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*Indian Standard*

# SPECIFICATION FOR AUTOCLAVED REINFORCED CELLULAR CONCRETE FLOOR AND ROOF SLABS

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

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# *Indian Standard*

# SPECIFICATION FOR AUTOCLAVED REINFORCED CELLULAR CONCRETE FLOOR AND ROOF SLABS

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# *Indian Standard*

# SPECIFICATION FOR AUTOCLAVED REINFORCED CELLULAR CONCRETE FLOOR AND ROOF SLABS

## 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 29 March 1971, after the draft finalized by the Cement and Concrete Sectional Committee had been approved by the Civil Engineering Division Council.

**0.2** A series of National Standards on the cellular concrete are being formulated, so as to provide standard products for the construction of buildings. Cellular concrete is a class of material, which has been developed commercially abroad and is in the process of development in this country also. The Cement and Concrete Sectional Committee considered it desirable to issue a standard for cellular concrete floor, roof and wall elements in order to guide both the manufacturers and users of these elements.

**0.3** In addition to the physical properties and other general requirements for the precast autoclaved reinforced cellular concrete floor and roof slabs, the specification gives structural requirements essential to ensure safe performance of slabs under flexural loading without specifying the detailed method of design. The Precast Concrete Subcommittee was of the opinion that the detailed method for the design of these members for the flexural strength is not within the scope of the specification, and moreover the acceptability of the design methods for such products whether based on elastic theory or on load factor method, has so far not been fully established even in countries having considerable experience in the manufacture and use of this type of concrete. As in any other precast concrete products, which are mass produced, the detailed design of the units is not in the hands of the user but is only in the hands of the manufacturer. Therefore, from the user's angle it would be more useful if the requirements ragarding the performance and loading coupled with acceptance tests are included in the specification. Some requirements in line with the above thinking have been stipulated in the standard in the first instance and the Sectional Committee proposes to review these requirements at a later date and also subsequently bring out in a separate standard, the recommended guide lines for the detailed design of such units.

**0.4** In the formulation of this standard due weightage has been given to international co-ordination among the standards and practices prevailing

in different countries in addition to relating it to the practices in the field in this country.

**0.5** 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*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

## 1. SCOPE

**1.1** This standard covers the requirements for autoclaved reinforced cellular concrete floor and roof slabs, having density above 450 and up to 1 000 kg/m$^3$.

## 2. TERMINOLOGY

**2.0** For the purpose of this standard, the following definitions shall apply.

**2.1 Autoclaved Cellular Concrete** — The material conforming to this specification and consisting of an inorgainc binder (such as lime or cement or both) in combination with a finely ground material containing silicon dioxide (such as sand), gas generating material (for example, aluminium powder), water and harmless additives (optional); and steam cured under high pressure in autoclaves.

**2.2 Design Load** — The permissible superimposed load (excluding the self weight of the slab) on the floor or roof under normal service conditions. For the floor slab the superimposed load will include the live load on floor and dead loads including flooring and ceiling finish, if any likely to be carried by the floor. For the roof slab the superimposed load will include the live load on the roof (including snow or rainwater load) and dead loads including roof and ceiling finish likely to be carried by the roof.

## 3. MATERIALS

**3.0** The major materials for the manufacture of autoclaved reinforced cellular concrete floor and roof slabs shall be as in **3.1** to **3.6**.

**3.1 Cement** — Cement shall conform to IS:269-1967† or IS:455-1967‡ or IS:1489-1967§.

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

†Specification for ordinary, rapid-hardening and low heat Portland cement (*second revision*).

‡Specification for Portland blastfurnace slag cement (*second revision*).

§Specification for Portland-pozzolana cement (*first revision*).

**3.2 Lime** — Lime shall satisfy the requirements for Class C lime specified in IS : 712-1964*.

**3.3 Sand** — Sand shall be finely ground siliceous sand conforming to the requirements of fine aggregates in IS : 383-1970† except for the grading.

**3.4 Fly Ash** — Fly ash shall conform to IS : 3812 (Part I)-1966‡ except that the loss on ignition shall not be more than 6 percent.

**3.5 Granulated Blastfurnace Slag** — Generally conforming to Notes 1 and 2 of **4.2** of IS : 455-1967§ may be used.

**3.6 Water** — Water shall conform to the requirements given in **4.3** of IS : 456-1964‖.

**3.7 Pigment** — The quality of pigment, if required for aesthetic puposes, shall be according to the requirements specified by the purchaser; alternatively the manufacturer shall declare to the purchaser the composition and quality of the pigment.

**3.8 Reinforcement** — Reinforcement shall be any of the following:

a) Plain mild steel bars conforming to Grade I of IS : 432 (Part I)-1966¶ or conforming to IS : 226-1969**.

b) Plain medium tensile steel bars conforming to IS : 432 (Part I)-1966¶,

c) Deformed mild steel or medium tensile steel bars conforming to IS : 1139-1966††,

d) Hard drawn steel wire conforming to IS : 432 (Part II)-1966‡‡, and

e) Welded wire fabric conforming to IS : 1566-1967§§.

**3.8.1** Spot welding may be adopted for keeping the reinforcement in position.

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*Specification for building limes (*revised*).

†Specification for coarse and fine aggregates from natural sources for concrete (*second revision*).

‡Specification for fly ash: Part I For use as pozzolana.

§Specification for Portland blastfurnace slag cement (*second revision*).

‖Code of practice for plain and reinforced concrete (*second revision*).

¶Specification for mild steel and medium tensile steel bars and hard-drawn steel wire for concrete reinforcement: Part I Mild steel and medium tensile steel bars (*second revision*).

**Specification for structural steel (standard quality) (*fourth revision*).

††Specification for hot rolled mild steel, medium tensile steel and high yield strength steel deformed bars for concrete reinforcement (*revised*).

‡‡Specification for mild steel and medium tensile steel bars and hand-drawn steel wire for concrete reinforcement: Part II Hard-drawn steel wire (*second revision*).

§§Specification for hard-drawn steel wire fabric for concrete reinforcement (*first revision*)

## 4. CLASSIFICATION AND DESIGNATION

**4.1 Classification** — Autoclaved reinforced cellular concrete roof and floor slabs shall be classified into the following five classes on the basis of their oven-dry density (without reinforcement) and the compressive strength (*see* **6.1**):

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Class A | Gross density | over | 850 | and | up | to | 1 000 kg/m³ |
| Class B | ,, | ,, | ,, 750 | ,, | ,, | ,, | 850 kg/m³ |
| Class C | ,, | ,, | ,, 650 | ,, | ,, | ,, | 750 kg/m³ |
| Class D | ,, | ,, | ,, 550 | ,, | ,, | ,, | 650 kg/m³ |
| Class E | ,, | ,, | ,, 450 | ,, | ,, | ,, | 550 kg/m³ |

**4.2 Designation** — The floor and roof slabs shall be designated by indicating the compressive strength in kgf/cm², the load bearing capacity (design load) in kgf/m² and the length (m), breadth (mm), and thickness (mm) respectively (for example, *see* **4.2.1** and **4.2.2**).

**4.2.1** *Floor Slab* — FS/70/230 × $l$ × $b$ × $t$ will mean a floor slab Class A with a compressive strength of 70 kgf/cm², gross density 850 to 1 000 kg/m³, load bearing capacity of 230 kgf/m², $l$ m long, $b$ mm wide and $t$ mm thick.

**4.2.2** *Roof Slab* — RS/50/110 × $l$ × $b$ × $t$ will mean a roof slab Class C with a compressive strength of 50 kgf/cm², gross density 650 to 750 kg/m³, load bearing capacity of 110 kgf/m², $l$ m long, $b$ mm wide and $t$ mm thick.

## 5. SIZES

**5.1** The dimensions of autoclaved reinforced cellular concrete floor and roof slabs shall be arrived at keeping in view the required load bearing capacity and the considerations relating to modular co-ordination. The preferred dimensions shall be as below (*see* Fig. 1):

| | | |
|---|---|---|
| a) | Length | 1 to 6 m |
| b) | Width | 600 mm |
| c) | Thickness | 75 to 250 mm with increments of 25 mm |

**5.1.1** Sizes other than those specified in **5.1** may also be used by mutual agreement between the purchaser and the supplier.

**5.2 Tolerances** — Tolerance for dimensions shall be the following:

| | | |
|---|---|---|
| a) | Below and up to 500 mm | ± 2 mm |
| b) | Over 500 mm | ± 5 mm |

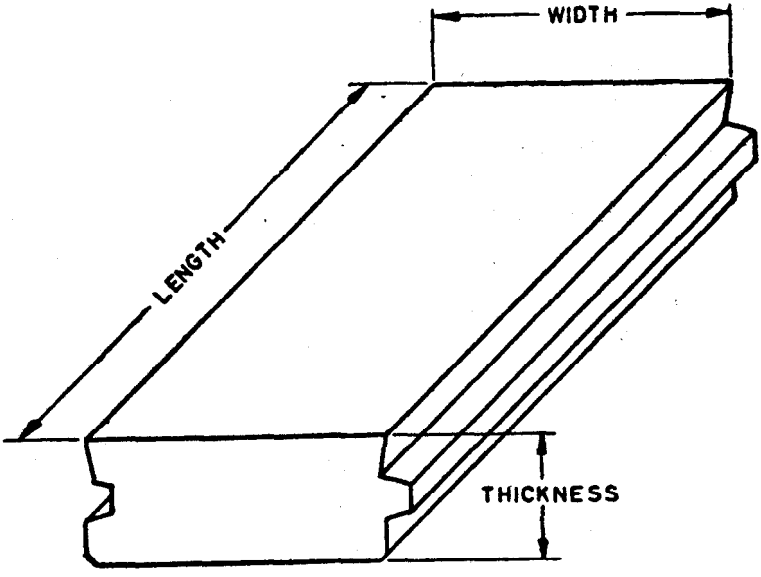


FIG. 1 ILLUSTRATING DIMENSIONS OF FLOOR AND ROOF SLABS

**5.3 Form Tolerances** — The form tolerances (*see* Fig. 2) for the floor and roof slabs shall be as in Table 1.

## 6. MANUFACTURE AND FINISH

**6.1 Reinforcement** — Reinforcement shall be located in the unit according to the design. The reinforcement shall be effectively protected against corrosion by suitable coating. The protective coating shall not be damaged during placing and casting, autoclavation and other manufacturing processes. The applied protective coating shall satisfy the requirements given in Indian Standard methods of test for autoclaved cellular concrete products (*under preparation*). In addition to protecting the reinforcement against corrosion, it shall be ensured that the cellular concrete cover to the steel shall not be less than that necessary to attain the required fire resistance grading and in any case not less than 10 mm.

NOTE — Until the standard under preparation is published, the matter shall be subject to agreement between the concerned parties.

**6.1.1** The main reinforcement shall be:

a) at least 3 bars for spans up to 2 m,
b) at least 4 bars for spans up to 5 m, and
c) at least 5 bars for spans longer than 5 m.

For wider spans, a correspondingly larger number of bars shall be placed.

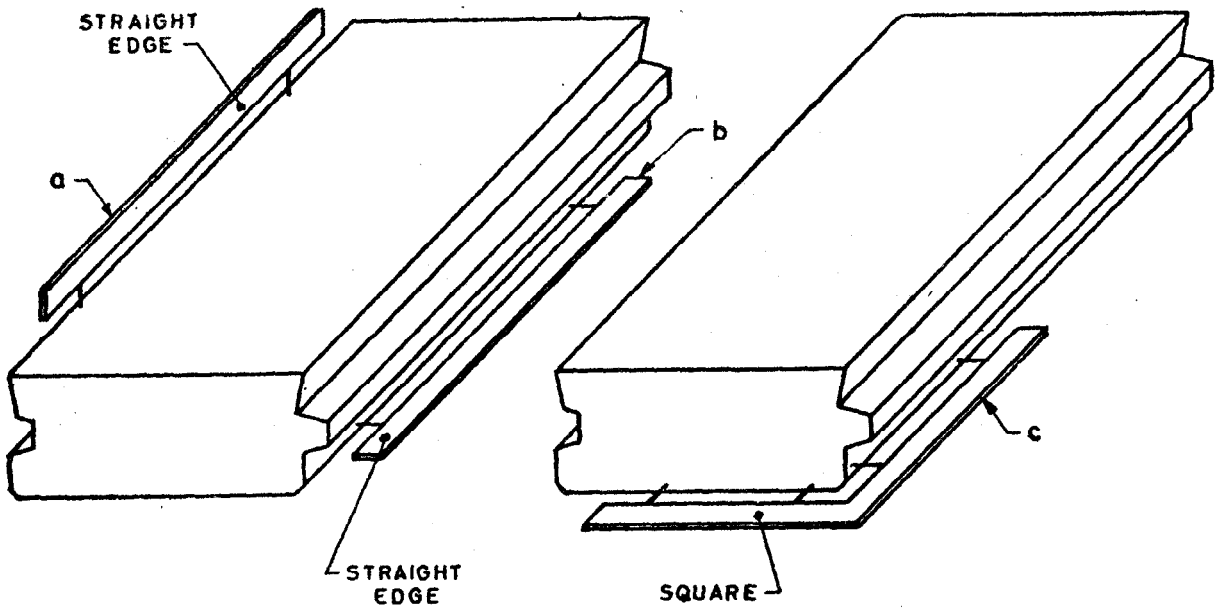


FIG. 2 ILLUSTRATING FORM TOLERANCES OF FLOOR AND ROOF SLABS

TABLE 1 FORM TOLERANCES FOR FLOOR AND ROOF SLABS

( *Clause* 5.3 )

| Sl No. | Details | Tolerance, mm | | | | |
|---|---|---|---|---|---|---|
| | | Distance Between Measuring Pins in (m) | | | | Entire Length |
| | | 0·25 | 1·0 | 2·0 | 0·5 | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| i) | Flatness: | | | | | |
| | Warp | ± 2 | ± 4 | ± 6 | — | — |
| | Torsion | — | — | — | — | Max 0·1 percent |
| ii) | Edge straightness ( does not apply to end edges ): | | | | | |
| | In a plane perpendicular to the plane of the unit ( *see* '*a*' of Fig. 2 ) | ± 1 | ± 2 | ± 3 | — | — |
| | In the plane of the unit ( *see* '*b*' of Fig. 2 ) | — | — | — | — | ± 3 |
| iii) | Squareness of angle between adjacent faces ( *see* '*c*' of Fig. 2 ) | — | — | — | ± 5 | — |

**6.1.2** The reniforcement of the tension and compression zones shall lie after the setting of the concrete in such a way that the concrete cover is at least 10 mm and the static effective height shall in no case fall short by more than 5 mm.

**6.2 Formation of Cells of Cellular Concrete** — The aerated structure or the cells of the cellular concrete slabs are formed by generation of a gas by chemical action with the mix prior to hardening with the aid of suitable chemical foaming agents and mixing devices. The cells in the slab shall be distributed evenly throughout its volume.

**6.2.1** *Method of Autoclaving* — After accurate proportioning, the raw materials, are mixed in a mechanical mixer to form a mass of uniform colour. Water and aluminium powder in accurately measured quantity are then mixed to the mix and the final mix is then poured into the moulds quickly. Due to chemical reaction between the binding material and water the mass over-grows over the edges and expands like a dough and simultaneously hardens. When the chemical reaction is completed as indicated by cessation of the growth phenomenon, the portion bulging out of the mould is cut off to obtain the block of the

desired size and shape. The mould is then introduced into the autoclave, where it is subjected to steam pressure of 7 kgf/cm$^2$ and temperature of about 185°C.

### 6.3 Finish

**6.3.1** The faces of the slabs shall be rectangular, opposite faces shall be parallel and all edges shall be straight. The angle between different faces shall be a right angle. The slabs shall be free from all defects liable to affect adversely their suitability for use.

**6.3.2** Each floor and roof slab shall be provided with tongue at one side and groove at the other side to match with the corresponding tongue and groove in the adjacent unit; alternatively the slab may have a groove at either side matching with the groove in the adjacent unit to permit easy filling with cement mortar, or some other suitable provisions may be made to allow for the transfer of force from unit to unit. The longitudinal edges of the bottom face of each slab shall be chamfered.

## 7. PHYSICAL PROPERTIES

**7.1** Autoclaved reinforced cellular concrete floor and roof slabs when tested in accordance with the 'Indian Standard methods of test for autoclaved cellular concrete products' (*under preparation*) for (a) to (d) and in accordance with IS:3809-1966* for (e) shall have the properties specified below:

a) Density of Element (Excluding Reinforcement) — It shall be in the range specified in **4.1**.

b) Drying Shrinkage — It shall be not more than 0·09 percent.

c) Residual Water Content at the Time of Delivery to the User — It shall be declared by the manufacturer.

d) Compressive Strength and Thermal Conductivity — They shall be as given in Table 2.

e) Fire Resistance — It shall be not less than two hours.

## 8. STRUCTURAL REQUIREMENTS

**8.1 Loading** — The slabs shall be designed for loading in accordance with IS:875-1964†; for the purpose of calculating dead load, the weights of the materials shall be taken as specified in IS:1911-1967‡. However, the dead load of the slab proper shall be assessed in accordance with densities specified in **4.1** plus the weight of reinforcement.

*Specification for fire resistance test of structures.
†Code of practice for structural safety of buildings: Loading standards (*revised*).
‡Schedule of unit weights of building materials (*first revision*).

TABLE 2 COMPRESSIVE STRENGTH AND THERMAL CONDUCTIVITY

[ *Clause* 7.1 (d) ]

| CLASS OF SLAB | COMPRESSIVE STRENGTH, *Min* ($kgf/cm^2$) | THERMAL CONDUCTIVITY IN AIR-DRY CONDITION, *Max* ( K cal/m/h/°C ) |
|---|---|---|
| (1) | (2) | (3) |
| Class A | 70 | 0·36 |
| Class B | 60 | 0·32 |
| Class C | 50 | 0·26 |
| Class D | 35 | 0·21 |
| Class E | 20 | 0·18 |

NOTE — The compressive strength shall be the average of three sample cubes tested and the lowest individual value shall not be less than 85 percent of the required average value.

**8.2 Design Load and Deflection** — The manufacturer shall indicate the design load ( *see* **2.2** ) for which the floor and roof slab has been designed. When tested in accordance with method given in Appendix A, the deflection of the slab under the design load and the self weight of the slab shall not be more than 1/300 of the effective span.

**8.3 Ultimate Load** — The manufacturer shall indicate the ultimate load for the floor and roof slab, which in any case shall not be less than the following:

Ultimate load = 1·5 × Design Dead Load + 2·2 Design Live Load.

**8.3.1** The ultimate load, when tested in accordance with the method given in Appendix A, shall neither be less than the value indicated in **8.3** nor less than the value indicated by the manufacturer.

## 9. STORAGE AND HANDLING

**9.1** Cellular concrete slabs shall be stock-piled on planks or other supports free from contact with the ground. The slabs of different densities and shapes shall be kept in separate stacks. The slabs shall be handled with care according to the instructions of the manufacturer and damaged slabs shall be rejected. Slabs shall not be cut without permission of the designer or engineer-in-charge. Such permission shall be granted, by designer or engineer-in-charge, after finding out the suitability of the slab for the intended purpose and, if necessary, in consultation with the manufacturer.

## 10. MARKING

**10.1** Each slab shall be clearly and permanently marked with the following information on the face not visible in actual use in the structure:

a) Manufacturer's name and or trade-mark, if any;
b) Year of manufacturer;
c) Designation;
d) The words 'Do not Cut'; and
e) The word 'Top' on the face of the slab.

**10.2** The manufacturer shall provide technical literature containing information on:

a) the design load and the deflection on design load,
b) the ultimate load,
c) residual water content on delivery,
d) the provisions for making holes,
e) the detailed storage and handling instructions (*see* Note), and
f) the thermal conductivity of different classes of products.

NOTE — Unsuitable storage and handing after delivery can cause permanent deformations in the slab, especially with regard to torsion and warp.

**10.2.1** Each slab may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI 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 ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## 11. COST OF TESTS AND MANUFACTURER'S CERTIFICATE

**11.1** The manufacturer shall arrange to maintain production control measures, so that the floor and roof slabs conform to the requirements of this specification and, if requested, shall supply a certificate to this effect to the purchaser or his representative.

**11.1.1** In case the slab does not possess the required load-carrying capacity in certain positions, the manufacturer shall mark the slab in a way, which makes clear in what position it should be handled, assembled and used. Slabs which have to be supported or lifted, at special points, during storage or in handling, shall be furnished with necessary markings. Slabs intended for special hole-making shall be marked as to where the holes may be made.

**11.2** If the purchaser or his representative requires independent tests, the samples shall be taken before or immediately after delivery, at the option of the purchaser or his representative and the tests shall be carried out in accordance with this specification.

**11.3** The manufacturer shall supply free of charge the slabs required for testing.

**11.4** Unless otherwise specified in the enquiry or order, the cost of the test shall be borne as follows:

a) By the manufacturer in the event of the results showing that the slabs do not conform to this specification, or

b) By the purchaser in the event of the results showing that the slabs conform to this specification.

## 12. SAMPLING AND CRITERIA FOR CONFORMITY

**12.1** Unless otherwise agreed to between the purchaser and the supplier the method of drawing representative samples of the slabs and the criteria for conformity shall be as given in **12.2** to **12.5.2**.

**12.2 Lot** — In any consignment, all slabs of the same class (*see* **4.1**) and size and from the same batch of manufacture shall be grouped together into a minimum number of groups of 500 slabs or part thereof. Each such group shall constitute a lot.

**12.3** From each lot a sample of ten slabs shall be selected at random. In order to ensure randomness of selection all the slabs in the lot may be arranged in a serial order. Starting from any random slab, every $r$th slab may be selected till ten slabs are included in the sample, $r$ being the integral part of $N/10$, where $N$ is the lot size.

### 12.4 Number of Tests

**12.4.1** All the ten slabs shall be checked for dimensions and inspected for visual defects.

**12.4.2** Out of the ten slabs, two slabs shall be subjected to the test for design load deflection and cracking load test, the sample from these two slabs after the design load deflection and ultimate load test shall be tested for compressive strength (two samples), density (two samples), drying shrinkage (two samples) and residual water content (one sample). One slab shall be subjected to test for thermal conductivity.

**12.5 Criteria for Conformity** — The lot shall be considered as conforming to requirements of the specification if the conditions mentioned in **12.5.1** and **12.5.2** are satisfied.

**12.5.1** *Dimensions and Visual Defects* — The number of slabs with dimensions outside the tolerance limit and/or with visual defects, among ten slabs inspected shall be not more than one. If the number of such slabs

exceeds one, all slabs in the lot shall be tested for these requirements and those not satisfying the requirements shall be rejected.

**12.5.2** *Other Tests* — All the samples tested for other tests shall satisfy the requirements of the concerned test. If one or more samples fail, twice the number of samples originally tested shall be selected from the concerned lot, and subjected to the test. If there is no failure among these samples, the lot shall be considered to have satisfied the requirments of this test.

# APPENDIX A

( *Clause* 8.2 *and* 8.3.1 )

## DEFLECTION AND ULTIMATE LOAD TEST FOR AUTOCLAVED REINFORCED CELLULAR CONCRETE FLOOR AND ROOF SLABS

### A-1. SELECTION

**A-1.1** The sample shall be selected in accordance with **12.**

**A-1.2** The sample at the time of testing shall have residual water content as indicated in **7.1** (c), but it shall not be less than 10 percent by weight.

### A-2. DEFLECTION

**A-2.1** The slab shall be placed on two supports, the centre-to-centre distance between the supports (called effective span) being equal to the effective span used in the calculations and as indicated by the manufacturer.

**A-2.2** The slab shall be loaded for half an hour with half the design load; this load being applied through two individual weights at the outside quarter points of the effective span.

**A-2.3** After half an hour without removing the load applied in **A-2.2**, the balance half of the full design load is applied through the quarter points of the span.

**A-2.4** The total design load shall be kept in position for half an hour after which the sample shall be examined for any cracking and maximum

deflection at mix-span of the slab for the full load ( design imposed load + self weight of slab ) shall be measured.

**A-2.5** If the sample has cracked or if the maximum measured deflection is more than 1/300 of the effective span, the sample shall be considered to have failed the test.

## A-3. ULTIMATE LOAD

**A-3.1** Unless cracks have occurred under the design load, the sample as loaded in **A-2.4** shall be loaded further in suitable increments of load till the slab fails. The total load at failure shall be considered as the ultimate load.

( *Continued from page* 2 )

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| SHRI A. RAMAKRISHNA ( *Alternate* ) | |
| SHRI K. K. NAMBIAR | In personal capacity ( *'Ramanalaya', 11 First Crescent Park Road, Gandhinagar, Adyar, Madras 20* ) |
| SHRI RADHEY SHIAM | Engineer-in-Chief's Branch, Army Headquarters |
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| SHRI R. A. DESHMUKH ( *Alternate* ) | |
| SHRI G. B. SINGH | Hindustan Housing Factory Ltd, New Delhi |
| SHRI C. N. SRINIVASAN | C. R. Narayana Rao, Madras |
| SHRI C. N. RAGHAVENDRAN ( *Alternate* ) | |
| SURVEYOR OF WORKS I | Central Public Works Department |
| SHRI C. A. TANEJA | Central Building Research Institute ( CSIR ), Roorkee |
| SHRI B. K. JINDAL ( *Alternate* ) | |
| DR H. C. VISVESVARAYA | Cement Research Institute of India, New Delhi |

# INTERNATIONAL SYSTEM OF UNITS ( SI UNITS )

**Base Units**

| *Quantity* | *Unit* | *Symbol* |
|---|---|---|
| Length | metre | m |
| Mass | kilogram | kg |
| Time | second | s |
| Electric current | ampere | A |
| Thermodynamic temperature | kelvin | K |
| Luminous intensity | candela | cd |
| Amount of substance | mole | mol |

**Supplementary Units**

| *Quantity* | *Unit* | *Symbol* |
|---|---|---|
| Plane angle | radian | rad |
| Solid angle | steradian | sr |

**Derived Units**

| *Quantity* | *Unit* | *Symbol* | *Conversion* |
|---|---|---|---|
| Force | newton | N | 1 N = 1 kg. 1 $m/s^2$ |
| Energy | joule | J | 1 J = 1 N.m |
| Power | watt | W | 1 W = 1 J/s |
| Flux | weber | Wb | 1 Wb = 1 V.s |
| Flux density | tesla | T | 1 T = 1 $Wb/m^2$ |
| Frequency | hertz | Hz | 1 Hz = 1 c/s ( $s^{-1}$ ) |
| Electric conductance | siemens | S | 1 S = 1 A/V. |
| Pressure, stress | pascal | Pa | 1 Pa = 1 $N/m^2$ |


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AMENDMENT NO. 1 APRIL 1981

TO

# IS:6073-1971 SPECIFICATION FOR AUTOCLAVED REINFORCED CELLULAR CONCRETE FLOOR AND ROOF SLABS

## Alterations

(*Page 10, clause 7.1*) - Substitute the following for the existing clause:

'7.1 Autoclaved reinforced cellular concrete floor and roof slabs shall have the properties specified below:

a) *Density of Element (Excluding Reinforcement)* - It shall be in the range specified in 4.1.

b) *Drying Shrinkage* - It shall be not more than 0.09 percent.

c) *Residual Water Content at the Time of Delivery to the User* - It shall be declared by the manufacturer.

d) *Compressive Strength and Thermal Conductivity* - They shall be as given in Table 2.

e) *Fire Resistance* - It shall be not less than two hours.

NOTE - Test for thermal conductivity shall be in accordance with IS:3346-1966 Method for the determination of thermal conductivity of thermal insulation materials (two slab, guarded hot-plate method), test for fire resistance in accordance with IS:3809-1966 Specification for fire resistance test of structures and tests for other properties in accordance with IS:6441(Parts I to IX) Methods of tests for autoclaved cellular concrete products: (Parts I to IX) as appropriate'.

(*Page 10, foot-note with '*' mark*) - Delete.

(BDC 2)

Reprography Unit, ISI, New Delhi, India