



White Paper

Design of Coal Storage Barns Using Reinforced Earth

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The concept of large capacity gravity flow storage barns with steeply sloping interior sidewalls is coming into widespread use at various process and transportation interfaces of both producers and users. Such storage facilities with their high-volume discharge capability provide many economies in loadout operations. The difficulties with sloping sidewall stability as a barrier to their construction has been virtually eliminated by the use of Reinforced Earth, a design and construction system which responds favourably to the technical and economical requirements of this method of storage.

Recently there have been many new developments in the field of coal handling and storage. These improvements have been brought about largely by the advent of the unit train, the construction of new mines with production potential of several million t/year and the requirements for abatement of environmental damage such as fugitive dust.

One of the innovations currently being incorporated into many mines is the slot or barn storage facility for live storage of large quantities of coal. Fig. 1 shows a cross-section through such a storage barn built using Reinforced Earth. Coal is loaded by an overhead stacking conveyor and is reclaimed by a conveyor running beneath the entire length of the barn. A roof protects the coal from moisture and

prevents fugitive dust. Such structures with capacities ranging from 22,000 to 100,000 t, have been constructed at mines and power plants.