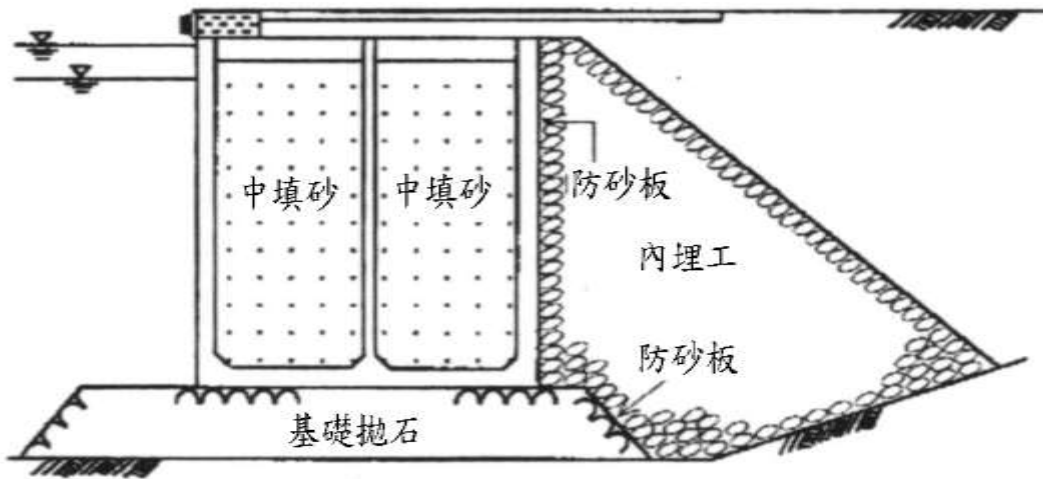
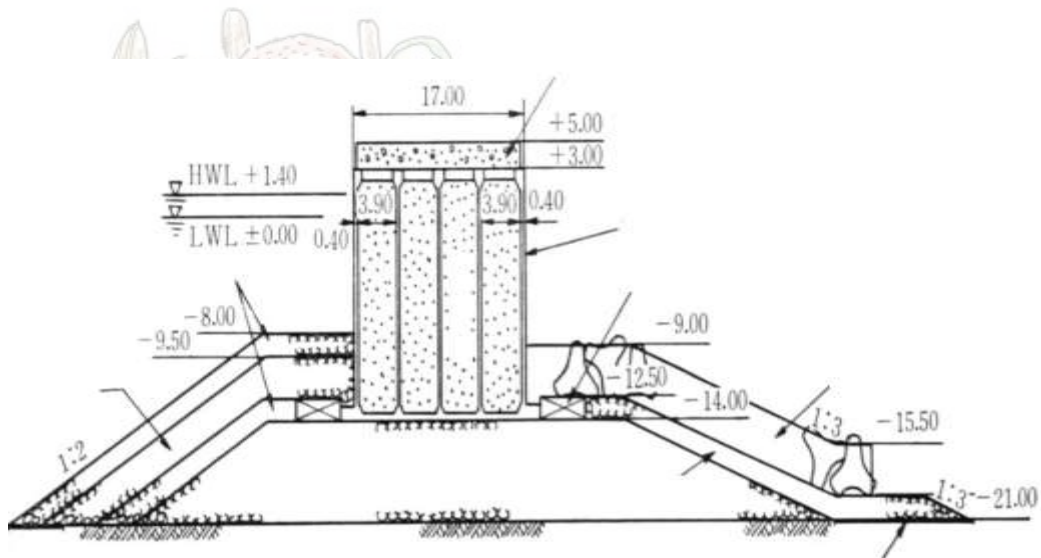


## 上部工

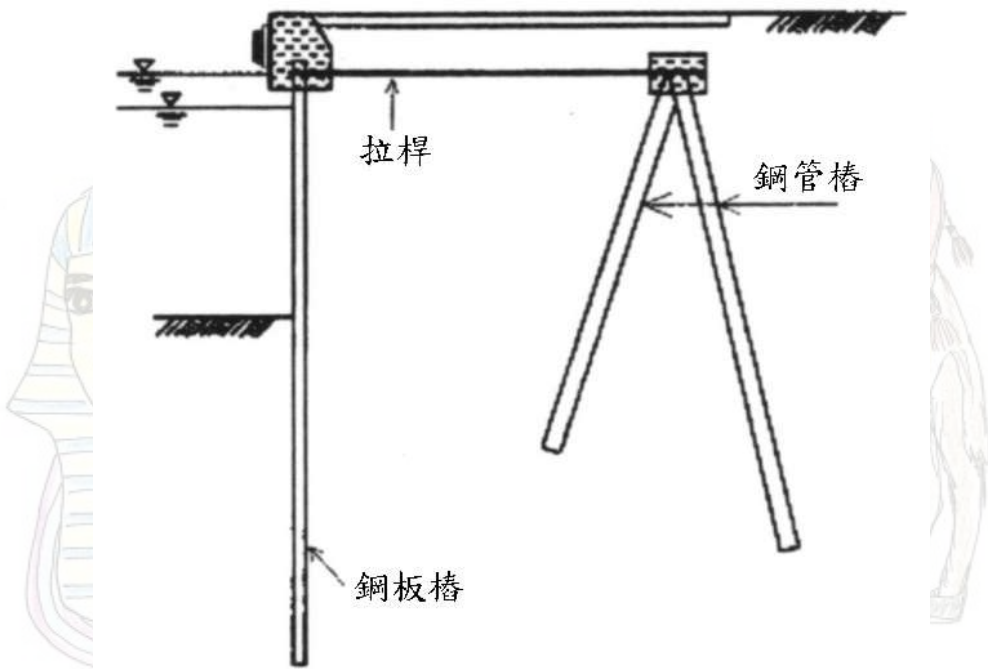
上部工依其結構型式可分成重力式、鋼板樁式、棧橋式、平版基樁式、筒式等結構物的場鑄式或預鑄式等。參考例如下：



20 重力式沉箱碼頭旅

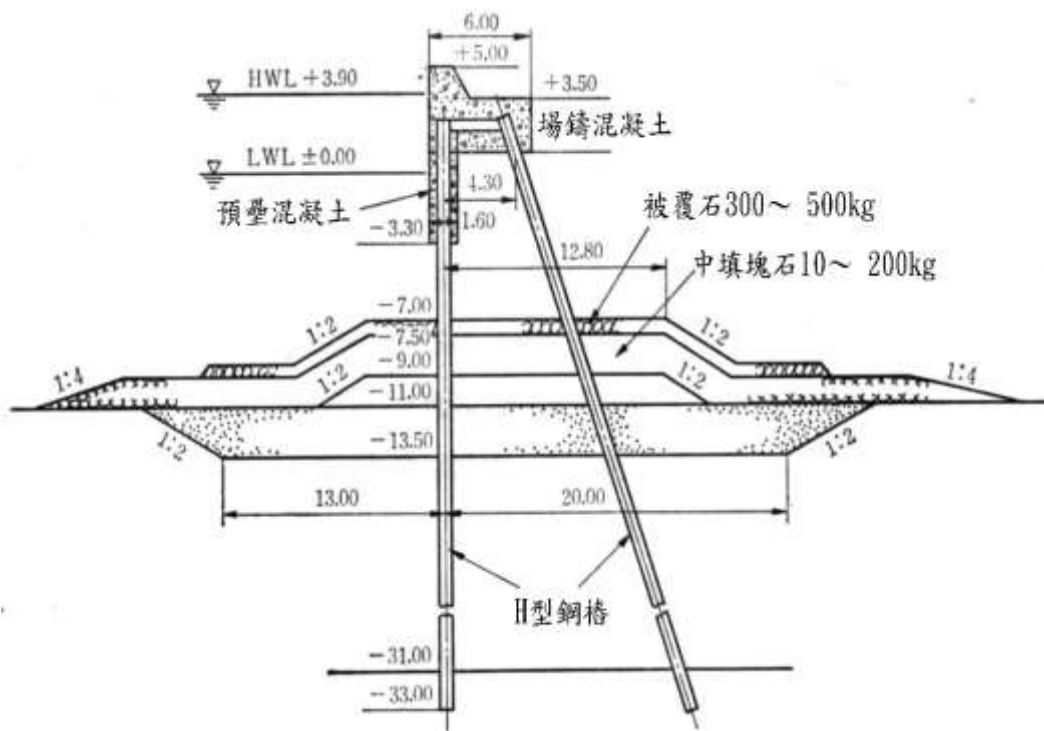


重力式沉箱防波堤

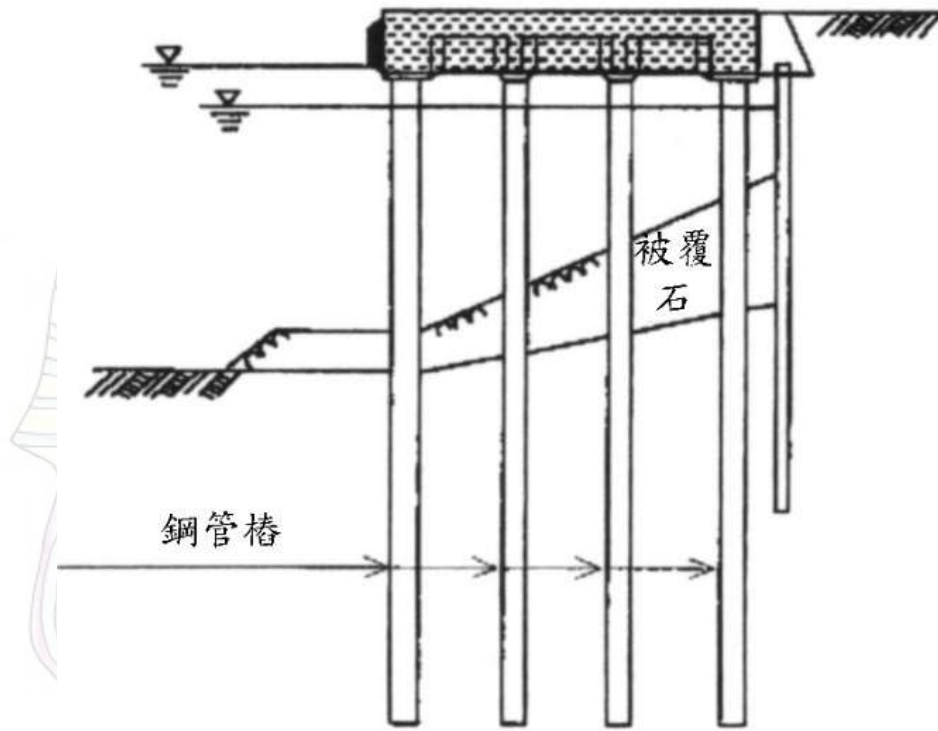


鋼板樁式碼頭

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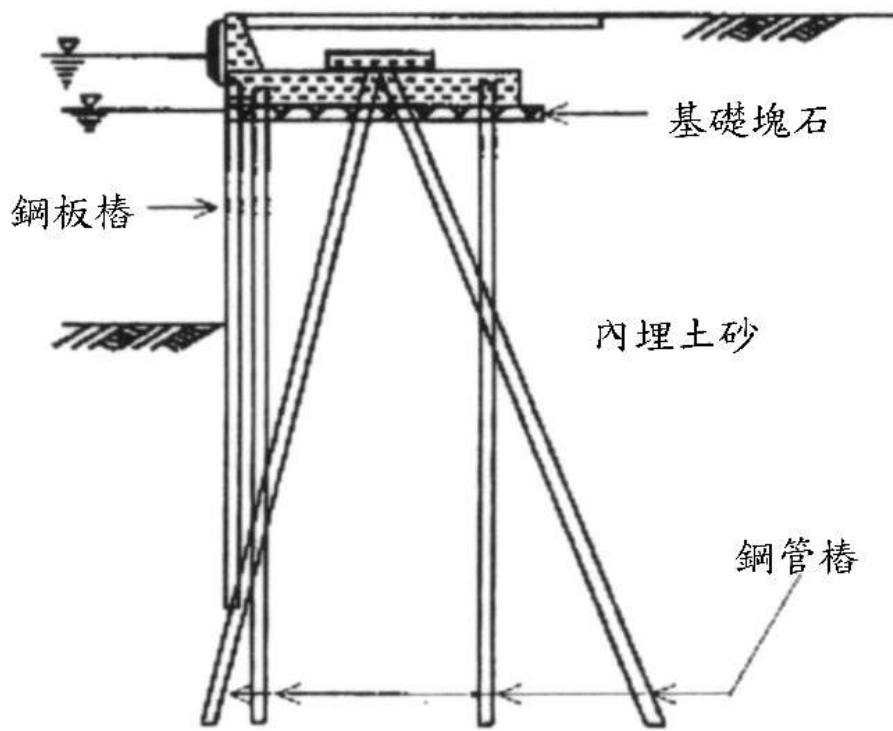


鋼樁帷幕式防波堤

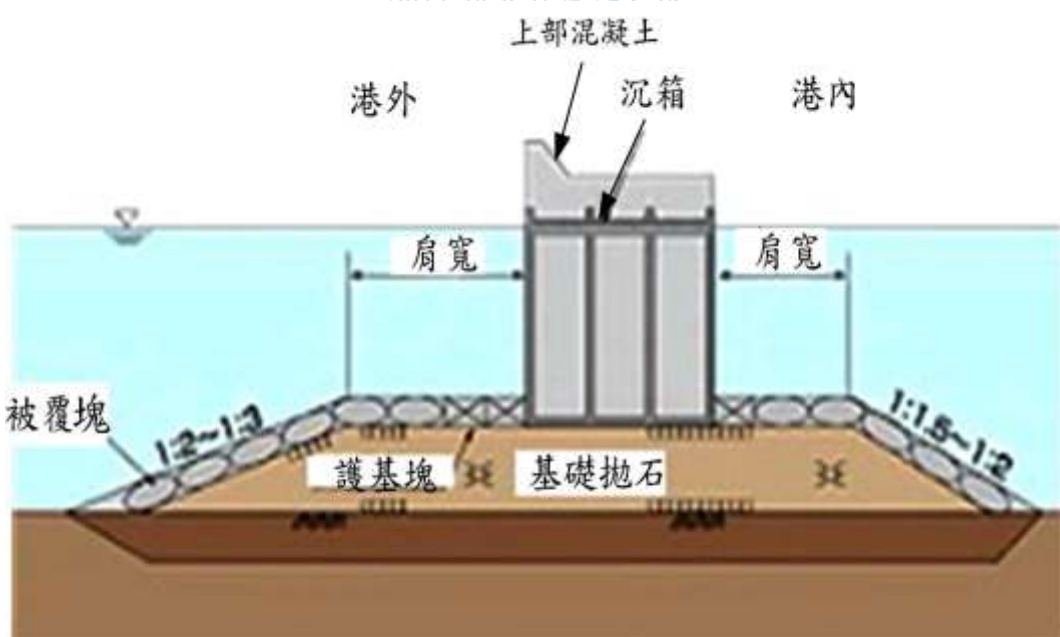
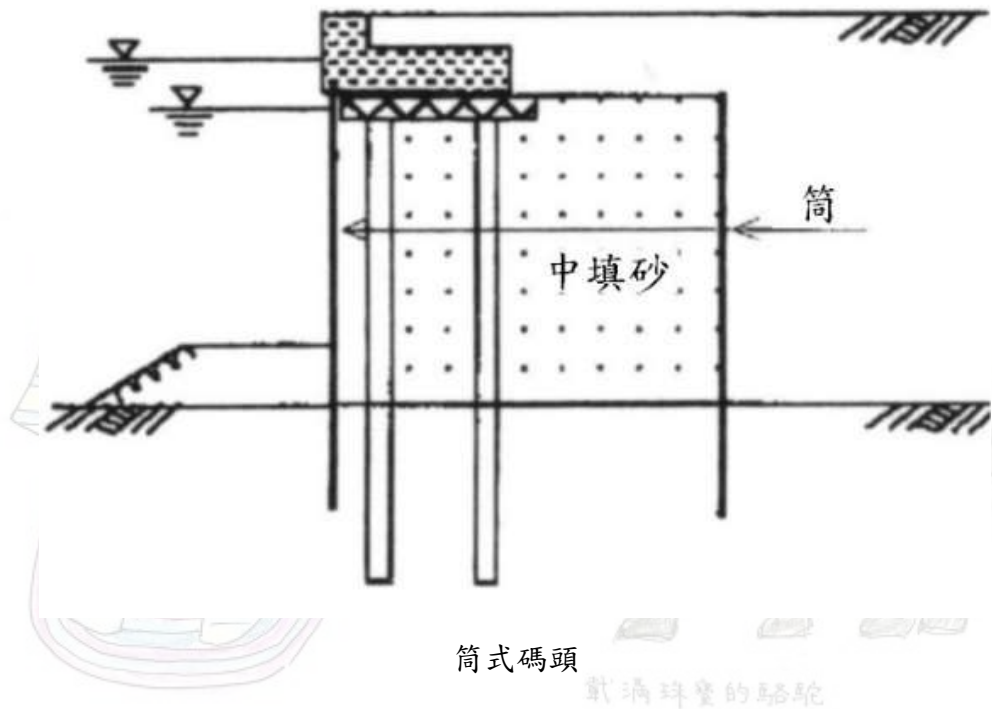


棧橋式碼頭

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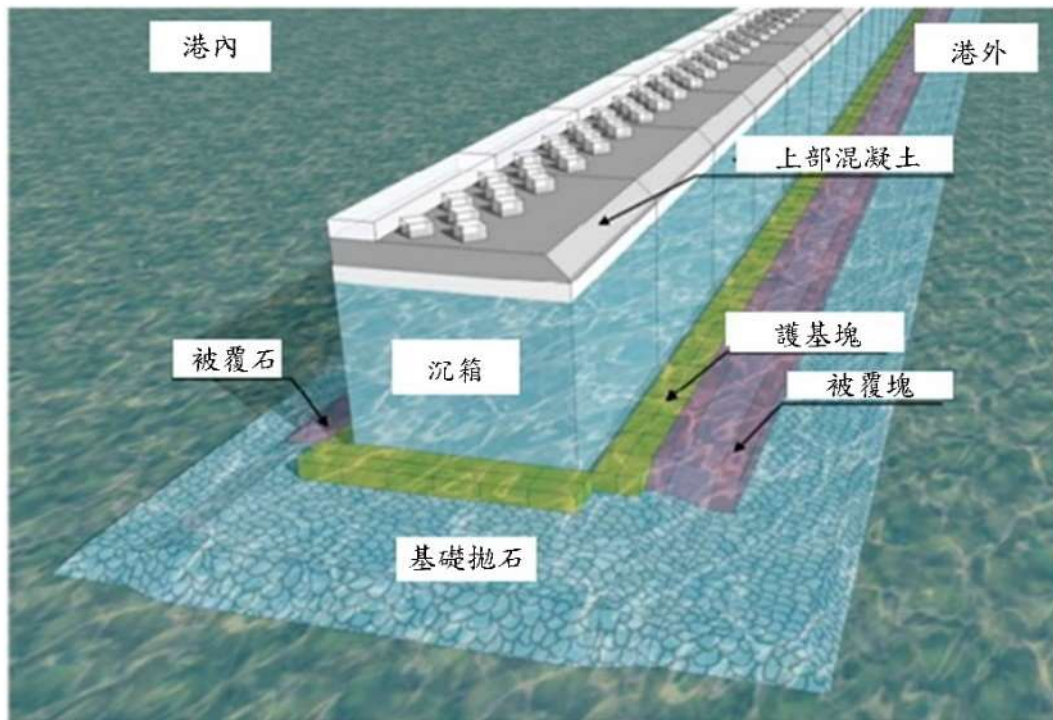


平版基樁式碼頭



摘譯自：<http://www.umeshunkyo.or.jp/108/prom/237/page.html>

防波堤上部工目的除抵抗波浪外，另一目的為減少越波，傳統防波堤如上圖，將胸牆設置於港外側，以提高堤身高度。近年來有如下圖將胸牆設置於港內側，並設置消波工以期減少越波。



摘譯自：<http://www.pa.thr.mlit.go.jp/akita/miyu/no006-burokkusetihen.html>

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回港灣工程施工



載滿貨品的驢子



阿拉丁神燈