

BUREAU OF INDIAN STANDARDS**MINUTES**

Panel for Building Materials, CED 46:P3 : Fifth Meeting

Tuesday, 12 March 2024 : 1145 h - 1300 h

**Chintan (Bronze Room), Bureau of Indian Standards, Manak Bhavan,
9 Bahadur Shah Zafar Marg, New Delhi 110 002**

Convener: Dr Shailesh Kumar Agrawal

Member Secretary: Shri Arunkumar S., Head(NBC Cell)

NBC Officer : Shri Shubham Chaudhary

Members Present Physically:

1)	Shri Praveen Kumar Rai	L&T Construction, Chennai
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Members Present Virtually:

1)	Dr Neeraj Jain	CSIR - Central Building Research Institute, Roorkee
2)	Shri Dinesh K. Ujjainia	Central Public Works Department, New Delhi
3)	Shri Narender Kumar Goel	Delhi Development Authority, New Delhi
4)	Shri Deepak Bansal	Housing and Urban Development Corporation Limited, New Delhi
5)	Prof Rupen Goswami	Indian Institute of Technology Madras, Chennai
6)	Smt Indu Siva Ranjani Gandhi	Indian Institute of Technology Guwahati, Guwahati
7)	Shri Manish Gupta	Military Engineer Services, E-in-C's Branch, New Delhi
8)	Shri Sunil Kumar Pandey	NBCC (India) Limited, New Delhi
9)	Shri Sachin Kaushik	NBCC (India) Limited, New Delhi
10)	Dr. L. P. Singh	National Council for Cement and Building Materials, Ballabgarh
11)	Shri P. N. Ojha	National Council for Cement and Building Materials, Ballabgarh
12)	Prof Venu Shree	The Indian Institute of Architects, New Delhi
13)	Shri K. K. Asthana	The Indian Institute of Architects, New Delhi
14)	Dr Binu Sukumar	The Institution of Engineers (India), Kolkata
15)	Dr A Hemamathi	The Institution of Engineers (India), Kolkata

From BIS :

Shri Abhishek Pal, Scientist 'D' (Civil Engg)
Shri Abhishek Sharma, Scientist 'B' (Civil Engg)

Item 0 OPENING REMARKS

0.1 DDG (Stdzn-II), Shri Sanjay Pant, graciously welcomed Dr Shailesh Kumar Agrawal, Executive Director of the Building Materials and Technology Promotion Council, as the new Convener of this distinguished Panel who brings with him a wealth of experience in steering the entirety of the nation's building housing sector amidst the global housing technology challenge.

Throughout the aforementioned technology challenge, numerous pioneering housing technologies have been identified, holding immense potential to expedite the construction process significantly in the country. Shri Pant envisaged that these cutting-edge construction technologies could be integrated into the National Building Code appropriately.

In conclusion, Shri Pant earnestly appealed to the esteemed members of the Panel to actively engage in this pivotal undertaking of revising the National Building Code of India, with the aim of ensuring that the revised iteration of the Code is brought to fruition by the culmination of the year 2025.

0.2 The Convener, Dr Shailesh Kumar Agrawal, cordially welcomed the esteemed members to the fifth meeting of the Panel for Building Materials, CED 46:P3. Dr Agrawal conveyed his sincere thanks to the National Building Code Sectional Committee, CED 46, for entrusting the responsibility of revising the chapter of the Code pertinent to this Panel unto his stewardship. Moreover, he acknowledged and commended the inclusion of youthful members within the Panel's membership roster.

Furthermore, he articulated the necessity of incorporating enabling provisions within the Code to facilitate the integration of innovative and sustainable materials, thereby propelling them into mainstream usage. He shared the progress in the Housing for All mission, namely Pradhan Mantri Awas Yojna (Urban). He underscored the pivotal role of the construction sector in resource consumption and environmental impact, emphasizing the imperative of infusing sustainability within it. This imperative stems from our nation's commitment to achieve carbon neutrality by 2070 and to curtail greenhouse gas emissions by 45 percent by 2030.

Dr Agrawal explained the intricacies of the aforementioned mission, particularly highlighting its objectives concerning the provision of guidance to state governments and other pertinent agencies engaged in the construction industry. This guidance is intended to promote the utilization of sustainable building materials, construction technologies, and enhance energy efficiency. A noteworthy component of this initiative is the organization of a Global Housing Technology Challenge in 2019, aimed at introducing novel construction systems tailored for the effective transfer of various loads from buildings to their foundations and subsequently to the soil.

The Convener additionally apprised the Panel of the timeline delineated by the Chairman of the NBC Sectional Committee and the management of the Bureau of Indian Standards (BIS) for completion of the revision work by 2025. Accordingly, it was highlighted that by the culmination of the current year, the wide circulation of the draft is to be accomplished.

The Convener further extended commendation to the Bureau of Indian Standards (BIS) for the Working Draft, which was disseminated to the members in March 2024. He earnestly implored the members to diligently submit their comments on the draft, facilitating its meticulous review by the panel for potential incorporation into the Code.

With these words, the Convener suggested to take up the Agenda item-wise.

Item 1 CONFIRMATION OF MINUTES OF THE LAST MEETING

1.1 There being no comments, the Panel confirmed the Minutes of the last (fourth) meeting of the Panel held on 08 October 2015 in New Delhi, as circulated vide BIS DG letter No. CED 46:P3/A-2.4 dated 15 January 2016.

Item 2 COMPOSITION

2.1 The Panel noted its existing composition as given at Annex 1 to the Agenda. The Panel thereafter reviewed the same and decided/noted as below:

- a) It was noted that Military Engineer Services would henceforth be represented by Smt S. Gayatri Mukherjee, Dir (Arch), Engineer-in-Chief's Branch and Shri Manish Gupta, Deputy Dir (Arch), Engineer-in-Chief's Branch as their Principal and Alternate Member respectively.
- b) In view of retirement of Shri M. K. Gupta, it was decided to write to HoD of Inter-University Accelerator Centre, New Delhi for sending revised nominations.
- c) It was decided to co-opt M/s Hindalco Industries Ltd, Mumbai on the basis of their request and their manufacturing abilities in aluminium, copper and fenestration.
- d) It was decided to co-opt Shri. R. L. Dinesh, Tata Consulting Engineers, Mumbai on the Panel, as he is involved in revision work of IS 875(Part 1).
- e) It was decided to co-opt Builders' Association of India on the Panel.
- f) It was decided to give 15 days to the following organizations for sending fresh nominations to BIS through email at ced46@bis.gov.in:
 1. Construction Chemicals Manufacturers' Association, Navi Mumbai
 2. Directorate General Border Roads, New Delhi
 3. DLF Limited, Gurgaon

Item 3 PROJECT OF REVISION OF NBC

3.1 The Panel noted the information regarding the comprehensive exercise of revision of NBC 2016, being executed by the 22 Panels to bring updates to the various Parts/Sections of NBC 2016 (as at Annex 2 of the agenda), to bring out most modern and state-of-the-art revision of the Code.

3.2 The Panel noted the existing chapter covering Building Materials that is, Part 5 of NBC 2016 and its contents as given in Annex 3 to the Agenda.

3.2.1 The Panel noted that the ongoing revision of the National Building Code (NBC) of India is a comprehensive and interconnected effort involving thirty-three chapters. The endeavour encompasses various facets of building regulations, with a special emphasis on Part 5 'Building Materials'. The revision process recognizes the interrelated nature of different chapters, particularly the Fire and Life Safety chapter, which addresses fire protection requirements apart from the sustainability aspects in Part 11 of the Code. In this context, the Panel agreed that such interconnection underscores the importance of a thorough and holistic approach to the revision.

3.2.2 The approach emphasizes a methodical and consensus-driven methodology, leveraging the collective expertise of panel members. Therefore, the Panel noted that written suggestions and structured inputs/reviews from all the member organizations will be essential. Based on the discussions during the meeting, the following were noted/decided to be suitably included in the revision:

- **Sustainability-** Significant emphasis will be placed on integrating sustainable practices across the entirety of the building material lifecycle, alongside the incorporation of specific and credible measures to ascertain the green/sustainable credentials of materials.
- **3D Printing-** The integration of 3D printing technology within construction will be addressed comprehensively, accompanied by the delineation of specific guidelines.
- **Alternate Technologies-** Detailed stipulations will be formulated to delineate requirements for alternative building methodologies.
- **Recycled Materials-** Encouragement of the utilization of recycled materials within construction will be facilitated.

To the suggestion to indicate an abbreviation whether the Standard listed is a product specification or a test method, it was clarified that the title of the Standard inherently covers this aspect.

Furthermore, it was underscored about the importance of ensuring coherence within the provisions outlined in Part 11, 'Approach to Sustainability,' of the National Building Code, in particular.

3.3 It was resolved to formally transmit the comments provided by Dr Indu Siva Ranjani Gandhi, IIT Guwahati on the Working Draft to the pertinent technical committees. This course of action was determined due to the nature of Part 5 of

NBC, which primarily consists of listing the Indian Standards on related product specifications and their test methods. As the substance of the referenced Indian Standards is subject to formulation by the respective technical committees, it was deemed necessary to direct Dr Gandhi's comments to the appropriate entities for their consideration and potential incorporation. Comments pertaining to any other Part of NBC were decided to be referred to the respective Panel for their consideration (including the one on Flat Jack test).

3.3.1 It was additionally decided to allocate a period of three weeks to all panel members for the submission of their inputs, comments, and suggestions on the working draft of Part 5 of the National Building Code. Furthermore, an Expert Group, comprising the following members, was constituted to review the forthcoming inputs and formulate the requisite modifications or amendments to the existing chapter of the Code:

S. No.	Name of Organization	Name of Member	Mobile	Email
1	Central Public Works Department, New Delhi	Shri Dinesh K. Ujjainia	9836191117	delsetascsq.cpwd@nic.in
2	CSIR - Central Building Research Institute, Roorkee	Dr Neeraj Jain	9897659639	neerajest@rediffmail.com
3	National Council for Cement and Building Materials, Ballabgarh	Shri P. N. Ojha	9871155118	pnojhaji@gmail.com
4	Indian Institute of Technology Madras, Chennai	Prof Amlan K. Sengupta	9884244823	amlan@iitm.ac.in
5	Larsen & Toubro Ltd, Chennai	Shri Praveen Kumar Rai	9953979547	RAI-PRAVEEN@LNTECC.COM
6	The Indian Institute of Architects, New Delhi	Prof Venu Shree	8894173287	venushree80@gmail.com
7	Builders' Association of India, Mumbai	Representative		
8	Military Engineer Services, New	Smt Gayatri Mukherjee	01123019920	itdgarch1-mes@nic.in

	Delhi			
9	AEON Design & Development, Noida	Ms Sheetal Rakheja	9811078659	sheetal.rakheja@aeonstudio.in

Item 4 COMMENTS RECEIVED ON / INPUTS RELATED TO PART 5 'BUILDING MATERIALS' OF SP7 : 2016

4.1 The Panel noted that there were no formal comments on this Part of the Code.

Item 5 DATE & PLACE OF THE NEXT MEETING

5.1 It was decided to convene the subsequent meeting of the Panel in May 2024, subsequent to the comprehensive scrutiny and formulation of modifications or changes by the Expert Group to consider the inputs from the Expert Group for improving the draft of Part 5 of the Code.

Item 6 ANY OTHER BUSINESS

6.1 The BIS Secretariat and the Panel members complimented the Convener, Dr Shailesh Kumar Agrawal for excellently conducting the meeting and providing leadership in the revision exercise taken up in the important field of Building Materials. The BIS Secretariat also thanked all the members for taking active interest in the meeting leading to useful deliberations.

6.2 There being no other business to transact, the meeting, thereafter, ended with a hearty vote of thanks to the Chair.
