



White Paper

Design and Application of REINFORCED EARTH Storage Slots

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The author reviews the properties of REINFORCED EARTH in the construction of storage slots and holes. Examples are given of the increasing use of these structures in the storage of coal and attention is drawn to the suitability of the technique in the storage of other materials as shown by recent constructions. Significant economic advantages are claimed over alternative techniques.

High-capacity, gravity-fed slot storage structures for coal, ores and other bulk commodities are finding increasing favor in the United States. Time and again, these bins have proven to have excellent operating characteristics and low labor, energy and equipment costs as compared with dead storage stockpiles.

The growing acceptance of slots, especially for coal storage is also due to the use of REINFORCED EARTH in building them. This technology has resolved the problems encountered with other construction methods, while significantly reducing the cost.

Slots are long narrow bunkers, usually barn-covered, with steeply sloping walls that form a V-shaped cross section. Built above or below grade these structures often have lengths of more than 200 m. Those constructed to date have storage capacities of up to 113,500 metric tons.

The material to be stored enters the slot by overhead traveling tripper, shuttle conveyor or traveling stacker and descends to a reclaim gallery at the notch of the "V". From there the material is discharged at rates in excess of 3,600 t/h. Rotary plows or vibratory feeders in the gallery help load the reclaim belt.