

## Effect of Pond Ash and RBI Grade 81 on Properties of Subgrade Soil and Base Course of Flexible Pavement

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**Abstract :** Abstract: The strength of subgrade and base course of road is measured in terms of California Bearing Ratio (CBR) value. The crust thickness of road section depends on CBR value of subgrade soil, base course and traffic intensity. The CBR value of clayey soil is poor and therefore it is not suitable as a subgrade material of road. This paper deals with use of pond ash and RBI Grade 81 for improvement in CBR values of clayey soil and grade-III materials used for base course of flexible pavement. The pond ash is a thermal power plant waste and RBI Grade 81 is chemical soil stabilizer. The geotechnical properties like Maximum Dry Density (MDD), Optimum Moisture Content (OMC), Unconfined Compressive Strength (UCS), CBR value and Differential Free Swell (DFS) index of soil are tested in the laboratory for different mixes of soil, pond ash and RBI Grade 81 for different proportions. The mixes of grade-III material, pond ash and RBI Grade 81 tested for CBR test. From the study it is found that the geotechnical properties of clayey soil are improved significantly, if pond ash added with RBI Grade 81. The optimum mix recommended for subgrade is soil: pond ash: RBI Grade 81 in proportions of 76:20:4. The CBR value of grade-III base course treated with 20% pond ash and 4% RBI Grade 81 is increased by 125.93% as compared to untreated grade-III base course.

**Keywords :** Clayey soil, Geotechnical properties, Pond ash, RBI Grade 81™

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