

निर्माण सामग्री एवं प्रौद्योगिकी संवर्द्धन परिषद्

आवासन और शहरी कार्य मंत्रालय, भारत सरकार

BUILDING MATERIALS & TECHNOLOGY PROMOTION COUNCIL

Ministry of Housing & Urban Affairs, Government of India

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From the Desk of the Executive Director



The Light House Projects across the country have been trailblazer in establishing innovative construction

systems shortlisted through GHTC-India. The LHP at Chennai using Precast concrete construction technology by M/S BG Shrike Pvt. Ltd. has been completed & handed over to the beneficiaries by Hon'ble PM on 26th May 2022 & the LHP at Rajkot using Tunnel Formwork system by Outinord & Malani Constructions was inaugurated on 19th October 2022. The remaining four LHPs with distinct innovative construction systems are at advance stage of completion & will be handed over to the beneficiaries in near future. These LHPs are also live laboratories to facilitate large scale citizen participation enabling suitable eco systems for further replication.

This journey to bring fast track construction systems replacing conventional cast-in-place RCC framed construction in the construction sector has been quite successful but still lot more is desired as there is urgent need of more number of players in terms of contractors, technology providers, professionals & skilled workforce to implement the future building & infrastructure projects using these emerging technologies.

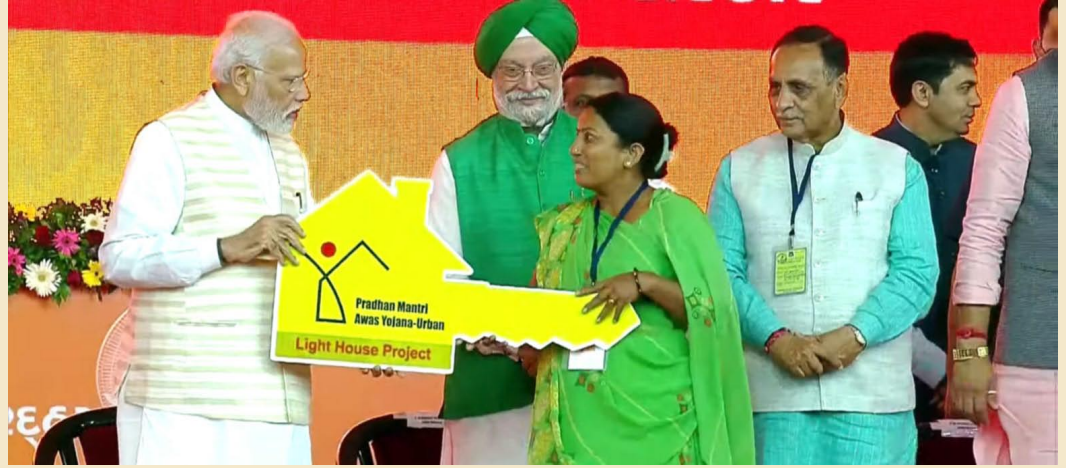
Shailesh

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Published by:

Building Materials & Technology Promotion Council, New Delhi

Indian Urban Housing Conclave (IUHC) 2022 and inauguration of Light House Project (LHP) at Rajkot



Hon'ble PM handing over the keys to the beneficiaries of LHP Rajkot during inauguration of IUHC

The Ministry of Housing & Urban Affairs organised three-days "Indian Urban Housing Conclave" (IUHC) at Rajkot, Gujarat from October 19-21, 2022. Hon'ble Prime Minister inaugurated the Indian Urban Housing Conclave - 2022 along with the Light House Project (LHP) at Rajkot, Gujarat on October 19, 2022 and handed over the keys to the beneficiaries. The main components of IUHC 2022 included (a) Inauguration of Light House Project, Rajkot, (b) National Exhibition on Innovative construction practices, (c) Exhibition on best practices adopted by States/UTs under PMAY-U, (d) Deliberations on Affordable Housing Discourses, and (e) Felicitation of PMAY(U) Awards 2022. BMTPC under the guidance of HFA Directorate has prepared two publications i.e. (i) Compendium of Light

House Project – Chennai, Tamil Nadu under GHTC-India, and (ii) Compendium of Light House Project – Rajkot, Gujarat under GHTC-India which were released by the Hon'ble Prime Minister during inauguration of the IUHC. The Council also participated in the National Exhibition during IUHC and displayed emerging construction technologies and other related activities of the Council. The Council also conducted two Thematic Sessions namely, (i) Use of Innovative Technologies by Public and Private Agencies, and (ii) Mainstreaming of Innovative Construction Technologies & Initiatives - Way Forward during the IUHC 2022. The Council also coordinated the activities of Technical Evaluation Committee during IUHC.



Hon'ble PM releasing the Compendium of (i) LHP Chennai and (ii) LHP Rajkot.



Emerging Technologies for Building Construction

Factory Assembled Insulated Sandwich Panels using Polyurethane Foam (PUF)

The panels are factory assembled insulated sandwich panels consisting of an insulating layer 'sandwiched' between two layers of metal sheets. The panels are manufactured using rigid Polyurethane Foam (PUF) bonded between pre-coated steel sheets to produce profiled finish panels. The steel sheets can either be PPGI or PPGL, and, with a maximum thickness of 0.8 mm. An insulation core provides insulation and sturdy bonding for better structural stability and facilitates better load bearing capacity and wider spans for panels.

These panels can be used for both walling and roofing applications. Structures built using these panels can incorporate MEP (mechanical, electrical and plumbing) services along with architectural elements/features such as coving, cantilevers, mezzanine floors etc. The design and engineering of structures are done following guidelines specified in Indian Standards.

Size and profiles of Panels

Panels are available in thickness from 30 mm to 120 mm, with standard width of 1000 mm and length as per customer requirement.

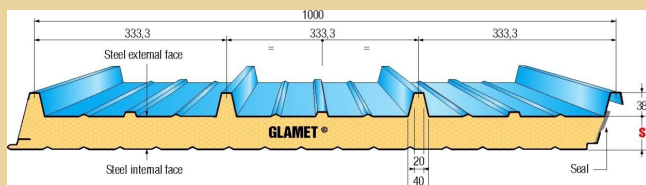
Glamet panels

Glamet panels are manufactured in accordance with a system patented by Metecno and consists of a profile external steel facing, an internal flat liner with an insulation core of PUF. The panels have a mechanism of panel-to-panel interlocking which provides an effective seal. The panels are suitable for general purpose and application in roofing for buildings and shelters. However, it is also suitable for wall and ceiling applications. The Metecno patented mechanism ensures precise interlocking, dimensional accuracy and also eliminates the risk of air gaps and thermal bridging. All joints are covered with butyl tape, sealants and flashings.

Facing Options: Pre-painted galvanized steel/aluminium, stainless steel and craft paper and perforated metal sheet for inner skin.

Surface finish: Colour coated PPGI/PPGL with Regular Modified Polyester (RMP), Silicone Modified Polyester (SMP), Super Durable Polyester (SDP) and Polyvinylidene fluoride (PVDF) coating systems

Detail of this panel is shown below :



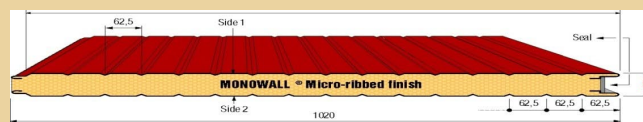
Monowall panel

Monowall is self-supporting insulation material for use in industrial and commercial buildings and refrigerated rooms with positive temperature. They can be used as partition as façade cladding with permanent finishing and can be integrated well with structural glazing, curtain walls, windows and other type of fenestrations and openings. The Metecno patented mechanism ensures precise interlocking, dimensional accuracy and eliminates the risk of air gaps and thermal bridging and joints are covered with butyl tape, sealants and flashings.

Facing Options: Pre-painted galvanized steel/aluminum, stainless steel and craft paper and perforated metal sheet for inner skin.

Surface finish: Colour coated PPGI/PPGL with RMP, SMP, SDP and PVDF coating systems

Profile of this panel is given below:



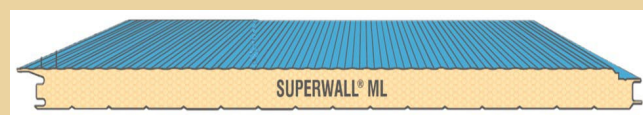
Superwall

Superwall panels are self-supporting polyurethane insulation material based panel system, with a concealed-fixing method for high quality industrial and commercial buildings, where good aesthetics are paramount. The special double labyrinth joint of this panel, provide mechanical resistance and insulation superior to any other wall panel product of this kind. Due to the particular shape of the joint, blind fastening are applied to the V-cut on the male edge of the outside sheet. Two screws with center distance of 30mm should be used for each panel and each stud. Outside walls are made mounting such panels one next to the other. The Metecno patented mechanism ensures precise interlocking, dimensional accuracy and eliminates the risk of air gaps and thermal bridging and joints are covered with butyl tape, sealants and flashings.

Facing Options: Pre-painted galvanized steel/aluminium, stainless steel and craft paper and perforated metal sheet for inner skin.

Surface finish: Colour coated PPGI/PPGL with RMP, SMP, SDP and PVDF coating systems

Profile of this panel is given below:





NAVARITI: Certificate Course - 12th Batch

In order to build capacities amongst building professionals about the new and emerging building materials and technologies for housing and building construction, the Ministry of Housing & Urban Affairs in collaboration with BMTPC and School of Planning & Architecture (SPA), New Delhi is running an online Certificate Course on emerging housing technologies namely NAVARITI (New, Affordable, Validated, Research Innovation Technologies for Indian Housing). NAVARITI: Certificate Course on Innovative Construction Technologies was started as part of "Construction Technology Year 2019-20" by BMTPC in collaboration with School of Planning & Architecture, New Delhi. The Course has received very good response so far. The 12th Batch of the Course was conducted from October 28 to November 4, 2022. So far in 12 batches conducted, 948 participants, mainly civil engineers and architects and faculty & students from various engineering and architectural colleges, participated in the Course. The faculty for the Course are from SPA, BMTPC, IITs, CPWD, CBRI & Industry.



The online classes of the next batch of NAVARITI will be conducted from January 20 to 27, 2023.

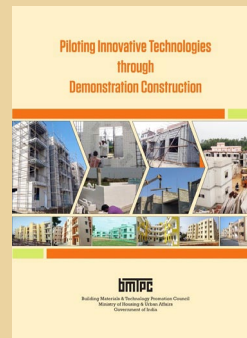
Recent Publications

Special Issue of Newsletter "Nirman Sarika"



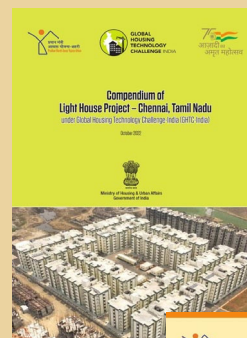
BMTPC brought out the Special Issue of its Newsletter "Nirman Sarika" on the occasion of World Habitat Day 2022 on theme "Mind the Gap. Leave No One and No Place Behind". The special publication focuses on important issues related to the theme and contains invited articles/papers from experts in the field.

Booklet on Piloting Innovative Technologies through Demonstration Construction



BMTPC has successfully completed 7 DHPs so far under PMAY-U and work on another 7 DHPs is ongoing. The booklet on these DHPs contains the technical information available at one place and can be readily used by stakeholders willing to use these technologies. The information will help engineers & architects including policy makers to explore these emerging construction technologies which are resource efficient, climate responsive, cost effective, disaster resilient and above all fast track the construction with superior structural & functional performance than the conventional brick-mortar/cast-in-situ frame construction.

Compendiums on LHP Chennai and Rajkot



The compendiums include the journey of design, planning and construction of Light House Projects (LHPs) at Chennai and Rajkot. The documents lay emphasis on the construction technologies used in the two LHPs along with the construction process, the project management & monitoring. Further, LHPs being projected as Live Laboratories, it documents the series of activities being undertaken under the Live Laboratory component of GHTC-India for disseminating the learning on use of innovative technologies for various stakeholders.





World Habitat Day 2022 Celebrations



BMTPC participated in the World Habitat Day 2022 celebrations organized by the Ministry of Housing & Urban Affairs at Vigyan Bhawan, New Delhi on 3rd October, 2022. The Council organized a Painting Competition for Differently Abled Children on the theme “Mind the Gap. Leave No One and No Place Behind”. The exhibition of the winning entries was also organised on the occasion. The winners of the Painting Competition were felicitated by Shri Hardeep S Puri, Hon’ble Minister of Housing & Urban Affairs. Shri Kaushal Kishore, Hon’ble Minister of State, MoHUA was also present during the event.



On this occasion, the Council brought two publications namely, (i) Special Issue of Newsletter “Nirman Sarika”, and (ii) Booklet on Piloting Innovative Technologies through Demonstration Construction. These were released by Hon’ble Minister of Housing & Urban Affairs in the presence of Hon’ble Minister of State, MoHUA and Secretary, MoHUA on 3rd October, 2022 at New Delhi.



Stakeholders Consultation under ASHA - India

GIZ with MoHUA is implementing Climate Smart Buildings (CSB) project with the aim to encourage sustainability in built environment through enhancing climate resilience and thermal comfort in buildings. With regard to ASHA-India, GIZ is exploring to extend technical assistance and cooperation in implementation of the ASHA-India initiative by providing technical support in form of International Mentorship to Incubators. To facilitate the same, GIZ has partnered with Fraunhofer Institute for Building Physics (IBP), Germany, which are leaders in building energy efficiency and building physics. As an important step in this direction, GIZ in association with MoHUA & BMTPC organized a Stakeholder Consultation on 19th December 2022 at New Delhi, wherein the Potential Technology Providers shortlisted under GHTC-India & undergoing Incubation Support with various ASHA-India Institutes (IITs & CSIR-NEIST), Expert from Fraunhofer Institute for Building Physics (IBP), Germany & faculties from ASHA-India institutes participated. During the deliberations, various incubatees & faculties from ASHA-India Institutes highlighted the work done by them so far. The expert from Fraunhofer Institute for Building Physics (IBP) presented areas of expertise of IBP and deliberated on the future incubation support required from them.



For further details, please contact:



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