

High Security Concrete Doors



Fig 1 shows the pumps, motors, valves and electrical panels of a newly constructed pump station. Wisely the owners (Joburg Water) specified high security doors (see fig 4) before the vandals could destroy the state-of-the-art equipment. The merits of three types of high-security doors are discussed below:



Fig 2 and Fig 3 : Platform door. Fig 2 shows an outside view of a high security 'platform' concrete door. Fig 3 is an inside view. The door has steel wheels that run on two rails, supported by a concrete floor. The door has a platform at its base that prevents the door from falling inwards.

Fig 4 : Swing door. Fig 4 shows an outside view of a high security 'swing' concrete door. Each leaf has two robust hinges that connect the leaves to a RC wall, or to RC columns as the case may be. Swing doors are useful when there is no concrete floor inside the pump station, only a light steel grid. So the weight transfer takes place via walls/columns and not the floor.



Fig 5 : Pull-out door. Fig 5 shows an outside view of two high security 'pull-out' concrete doors. The doors open by sliding outwards and away from the structure. To close, the doors slide towards the structure and stop when they are in the doorway – see far door in the picture. These doors require substantial RC slabs in front of the structure to support the door. This adds to the cost, but if there are obstacles such as pipes, plinths, valves, motors near to the entrances this may be the only option.



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