

*Indian Standard*

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

**PART 10 FORMWORK**

**भारतीय मानक**

**नदी घाटी परियोजनाय्यों ( बाँध और अनुबध संरचनाएं ) में कार्यमापन की पद्धति**

**भाग १० फार्मवर्क**

UDC 627·81·057·5·003·12

© BIS 1990

**BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BHADUR SHAH ZAFAR MARG  
NEW DELHI 110002**

## Measurement of Works of River Valley Projects Sectional Committee, RVD 23

### FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 25 January 1990, after the draft finalized by the measurement of works of River Valley Projects Sectional committee.

In measurement of quantities, in construction of river valley projects a large diversity of methods exists 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 form-work in the construction of river valley projects.

The provisions contained in this standard shall generally have precedence over the provisions in IS 1200 (Part 5): 1982. However, the provisions of both the standards may be considered complimentary and supplementary to each other.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

## *Indian Standard*

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

### PART 10 FORMWORK

#### 1 SCOPE

**1.1** This standard ( Part 10 ) covers the method of measurement of formwork with particular reference to River Valley Projects, where it is required to be measured separately.

#### 2 REFERENCES

**2.1** The following Indian Standards are necessary adjuncts to this standard.

<i>IS No.</i>	<i>Title</i>
IS 1200 ( Part 5 ) : 1982	Method of measurement of building and civil engineering works; Part 5 Formwork ( <i>third revision</i> )

#### 3 GENERAL RULES

##### 3.1 Clubbing of Items

Items may be clubbed together provided these are on the basis of the detailed description of items stated in this standard.

##### 3.2 Booking of Dimensions

In booking dimensions the order shall be consistent and generally in the sequence of length, breadth/width and height/depth.

##### 3.3 Description of Items

The description of each item shall, unless stated otherwise, be held to include where necessary, transportation, handling, loading, unloading, storing, fabrication, hoisting, lowering, all labours for finishing to required shape, size and levels, striking and removal.

##### 3.4 Unit of Measurements

All works shall be measured net in decimal system, fixed in its place as given below:

- a) Dimensions to the nearest 0.01 m; and
- b) Areas to the nearest 0.01 m<sup>2</sup>.

##### 3.5 Bills of Quantities

The bills of quantities shall fully describe the materials and workmanship, and accurately represent the work to be executed.

#### 4 DESCRIPTION OF FORMWORK

**4.1** The formwork shall include the following:

- a) Splayed edges, notchings, allowance for overlaps, and passings at angles, sheathing battens, strutting, bolting, nailing, wedging, casing, striking and removal;
- b) All supports, struts, braces, wedges as well as mud sills, piles or other suitable arrangements to support the formwork;
- c) Bolts, wire ties, ropes clamps spreaders, nails or any other items to hold the sheathing together;
- d) Filletting to form chamfered edges;
- e) Dressing with oil or use of Mould Releasing Agent to prevent adhesion;
- f) Raking or circular cutting; and
- g) In the event of gangways/stairways become slippery, spreading of sand and cleaning or otherwise to remedy the defect.

#### 5 TYPE OF FORMWORK

**5.1** Formwork for different type of finished surface shall be classified as follows:

**FINISH F1** — Surface where roughness is not objectionable and which are not exposed in general or likely to be plastered subsequently. Form sheathing may be of any material.

**FINISH F2** — Surfaces permanently exposed to view but no special finish specified. Form material may be plywood, steel plate or thin steel lined wooden board.

**FINISH F3** — Surfaces which are exposed permanently and where appearance is of special importance, sheathing formed from tongue and groove boards or plywood sheets.

**FINISH F4** — Sheathing, having special lining or any other arrangement to

give accurate alignment and extra smooth evenness of surface.

FINISH F5 — Slipform shuttering.

## **6 METHOD OF MEASUREMENT**

**6.1** Formwork shall be measured separately for straight surfaces and curved surfaces.

**6.2** Formwork shall be measured in square metres of the actual surface in contact with concrete or any other material requiring formwork. Formwork to small features shall be enumerated. Formwork left in shall be so described.

**6.3** Where formwork is required to be lined with wall-board/hard board/polythene sheet/paper lining or to be coated with mould liquid or lime white, such formwork shall be as described and measured separately.

**6.4** Where lining of wall board, asbestos, cork slab and the like is of permanent character, and is to be left in permanently, such lining shall be measured separately and the description shall include all necessary fixing.

**6.5** No deductions shall be made for any opening less than 0.4 m<sup>2</sup>. No deductions shall, however, be made for any opening/cutouts when slipform technique is used.

### **Standard Mark**

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

## Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standard Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

### Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type of grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

### Revision of Indian Standards

Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent in BIS giving the following reference :

Doc : No. RVD 23 ( 4420 )

#### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

## BUREAU OF INDIAN STANDARDS

### Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002  
Telephone : 331 01 31, 331 13 75

Telegrams : Manaksanstha  
(Common to all Offices)

### Regional Offices :

	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110001	{ 331 01 31 331 13 75
Eastern : I/14, C.I.T. Scheme VII M, V.I.P. Road, Maniktola, CALCUTTA 700054	37 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	2 18 43
Southern : C.I.T. Campus, IV Cross Road, MADRAS 600113	41 29 16
Western : Manakalaya, E9 MIDC, Marol, Andheri ( East ) BOMBAY 400093	6 32 92 95

Branches : AHMADABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE.  
FARIDABAD. GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR.  
KANPUR. PATNA. THIRUVANANTHAPURAM.