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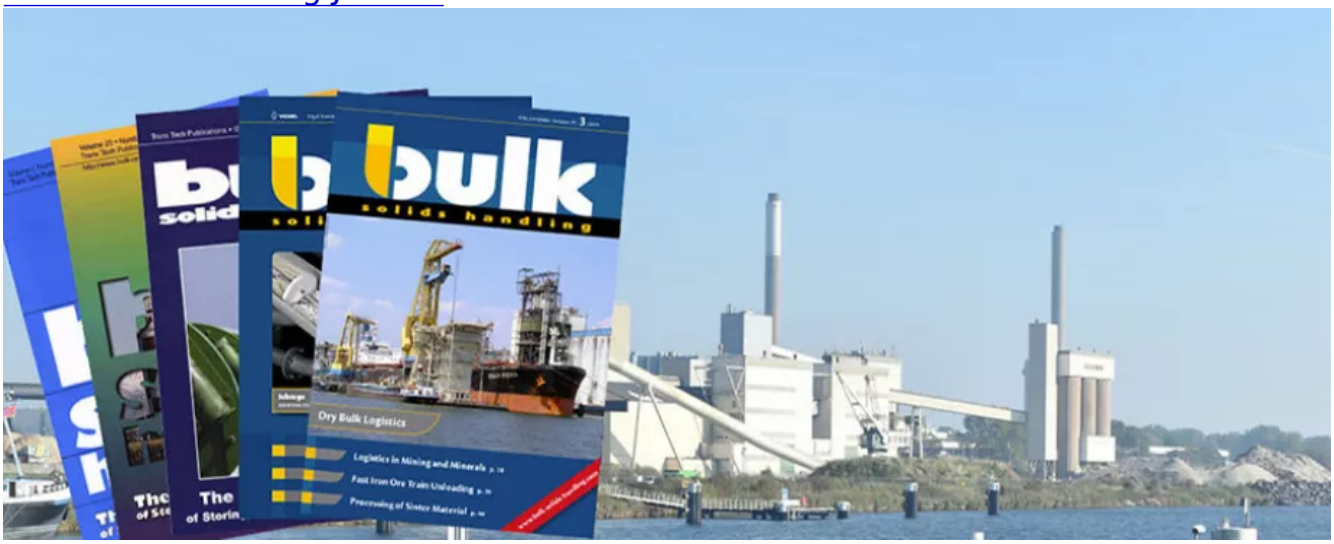

Fachartikel

Temporary Grain Storages for Commercial Applications

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For some years the Grain Elevators Board N.S.W. has been conducting extensive trails and economic analysis to determine the optimum type of temporary bulk grain storage structure for N.S.W. conditions. This paper presents some of the results of these investigations. Four types of storage structures are discussed: traditional 'A' frame type, PVC covered type, earth covered type and commercial butyl rubber type. Comparisons are made of the capital and operating cost per tonne, construction details, grain handling procedures and special features of each type of storage.

The initial result of the investigation indicate that the butyl rubber storage is uneconomic for the storage of large commercial quantities of grain and the 'A' frame storage is too vulnerable to storm damage and is unfavorable from a pest control point of view. both the PVC and earth covered storages are currently favored by Board but the PVC storage has generally lower operating costs and offers less risk of gain contamination by earth covering.

Most of Australia's bulk grain handling authorities have been forced to use temporary gain storages at one tome or other. Although highly unsatisfactory for many reasons, the need to use temporary facilities is caused by the wide fluctuations in grain production and varying amounts of carryover grain in the

system. This Compounded by desire of management to avoid over capitalization in permanent storages to handle the peaks in the demands on the system. Since the 1960s the Grain Elevators Board of N.S.W. (Board) has stored in excess of six million tonnes of wheat in temporary storage, but there have been seasons when the system was only partially utilised.

The economics of temporary storage usage has often been questioned and this led to an investigation of alternative structures and handling techniques. Only commercial quantities of grain (i.e. in excess of 10,000 tonne lots) have been considered and a detailed report of these investigations has been prepared [5].