IS : 9401 (Part II) - 1982
(Reaffirmed 1995)

Indian Standard

Reaffirmed 1989

METHOD OF MEASUREMENT OF WORKS IN RIVER VALLEY PROJECTS (DAMS AND APPURTENANT STRUCTURES)

PART II DEWATERING

UDC 69·003·12 : 627·83

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MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 1

October 1982

Indian Standard

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Indian Standard

METHOD OF MEASUREMENT OF WORKS IN RIVER VALLEY PROJECTS (DAMS AND APPURTENANT STRUCTURES)

PART II DEWATERING

0. FOREWORD

0.1 This Indian Standard (Part II) was adopted by the Indian Standards Institution on 27 May 1982, after the draft finalized by the Measurement of Works of River Valley Projects Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 In measurement of quantities in construction of river valley projects a large diversity of methods exist at present according to local practices. This lack of uniformity creates complication regarding measurements and payments. This standard is intended to provide a uniform basis for measurement of dewatering items in the construction of river valley projects.

0.3 In reporting the result of measurements made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS : 2-1960*.

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1. SCOPE

1.1 This standard (Part II) covers the method of measurement of dewatering works in river valley projects (dams and appurtenant structures).

2. GENERAL

2.1 In order to drain water out of the site of work and to maintain the site of work in a normally dry condition, where further activities of work can be taken up during the entire period of execution of the work, adequate measures are required to be taken.

*Rules for rounding off numerical values (*revised*).

2.2 There are various methods of dewatering such as bailing out, electro-osmosis, freezing, draining, pumping as also well point system, constructing diversion channels/drains, coffer dams, etc. The method of dewatering to be adopted shall have the approval of Engineer-in-Charge.

2.3 Dewatering has to be done with utmost care and caution so that there is no bailing, heaving up or displacement of materials below the foundation level of structure to be newly constructed or already constructed. Lowering of water table by dewatering shall be done gradually.

2.4 The free water surface of depressed water table shall not be less than 150 mm below the deepest subgrade level of the structure and 1 000 mm in case of fill placement in core trench.

2.5 Cost of all pumping, bailing out or any other works to dewater the foundation area during the entire period of execution of work including cost of all materials, labour, cost of machinery and equipments shall be included in dewatering.

3. METHODS OF MEASUREMENT

3.1 General

3.1.1 Dewatering may be included in the item of excavation or masonry or concrete work in foundation and in such a case measurement shall not be made separately for dewatering.

3.2 Dewatering by Means of Manual Labour

3.2.1 The unit of measurement shall be in mandays if the nature of work is small.

3.3 Dewatering by Means of Pumps

3.3.1 Dewatering by means of pumps may be by any one of the methods given below:

a) Electrical pumps,

b) Diesel pumps; and

c) Pneumatic pumps.

3.3.2 The unit of measurement in case of dewatering by electrical pumps shall be kilowatt hours (kwh).

3.3.3 The unit of measurement in case of dewatering by diesel pumps shall be horsepower hour.

3.3.4 The unit of measurement in case of dewatering by pneumatic pumps shall be cubic metre of air per hour (m^3/h).