



भारत सरकार
केंद्रीय लोक निर्माण विभाग
तकनीकी अनुप्रयोग एवं मानक एकाई
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F. No. 17/SE(TAS)/BMTPC/2020/ 381-ए

Dated 23/09/2020

OFFICE MEMORANDUM

Sub:- Adoption of New & Emerging Technologies in construction works undertaken by CPWD regarding.

Ref:-

1. OM No.133/SE(TAS)/DSR/2019/115-H dated.12.03.2019
2. OM No.133/SE(TAS)/DSR/2019/376-H dated.17.09.2019
3. OM No. 9076576/36(11)/New Tech./CE CSQ (E)/2019/277 dated 21.10.2019
4. OM No. 9076576/36(11)/New Tech./CE CSQ (E)/2019/570 dated 22.11.2019

The MoHUA, GOI organized Global Housing Technology Challenge-India (GHTC India) with the objective to identify and mainstream a basket of innovative technologies from across the globe that are sustainable, disaster-resilient, cost effective, speedier and ensure a higher quality of construction of houses, while meeting our diverse geo-climatic conditions and functional needs. The Technologies were invited online through a Global Expression of Interest (EoI). Technical Evaluation Committee (TEC) was constituted by MoHUA under the Chairmanship of DG, CPWD, which assessed the technologies & recommended 54 technologies. MoHUA has directed CPWD, through BMTPC to adopt these 54 technologies shortlisted under GHTC-India.

The 54 shortlisted New and Emerging technologies are grouped in 6 broad categories. It is seen that in each of the categories same/similar technology has been approved for more than one technology provider, thereby 37 out of 54 of the technologies (Civil) stand approved under 43 (29 civil and 14 electrical) technologies already approved by CPWD vide OMs referred above. Thus out of 54, there are 17 nos. New & Emerging technologies (civil) need to be further approved by CPWD.

So, additional 17 nos. New & Emerging technologies (civil) as listed below are approved for adoption in CPWD, irrespective of location and cost of the project.

Sl. No.	Name of Technology
A. PRECAST CONCRETE CONSTRUCTION SYSTEM – 3D PRECAST VOLUMETRIC (4)	
1	Pre-cast concrete system with columns, beams, walls, slabs, hollow core slabs & also 3D Volumetric components
2	Vertical Structural modules cast in plant/casting yard are assembled together through casting of floor panel. The unit is transported & installed at site
3	3D Modular casting using steel mould and high performance concrete of building modules in factory. These modules are transported to the construction site & assembles
4	Modules with 3D volumetric precast concrete unit, various units make a house
B. PRECAST CONCRETE CONSTRUCTION SYSTEM-PRECAST COMPONENTS ASSEMBLED AT SITE (3)	
5	Pre –cast sandwich panel system & light weight precast concrete slab (Wall is sandwich panel comprising of structural concrete inside panel, insulation layer & finishing external layer) Light weight concrete slab (comprises of bottom concrete / mortar layer, Light weight concrete blocks & reinforcement & in-situ concrete)
6	Prefabricated interlocking Technology (without mortar) with Roofing as Mechanized Precast R.C. Plank & Joist system
7	Large Hollow wall prefab concrete panel (Lightweight), interlocking, concrete panel) using factory produced large standard hollow interlocking concrete block.
D. PREFABRICATED SANDWICH PANEL SYSTEM (2)	
8	Pre-fab PIR (Poly-isocyanurate) based Dry wall panel system as non-load bearing wall.
9	Sandwich panels as wall & slab
E. MONOLITHIC CONCRETE CONSTRUCTION (1)	
10	'Tunnel form' construction technology, an cast in situ RCC system, based on the use of high-precision, re-usable, room-sized, steel forms or moulds for monolithic concrete construction

F. STAY IN PLACE FORMWORK SYSTEM (7)	
11	Expanded steel panel reinforced with all galvanized steel wire-Struts serving both as the load-bearing steel structures and as the stay-in-place steel formwork filled with EPS-alleviated concrete
12	Structural Stay in Place Galvanized Steel formwork system for walling with the same bottom single layer formwork for slabs/in-situ slab
13	Factory Produced PVC stay in place formwork with in-situ concrete & reinforcement in walling units and cast in situ RCC Slab
14	Fully Load bearing wall with 150 mm monolithic concrete core sandwiched inside two layers of EPS as walling. The form are open ended hollow polystyrene interlocking blocks which fits together to form shuttering system
15	Stay in place light weight polymer formwork with cast in situ reinforced concrete & in-situ reinforced concrete & in-situ flooring slab
16	Fast Bloc, insulated Concrete Form (ICF), acting as formwork for concrete and rebar, Column/post and beam construction, creating and strong skeleton in the walls
17	Formwork system "Plaswall" with Two fibre cement boards (FCB) & HIMI (High Impact Molded Inserts) bonded between tow sheets of FCB and erected to produce a straight-to-finish wall with in-situ concrete

For the 17 nos. New & Emerging technologies approved herein, DSR, DAR & Specifications of respective items are under process and shall be issued in due course.

As per mandate of MoHUA at least one of the approved New and Emerging Technology (which now are 60 nos. including 43 approved earlier and additional 17 nos. as listed above) is to be adopted in future projects, irrespective of location and cost. Accordingly as decided earlier, in case it is not found feasible to implement this mandate/direction in a particular project, specific permission must be obtained from DG, CPWD on case to case basis with detailed justification.

This issues with the approval of DG, CPWD.


(Divakar Agrawal)

Superintending Engineer (TAS)

Copy to:

1. All the SDGs/ADGs/CE cum EDs/CEs/SE cum PDs/SEs/EE & SMs/EEs of CPWD & PWD (GNCTD) for information and necessary action please. (through <http://cpwd.gov.in>).


(Divakar Agrawal)

Superintending Engineer (TAS)