सत्यमेव जयते

भारत सरकार

GOVERNMENT OF INDIA

केन्द्रीय लोक निर्माण विभाग

CENTRAL PUBLIC WORKS DEPARTMENT

दर अनुसूची 2018

SCHEDULE OF RATES 2018

For New & Innovative TECHNOLOGIES

महानिदेशक
के. लो. नि. वि., नई दिल्ली
के प्राधिकार के अधीन प्रकाशित

CPWD

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Director General

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FOREWORD

In the present day context, it has become essential to adopt modern, innovative & green technologies and building materials for faster, ecofriendly and quality construction. The ideal construction systems must optimize the use of cement, sand & steel with less dependence on water, sand, aggregates during construction, zero construction & demolition waste, dust free technologies, materials & systems based on renewable resources.

Keeping in view the above, the Ministry of Housing and Urban affairs, vide OM dated 30.05.2016, decided that CPWD shall adopt three new technologies validated by BMTPC a namely, Monolithic Concrete Construction, EPS Core Panel System and Light Gauge Steel Framed Structure in its construction works initially in Metropolitan cities for works exceeding Rs. 100 crores and shall also bring Schedule of Rates for these technologies. Ministry, vide OM dated 28.12.2016, has further mandated use of these new emerging technologies for all projects across the country from 01.04.2017, irrespective of location and project cost. Accordingly, the items for these technologies were developed and included in the DSR 2016 and use of these technologies was introduced in CPWD works.

Number of new emerging technologies to be adopted by CPWD was increased from three to eight by the Ministry, vide OM dated 20.03.2018. CPWD in its endeavor to ensure smooth and uniform adoption of these technologies, has brought out schedule of rates for all eight new emerging technologies in a Booklet from along with other supplementary details.

I am sure that this Schedule of Rates will be quite useful to all concerned in the Building construction industry in general and CPWD in particular.

I wish to place on record my deep appreciation for the efforts put in by Shri A S Arora ADG (TD), Shri G. C. Kabi CE (CSQ) (Civil) and his team of officers in bringing out this publication.

(Prabhakar Singh)

Brief Description of New Technologies

S. No.	DESCRIPTION OF TECHNOLOGY
1.	**Monolithic Concrete Construction System using aluminum formwork** • In this system, in place of traditional RCC framed construction of columns and beam all walls, floors, slabs, columns, beams, stairs, together with door and window openings are cast-in-place monolithically using appropriate grade of concrete in one operation. The specially custom designed modular formwork made up of Aluminium Composite is easy to handle with minimum labour & without use of any equipment. Being modular formwork system, it facilitates in rapid construction of multiple/mass unit scale. This technology is durable, has better thermal transmittance and reasonable acoustic insulation.
2.	**Monolithic Concrete Construction System using plastic- aluminum formwork** • Same as Sl. No 1 using Aluminium plastic composite formwork
3.	**Expended Polystyrene Core Panel System** • Reinforced Expanded Polystyrene Core (EPC) panel system is a factory produced panel system for the construction of low rise buildings upto G+3 and as filler walls in high rise RCC and steel frame buildings. In this technique, a core of undulated polystyrene is covered with interconnected zinc coated welded wire mesh on both sided reinforcement and shortcrete concrete. • Compare to traditional products, panels achieve far better results at considerably reduced cost. The speedy construction represents additional savings.
4.	**Light Gauge Sheet Framed Structures (LGSF) System** • LGSF is typically ideal for one to three storey high buildings, especially for residential and commercial buildings. Due to its flexibility fast construction and durability, this technology has great potential for countries like India. • Cold formed sections are widely used in construction including residential floors, industrial buildings, commercial buildings, hotels and are gaining greater acceptance in the residential sector.

Sl. No.	Description of Item	Unit	Rate
	C. LIGHT GAUGE STEEL FRAMED STRUCTURE (LGSF) SYSTEM		
4	Designing, providing, installing and fixing factory finished custom designed cold form Light Gauge Steel Framed super structure comprising of steel wall panel, trusses, purlins etc manufactured out of minimum 0.75 mm thick steel sheet as per design requirements. The steel sheet shall be galvanized (AZ-150 gms Aluminium Zinc Alloy coated steel having minimum yield strength 300- 550 Mpa) conforming to AISI specifications and IBC 2009 for cold formed steel framing and construction and also as per IS: 875- 1987, ISO 800-1984 and IS: 801- 1975. The wind load shall be as per provisions of IS 875 (part -III). LGSFS frame shall be designed as per IS: 801 using commercially available software such as Frame CAD Pro-11.7/ STAAD PRO-V8i/ArchitekV2.5.16/ Revit architecture2011 or equivalent. Proper usage of Connection Accessories like Heavy Duty Tension Ties, Light Duty Hold-ons, Twist Straps (to connect truss with wall frames), Strong Tie, Tie Rod, H-Brackets, Boxing Sections, L-Shaped Angles for better structural stability.	kg	174.10
	The framing section shall be cold form C-type having minimum web depth 89 mm x 39mm flange x 11mm lip in required length as per structural design requirement duly punched with dimple/slot at required locations as per approved drawings. The slots will be along centre line of webs and shall be spaced minimum 250mm away from both ends of the member. The frame can be supplied in panelized or knock down condition in specific dimensions and fastened with screws extending through the steel beyond by minimum of three exposed threads. All self drilling tapping screws for joining the members shall have a Type II coating in accordance with ASTM B633(13) or equivalent corrosion protection of gauge 10 & 12, TPI 16 & 8 of length 20mm. The frames shall be fixed to RCC slab or Tie beam over Neoprene rubber using self expanding carbon steel anchor bolt of dia as per approved drawings, design subject to minimum 12mm diameter and 121mm length conforming to AISI 304 and 316 at 500mm c/c with minimum embedment of 100mm in RCC (RCC to be paid separately) and located not more than 300mm from corners or termination of bottom tracks complete in all respects. The item also includes the submission of stability reports duly examined and issued by any NIT/IIT.The rate includes the concept design, detailed design, fabrication of sections, transportation, installation and all required fixing arrangement at site as described above.		