe_2O_3, Al_2O_3 and Sio_2 and in terms of mineralogical specifications the heavy mineral content which may contain the minerals ilmenite, rutile and or leucoxene. The colour of the glass is mainly influenced by the Fe_2O_3 content of mineral raw materials with constitute batch.

The glass sand deposit located at Nattandiya has been investigated on two occasions. Chemical analysis reveals that the contents of Fe_2O_3 and Tio_2 vary within a narrow range. Particle size distribution approaches specifications as laid down by international standards and the glass sands are suitable for glass industry. Heavy liquid separation and mineralogical analysis have shown that quartz is the major mineral and rutile, Zircon, ilmenite, leucoxene are the minor minerals present. Iron oxide is mainly bound in ilmenite and leucoxene minerals. Iron oxide and clay substance bound to the surface of sand grains can be easily removed by abrasion. Fe_2O_3 is mainly confined to the finer particle size ranges. It is observed that the Sri Lanka glass sands if processed in an efficient manner is suitable for the production of high quality glass provide that other raw materials used do not contribute to a high Fe_2O_3 content.