

भारतीय मानक

शॉट क्रेटिंग गनाइटीकरण की प्रति इकाई दर के
विश्लेषण के लिए प्रपत्र

Indian Standard

PROFORMA FOR ANALYSIS OF UNIT RATE
OF SHOTCRETING/GUNITING USED IN
RIVER VALLEY PROJECTS

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

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Cost Analysis and Cost Estimates Sectional Committee had been approved by the River Valley Division Council.

Shotcreting and guniting are versatile construction techniques proven for several decades. They are used without shuttering for horizontal, vertical and overhead surfaces of free shape. Shotcreting and guniting are two of the elements of modern underground excavation.

Shotcreting and guniting are extensively used in river valley projects and as such it is essential that practices relating to their cost estimation are harmonious and uniform. This standard lays down a proforma for working out analysis of unit rate of guniting/shotcreting. This standard is one of a series of standards already published which lay down proformae for analysis of unit rate of concrete, masonry, cyclic drilling and blasting, earthwork, shuttering/formwork, rock excavation and embankment construction.

Indian Standard

PROFORMA FOR ANALYSIS OF UNIT RATE OF SHOTCRETING/GUNITING USED IN RIVER VALLEY PROJECTS

1 SCOPE

1.1 This standard lays down proforma for analysis of unit rate of guniting/shotcreting used in River Valley Projects.

*IS No.**Title*

11590
(Part 1) : 1986

Guidelines for working out unit cost of construction equipment used for river valley projects : Part 1 General

2 REFERENCES

The following Indian Standard is necessary adjunct to this standard.

2.1 The proforma recommended for use in analysis of unit rate of guniting/shotcreting is as given in Table 1. For evaluating unit rate of construction equipment reference should be made to IS 11590 (Part 1) : 1986.

Table 1 Proforma for Analysis of Unit Rates for Guniting/Shotcreting

Sl No.	Item	Unit	Qty.	Rate	Amount
I. EQUIPMENT					
1	Shotcreting machine	Hrs			
2	Compressed air	Hrs			
3	Batching and mixing plant	Hrs			
4	Mix conveying equipment	Hrs			
5	Water pump	Hrs			
6	Remote controlled spray (where applicable)	Hrs			
7	Mixing tanks and reciprocating pump for mixing of liquid additives (where applicable)	Hrs			
8	Labour	Man Hrs			
Total cost				C_E	
II. MATERIAL					
1	Cement	kg			
2	Fine aggregate	kg			
3	Coarse aggregate	kg			
4	Water	kg			
5	Additives	kg			
Total cost				C_M	
III. CURING					
1	Membrane	Lump sum			
2	Water	kg			
3	Labour	Man Hrs			
Total cost				C_C	
IV. OVERHEAD					
Proportional cost of the following:					
1	Water supply, lighting, sanitation and drainage				
2	Temporary construction				
3	Testing and supervision				
4	Carriage and freight of machinery				
5	Contingencies				
6	Hidden cost of labour				
Total cost				C_O	
V. ANALYSIS					
1	Total quantity of shotcrete = Q cum. (should include anticipated rebound and additional quantity beyond payline)				
2	Total cost = $C_E + C_M + C_C + C_O = C_T$ Rupees				
3	Cost per cum. of shotcrete = $\frac{C_T}{Q}$ Rupees				

NOTES

- 1 While comparing rates similarity of application of shotcrete, type, strength, etc are necessary.
- 2 Reinforcement mesh, if used, shall be evaluated separately alongwith materials and labour required for the same.

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BUREAU OF INDIAN STANDARDS

Headquarters:

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

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg
NEW DELHI 110002

Telephone

{ 331 01 31
331 13 75

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola
CALCUTTA 700054

{ 37 84 99, 37 85 61,
37 86 26, 37 85 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036

{ 53 38 43, 53 16 40,
53 23 84

Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113

{ 41 24 42, 41 25 19,
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BOMBAY 400093

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