

TECHNICAL CONDITIONS OF THE UNIQUE STRUCTURE OF INVERTED SIPHON – HISTORY & PRESENT

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Abstract

An inverted siphon is sometimes used to enable a watercourse to pass under an obstacle. Such solution is usually applied for irrigation and sewage canals, but it is rarely observed in the case of rivers. There are two such passages in Poland the bigger one is the Klodnica River siphon under the Gliwice Canal, commissioned in 1936. The first part of the paper presents the history of the Gliwice Canal and, simultaneously, of the Klodnica River siphon. The further part describes the structure of the siphon and its usage assumptions as well as the technical condition of the construction after nearly 80 years of operation, including inspection results concerning the underwater parts. The description is supplemented with results of chemical examinations. Basic repair recommendations are also provided.

Keywords: Inverted siphon; Watercourse crossing; Structural damage; Concrete; Corrosion; Long-term utilization.