

Grande Dixence dam

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Grande Dixence Dam Grande Dixence Dam is the world's highest/tallest gravity dam. The dam has a base width of 200 meters and tapers to just 15 meters at the top. The dam has a wall height of 285 meters, which makes it the highest dam in the world. The length of the dam is 695 meters. On a yearly basis the Grande Dixence dam water storage capacity exceeds 400m³ (Russell 3). During its construction, a watertight foundation was achieved by having a grout curtain surround that extends about 200 meters deep. The construction of the dam began in the year 1951 and lasted for approximately 11 years – the construction of the dam ended in 1962. To complete the construction of the dam's wall about 6,000,000m³ of concrete was required (Berlow 67).

The construction of Grand Dixence dam involved four major construction stages. The first stage involved the erecting of 182 meters high wall, which is about 0.64 of the dam's full height. In the first stage about 1.85 million meters cubed of concrete was used, which is about 0.3 of dam's total concrete volume. During the construction process, to ensure sound forces transfer and interlinkage between concrete "... previous stage to the following, downstream face of the dam in the first, the second and third stages were completed step by step for which the surfaces of the vertical planes of the steps were provided with projections" (Landau & Mgaloblov 102). In all the four stages the construction process of the dam had to take into account any possibility of tensile stress occurrence due to "... partial filling of the reservoir on the stress strain state of the dam" (Landau and Mgaloblov 102). As such, the construction of the dam had to be executed stage-wise.

Work Cited

<https://assignbuster.com/grande-dixence-dam/>

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