

Minutes of the 1st Meeting of the Technical Committee for Labeling of Windows held in BEE on 19th July 2011.

List of participants is enclosed at **Annex – A**

BACKGROUND

Consequent to the meeting held in June 2010 Chaired by DG, BEE with the intent of developing a Labeling programme for Windows based on its energy performance, a technical committee was constituted with the following composition, to develop a roadmap for finalization of the scheme.

1. Shri. Sanjay Seth, Energy Economist, Bureau of Energy Efficiency - Chair
2. Ms. Mili Majumdar, TERI
3. Prof. Rajan Rawal, CEPT University
4. Shri. Tanmay Tathagat, EDS Global Ltd.
5. Shri. Aalok Deshmukh, IRG
6. Representative of Glazing Society of India
7. Representative of Indian Glass Manufacturer's Association
8. Shri.Y.P.Singh,uPVC Door & Window Manufacturer Association (UWDMA)
9. Dr. Satish Kumar, Technical Expert
10. Representative from International Fenestration Forum
11. Shri. Vijay Garg, Indian Institute of Architects
12. Representative from CREDAI
13. Representative from BIS

The agenda for the meeting was to discuss the following issues related to the development of a roadmap for finalization of the performance based labeling scheme for windows & façades.

- Development of matrix for windows.
- Data collection methodology/ procedure for setting performance parameters of windows and components.
- Lab testing methodology/ procedure for verification of performance standards of windows & its components.
- Analyzing the outputs of simulations software by comparing them with lab tests results.
- Formulating test procedures for ascertaining the compliance of performance of a rated window in terms of the label.

DISCUSSIONS

1. Welcoming the participants to the 1st Technical Committee meeting, Shri.Sanjay Seth, Energy Economist, BEE briefly explained the intent of developing the labeling programme in the context of the vision for implementation of ECBC in the 12th plan. He also highlighted the present status and on-going activities under the Buildings programme and how the labeling programme would be appropriate in strengthening the implementation of

the ECBC in the built environment.

2. Prof. Rajan Rawal from CEPT University, Ahmedabad presented the study carried out to understand “State – of – affairs” pertaining to energy performance of windows available in Indian market. Presentation elaborated on window performance viz a vis frame material and glass pane assemblies. These values were compared with U Factor, SHGC and VLT performance numbers prescribed in ECBC. Outcome of the study helps to understand window performance bench mark.
3. Thereafter the meeting was thrown open for discussions among the participants. Shri. TanmayTathagat, EDS raised a query related to the definition of a window in the context of the labeling scheme and sought more clarification on what was being proposed to be labeled. He further commented that this was necessary considering that the penetration of assembled windows in the residential and commercial sectors was not significant. While the ECBC laid down performance parameters for windows such as U factors, SHGC, VLT, the overall energy performance of the assembly would primarily depend on the individual coefficient of various components such as glass, frame, sealant etc. He also mentioned that in the context of commercial buildings glass facades were predominantly in use and therefore it would be worthwhile to include these as well under the purview of this scheme.
4. Following points were raised and discussed
 - a. Performance Certification versus Labeling the window
 - b. U-Value, SHGC and VLT versus Single Parameter like ‘G’ Value
 - c. Commercial Window versus Residential Windows
 - d. Window fenestration versus Glazing – Façade
 - e. Climate Specific labeling program.
 - f. Various online tools to understand window energy performance.
5. After detailed deliberations among the group, BEE was of the opinion that initially the programme would be taken up for labeling of windows. It was reiterated that although the penetration of standardized pre-fabricated windows is minimal in the country, however most of the commercial complexes out-source fabrication of these windows to fabricators on project to project basis, and a window labeling programme would help in providing information to the architects and designers about the availability of such products in the market. The labeling will be done by the fabricators in this case who will use a software to integrate the data from glass and frame manufactures and certify the performance of the fenestration system.
6. During the discussions it was also pointed out that there was a need to have adequate availability of test labs along with standard test procedures to support the Labelling programme. Initially the Building Energy Performance Lab at CEPT, Ahmedabad could be used for developing the Standards and conducting the tests..

7. After Detailed Delebrations the committee arrived at following conclusions :

- a. Glazing Society of India, Saint Gobain and Indian Glass Manufacturers Association (IGMA) would provide list of manufactures of glass available in the market
- b. FENESTA and REHAU would provide the list of manufacturers along with window frame products available in the market.
- c. Prof. RajanRawal, CEPT would prepare comprehensive Test Procedures and Standards for supporting the labeling program.
- d. It was agreed that the entire exercise for developing the programme would be completed by September,2011.The next meeting of the committee was proposed in the second week of August.

LIST OF PARTICIPANTS

1. Shri. Sanjay Seth, Energy Economist Bureau of Energy Efficiency In the Chair
2. Ms. Mili Majumdar, TERI
3. Prof. Rajan Rawal, CEPT University
4. Shri. Tanmay Tathagat, EDS Global Ltd.
5. Shri. Aalok Deshmukh, IRG
6. Ms. Sanyogita Manu, IRG
7. Shri.Gohul Deepak, Glazing Society of India
8. Shri. A R Unnikrishan, Indian Glass Manufacturer's Association
9. Shri. Somasundaram Senthil, Indian Glass Manufacturer's Association
10. Shri. Raja Raman Chowdury, Indian Glass Manufacturer's Association
11. Dr. Avlokita Agarwal, Indian Glass Manufacturer's Association
12. Shri.Y.P.Singh,uPVC Door & Window Manufacturer Association (UWDMA)
13. Representative from REHAU
14. Shri. Girja Shankar, Asst.Energy Economist, Bureau of Energy Efficiency
15. Ms. Shabnam Bassi, Project Engineer, Bureau of Energy Efficiency