

Innovative, Fast-Track, Sustainable, Affordable, Eco-friendly Housing & Construction Solutions



“

साथियों, आज की ये कॉन्फ्रेंस या फिर ग्लोबल हाउसिंग टेक्नॉलॉजी चैलेंज की आवश्यकता इसलिए महसूस हुई क्योंकि देश में शहरों का तेज़ी से विस्तार और विकास हो रहा है। भारत उन देशों में है जहां बहुत फास्ट Urbanisation हो रहा है। तेज़ी से बढ़ते शहरीकरण के चलते नए घरों की आवश्यकता भी उतनी ही तेज़ी से महसूस की जा रही है।...इसी को ध्यान में रखते हुए आज हमारे सामने अलग-अलग Geographical Conditions के हिसाब से घर बनाने की चुनौती है।

साथियों, इन चुनौतियों को ध्यान में रखते हुए हमारी सरकार ने construction sector के लिए एक holistic approach के साथ काम किया है। घर बनाने वालों और घर खरीदने वालों दोनों को ही किस तरह की दिक्कतें आ रही थी, उन्हें ध्यान में रखते हुए हमने फैसले लिए। हमने सबसे ज्यादा जोर affordable housing पर दिया ...

इन सबके साथ-साथ हमने housing sector में technology को भी improve करने पर ध्यान दिया है। आज का यह कार्यक्रम भी उसी की एक कड़ी है। और मुझे याद है कि PRAGATI की एक meeting में, शायद आपको मालूम होगा कि मेरी PRAGATI की meeting क्या होती है, इसलिए मैं उसके विस्तार में जाता नहीं हूं। और PRAGATI की एक meeting में मैंने मंत्रालयों को global challenge process अपनाने की सलाह दी थी। आज मुझे खुशी है कि आज Global Housing Technology Challenge, India के जरिये आप सभी यहाँ पर हैं।

- Hon'ble Prime Minister at Inaugural function of GHTC, Vigyan Bhavan, New Delhi on 02nd March, 2019



***Mitsumi Housing** is rapidly growing to become **India's largest Rapid Construction company** specialized in Innovative Technology of Light Gauge Steel Structure, Fast-Track, Sustainable, Eco-friendly Housing & Construction Solutions*

OUR BUSINESS SECTORS....

Sustainable Infrastructure

Residential Buildings

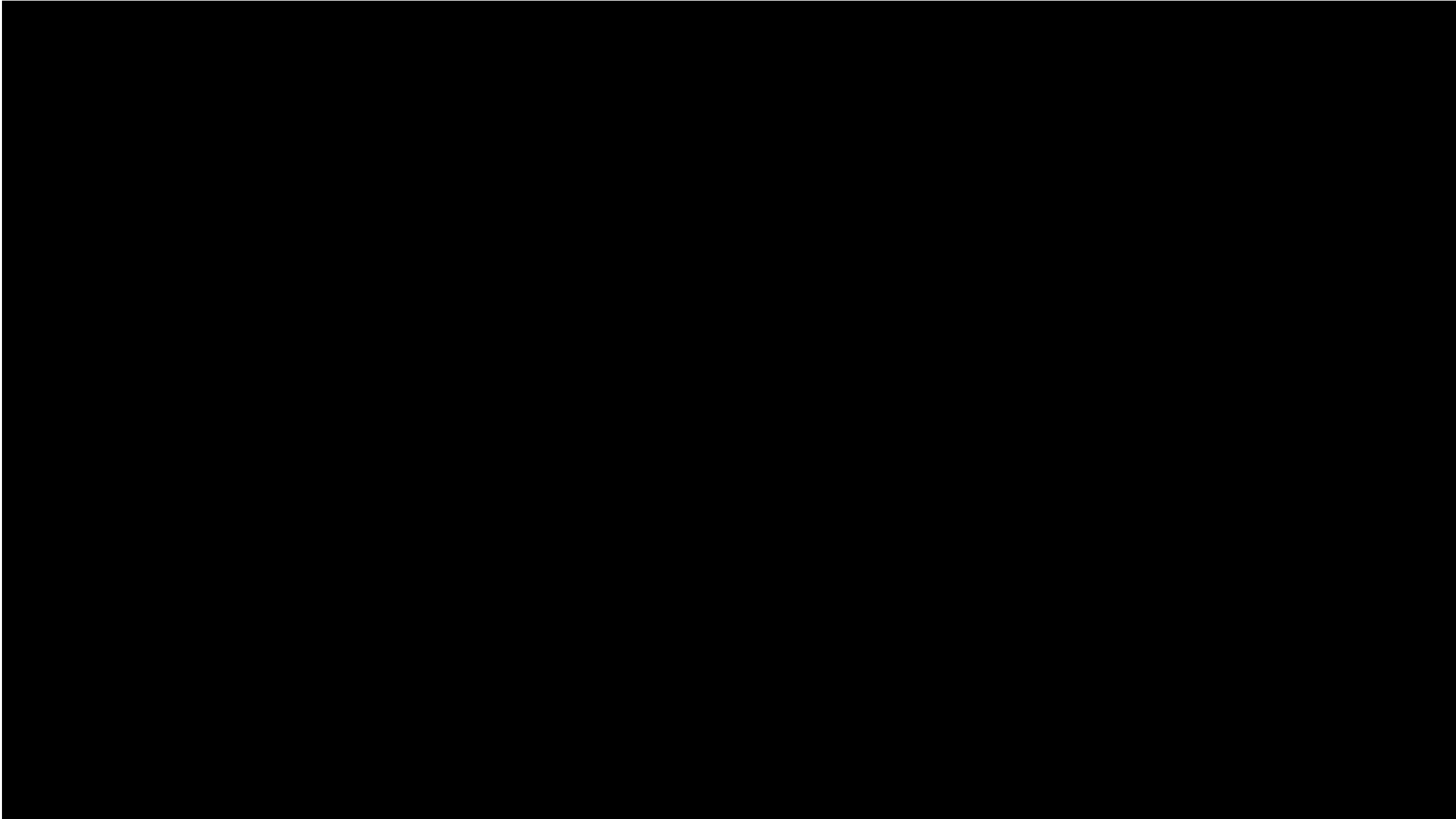
Hospital Buildings

Hotels & Resorts

Educational Buildings

Warehousing Solutions

Commercial Buildings



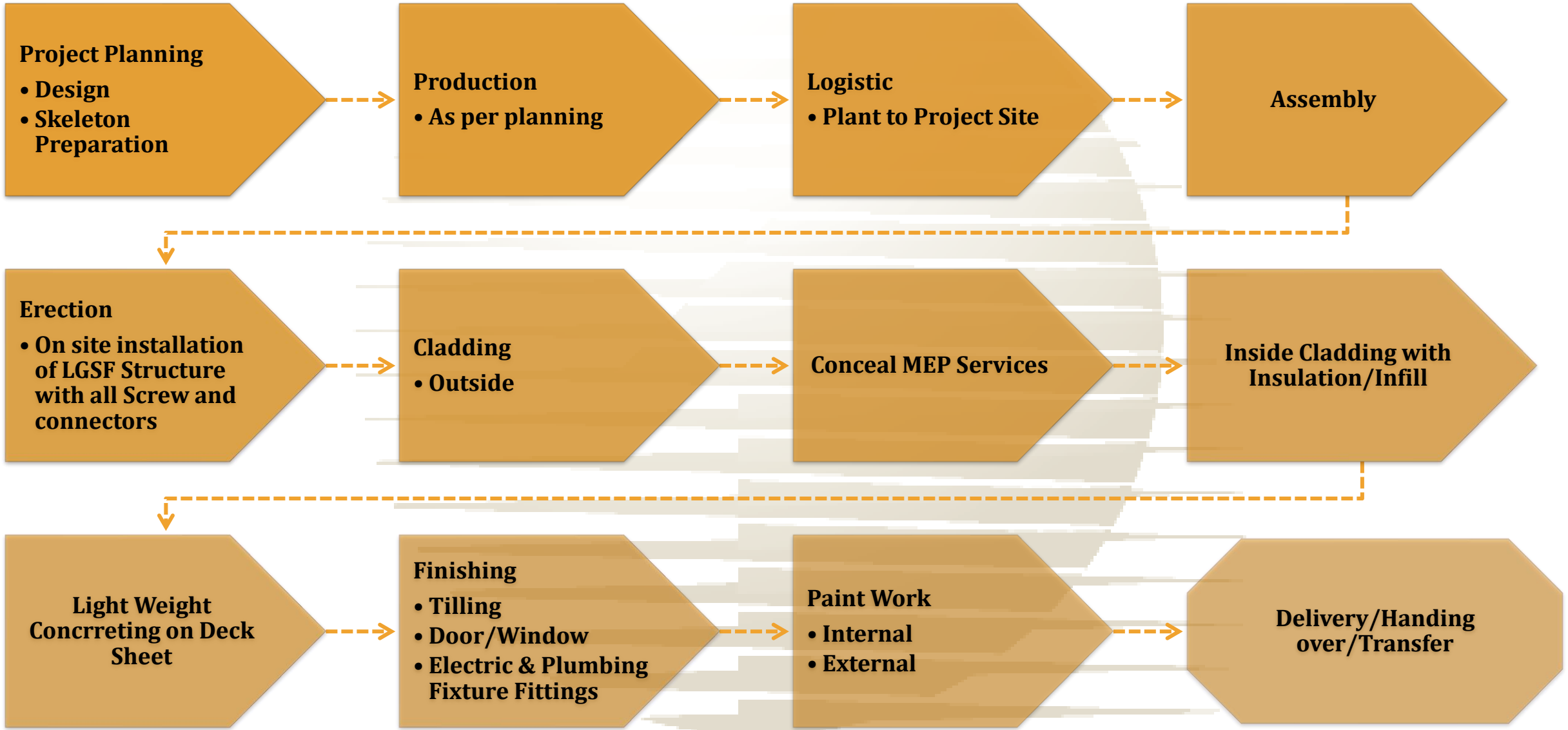
By this technology we can construct sustainable and eco friendly structures at any remotest geographical location and in any climatic terrain within least time.

Light Gauge Steel Frame Technology (Cost & Energy Saving)

- **Faster time to manufacture steel frame on site or off site**
- **Less time and skill required for assembling the structural steel frame**
- **Quality finish could be established due to automatic productions and less manual calculations**
- **Low - Carbon Emission**
- **Low Cost, Eco Friendly & Affordable Housing**
- **Fast: on site envelope construction which is 90% faster than conventional method**
- **Durable: Wind, Earthquake, Pest & Mold Resistant**
- **Safe: Fully non-combustible, environmentally controlled production**
- **Strong: Better strength to weight ratio than concrete**
- **Design-Led: 80% of design & build process completed in factory**
- **Precise: Accurate within a half millimetre, highly regulated**
- **Versatile: Able to construct various building types up to 15 storeys**
- **Proven: Three decades of technology development**
- **Cost Saving: 50% savings over concrete and block construction**
- **Light Weight: 60% lighter than concrete and block construction**
- **Labour Friendly: Reduced need for skilled trades & heavy equipment**
- **Sustainable: Less than 1% waste, 100% recyclable**
- **On site works: 80% less equipment & skilled trades**
- **Shipping: Reduced costs due to 60% weight reduction, limited import reliance**
- **Contaminates: Reduced onsite paints, solvents, adhesives, fuel and lubricates**
- **Energy use: Highly energy efficient building envelope, region specific**
- **Longevity: 75% reduced building maintenance over time**

Since the walls of our structure is insulated we can achieve great amounts of thermal comforts for residential and commercial buildings.

THE PROCESS



LGSF Approvals and Certifications

- ✓ ***BMTPC Approved***
- ✓ ***GHTC Approved***
- ✓ ***IIT Approved***
- ✓ ***MES Approved***
- ✓ ***DDA Approved***
- ✓ ***Approved for PMAY Projects***
- ✓ ***Approved for Karnataka Govt Projects and Floor Relief Projects***
- ✓ ***Approved for Kerala Life Mission Projects***
- ✓ ***Approved for Indian Railway Projects***
- ✓ ***Approved for Indian Defense Projects***



OUR ACCREDITATIONS



Ministry of Housing and Urban Affairs

BMTPC Building Materials & Technology Promotion Council, Ministry of Housing & Urban Affairs

Appendix-4

F No 28012/7/2016-W-3
Government of India
Ministry of Housing and Urban Affairs
(Works Division)

Nirman Bhawan, New Delhi
Dated: 20.03.2018

OFFICE MEMORANDUM

Re - Adoption of New & Emerging Technologies in construction works undertaken by CPWD, DDA and NBCC - regarding

In continuation of this Ministry's O.M. JS/Works/OM/2016 dated 30.05.2016 and O.M. 1.28012/7/2016-W-3 dated 28.12.2016 it has been decided that CPWD, DDA & NBCC may opt the following technologies, which have been validated by Building Materials and Technology Promotion Council (BMTPC) under the Ministry of Housing and Urban Affairs, in their projects irrespective of location and project cost:

- Monolithic concrete construction system using Aluminium Formwork
- Monolithic concrete construction system using Plastic - Aluminium Formwork
- Expanded Polystyrene Core Panel System
- Light Gauge Sheet Framed Structures (LGSF)
- Industrialized 3-S System using RCC precast with or without shear walls, columns, beams, Cellular Light Weight Concrete Slabs/Semi-Precast Solid Slab
- Speed Floor System
- Glass Fibre Reinforced Gypsum (GFRG) Panel Building System
- Factory Made Fast Track Modular Building System.

As decided earlier, in case, it is not found feasible to implement these provisions in similar project, specific permission should be accorded by DG, CPWD/CMD, NBCC/Vice Chairman, DDA respectively on case to case basis, with detailed justification.

The aforesaid modern technologies may be incorporated as per the Schedule of as (SoR) issued by CPWD. Further, in future, new emerging technologies, as validated BMTPC and for which DG, CPWD has issued the SoR will also be included in the list. For purpose, DG, CPWD is authorized to issue directions in continuation of this Office memorandum.

This has the approval of Hon'ble HUAM

(Signature)
J. Raj Choudhary
Deputy Secretary (Works)
Tel no 23082425

- Director General, CPWD, Nirman Bhawan, New Delhi
- Vice Chairman, DDA, Vikas Sadan, INA, New Delhi-110023
- Chairman-cum-Managing Director, NBCC Limited, NBCC Bhawan, Lodhi Road, New Delhi-110003

- To
- PS to HUAM
 - Sr PPS to Secretary (HUA)

Certificate of Registration

This is to Certify That The Quality Management System of

MITSUMI HOUSING PRIVATE LIMITED
D-1108, B/H KESHAVBAUG PARTY PLOT, OFF 132 FT ROAD, VASTRAPUR, AHMEDABAD - 380015, GUJARAT, INDIA.

has been audited and conformed to be in accordance with the requirements of

ISO 9001:2015

The Quality Management System is Applicable to :

EPC CONTRACTOR, DESIGNING AND PROJECT MANAGEMENT CONSULTANCY FOR CIVIL CONSTRUCTION.

Certificate No : QBM21619
Initial Registration Date : 08/07/2019
Date of Expiry : 07/07/2023
1st Surve. Due : 08/06/2020

Issuance Date : 08/07/2019
2nd Surve. Due : 08/06/2021

IAS ACCREDITED
Management Systems Certification Body
MSCB-174

IAF
MEMBER OF MULTINATIONAL ACCREDITATION ARRANGEMENT

Director

Aambitious Assessment Pvt. Ltd.
804, Ashok Bhawan, Building No. 93, Nehru Place, New Delhi - 110 019, India.
e-mail: info@aacertification.in, website: www.aacertification.in

Certificate Verification: Certificate Validity can be re-checked at www.aacertification.in

This certificate is a property of Aambitious Assessment Pvt. Ltd. and shall be returned immediately when demanded.

*Validity of the certificate is subject to successful completion of surveillance audit on or before due date.

S.No.	Applicant	Address
1.	M/s Larsen & Toubro	5th Floor, B-Wing, TC-II Building, L&T Business Park, Gate No. 5, Saki Vihar Road, Powai, Mumbai, India
2.	M/s Kattera India Private Limited	Velankani Tech Park, No.43, Hosur Road, E-City Ph1, Bangalore, India
3.	M/s B.G. Shirke Construction Technology Pvt. Ltd	72-76, Industrial Estate, Mundhwa, Pune, India
4.	M/s Moducast Pvt. Ltd	105 Kethana Residency, 16th Cross, 1A Main, Vignan Nagar, Bengaluru, India
5.	M/s Magicrete Building Solutions	101, Ritz Square, Ghod dod road, Surat, India
6.	M/s Elematic India	H-38, 1st Floor, Bali Nagar, New Delhi, India
7.	M/s PG Setty Construction Technology Pvt Ltd	74, Sandesh Arcade, 3rd Floor, Sahukar Chenaiah Road, Kuvempunagar North, Saraswathipuram, Mysuru, India
8.	M/s Teemage Builders Pvt Ltd	Dr.no- 7/67, Koduvai, South Avinashipalayam, c/o-MPNMJP, D.S, Chennimalai, Tiruppur, India
9.	M/s Nordicflex House	Mosevej 14, OELSTYKKE, Denmark
10.	M/s Ultratech Cement Ltd,	Ahura Centre, 3rd Floor, Mahakali Caves Road, Andheri (W), Mumbai, India
11.	M/s Mitsumi Housing Pvt. Ltd	202, Radhe Kishan Arista OPP Hirabhai tower Jawaharchowk - Isanpur Road Maninagar, Ahmedabad, India
12.	M/s Everest Industries Ltd	Everest Technopolis, D206, Sector 63, Noida, India
13.	M/s JSW Steel Ltd.	JSW Steel Ltd, JSW Centre, BKC, Bandra east, Mumbai, India

The Global Housing Technology (GHTC)



- ❁ The to cater to the Big Goal of the Government to build 22 Million Homes. Global Housing Technology Challenge is a Bold Initiative conducted by the Govt of India during 2018.
- ❁ The Goal of GHTC is to bring out the various alternate construction technologies and make them compete with each other so that the Best technologies are chosen
- ❁ Such chosen technology satisfy the needs of Speed, Efficiency, Sustainability, Affordability, Availability of Local materials, Scalable to large volumes
- ❁ It also provide Skill development facilities for the local people near the project sites.
- ❁ 60 companies with various technologies participated and went through the Scrutiny and Test.

2019

LGSF Technology competed among 54 GHTC participant technologies and became one of the approved

**Alternate
Construction
Technology**

14-Jan-2019



GLOBAL HOUSING TECHNOLOGY CHALLENGE INDIA



MITSUMI HOUSING™
AN ISO 9001:2015 CERTIFIED COMPANY

CONGRATULATIONS TEAM MITSUMI

Mitsumi Housing Pvt. Ltd. has achieved great success in the government sector by bagging the prestigious P.M.A.Y. tender using Light Gauge Steel Framing Technology.

Mitsumi Housing was carefully chosen after a stringent process of evaluation both financially and technically.

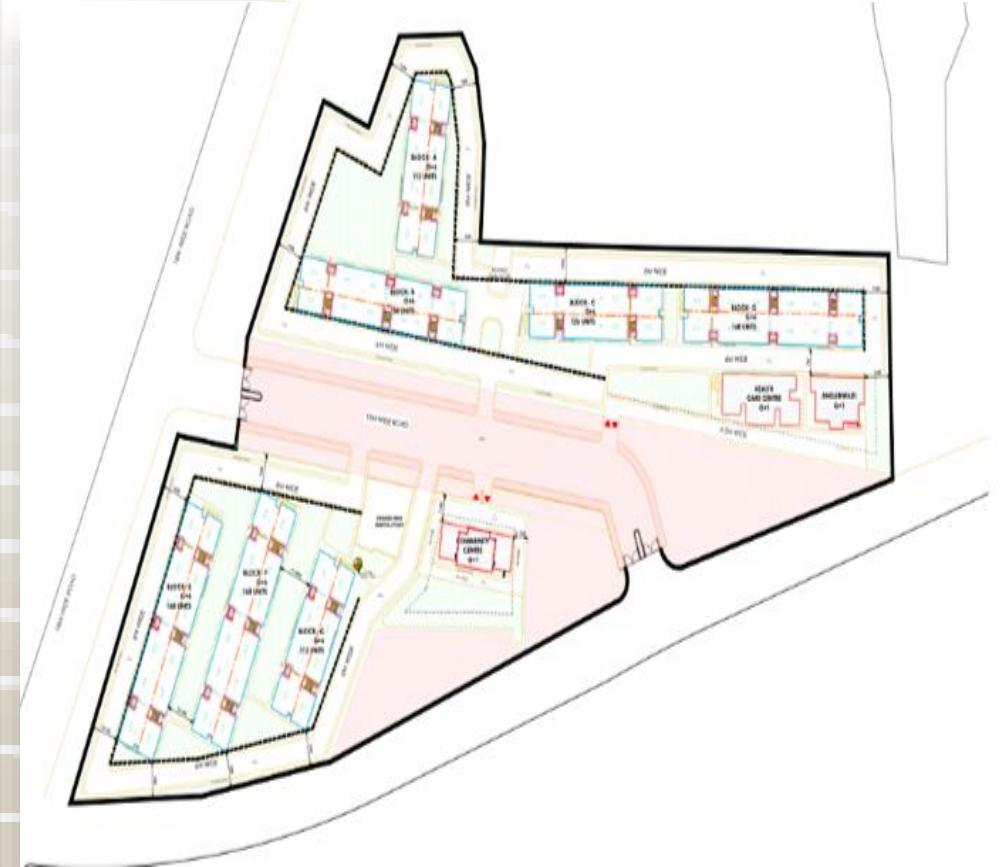


Light House Project :Agartala, Tripura

Bird Eye View 3D Visualization



Built Up Area (sqft):
4.88 Lakh sqft



Mentions by visionaries...

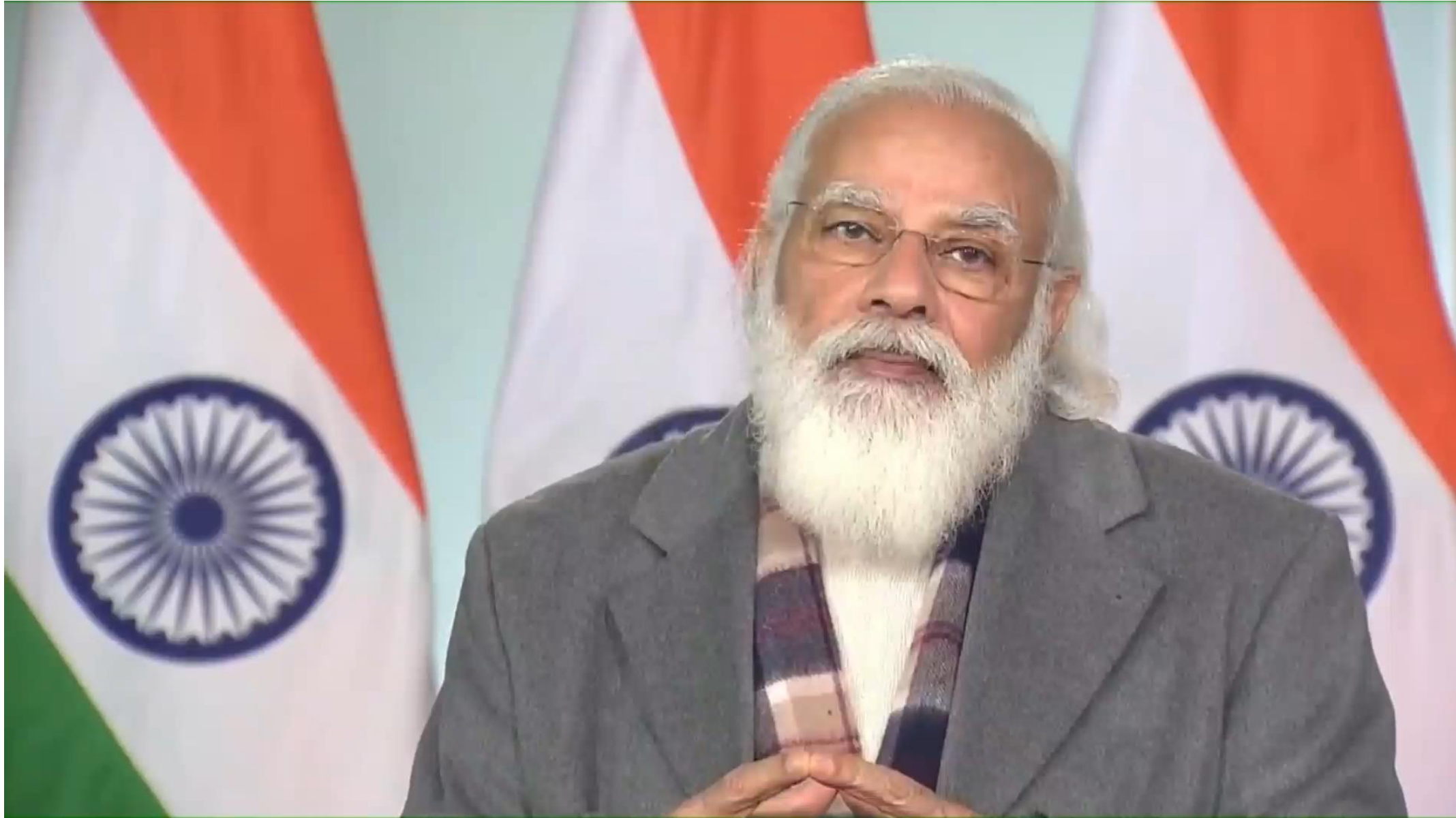
2021



Hon'ble P.M Speaking about LGSF technology



Hon'ble C.M of Agartala in Foundation Stone ceremony



Water Logged project land area in Agartala.



Site condition was in a completely water logged area that had very low SBC plus with zone 5 on the seismic plate

We first completed back filling , compaction, created an approach road and then had a situation against all odds where work could start.



Technology Suitable in various Demographical Challenges .

Water Logged project land area in Agartala.



Our Present Projects...



Total Present Project Status

 Units:
1910

 Built Up Area (sqft):
10,46,662.29

Light House Project

Location	LHP Agartala	Kerala
No of Units	1000	852
Built Up Area (sqft)	4,87,319.00	5,09,273.00

Sr No	Kerala -19 Packages	No of Units	Area (sqft)
1	Kottayam	42	26600
2	kollam	42	26600
3	Idukki.	42	25900
4	Puthupudduy, Kozhikode	44	26,626.07
5	Pallipad (Naduvattam), Allapuzha District	44	26,626.07
6	Mavoor Kozhikode District	44	26,619.37
7	Karimaloor Enrnakulam	44	26,619.37
8	Karimaloor Enrnakulam	44	26,619.37
9	Ayyampuzha, Ernakulam District	44	26,619.37
10	Anthur, Kannur District	44	26,619.37
11	Karalam, Thrissur District	72	43,005.95
12	Thalaiyolaparambhu, kottayam District	36	22,238.42
13	Koothatukulam, Ernakulam District	36	22,238.42
14	Chirrakal, Kannur District	36	22,238.42
15	Enathu, Pathanmthitta	56	35,394.18
16	Mannacheri, Alapuzha District	28	17,642.20
17	Azhoor, Trivendrum	44	26,619.37
18	Madavoor, Trivendrum	36	11,474.42
19	Naduvanoor, Kozhikode	72	43,005.95

Technology Suitable in various Demographical Challenges .

No Proper Excess road to project in LMK, Kerala



LGSF Project- Life Mission Kerala



കേരള സർക്കാർ
ലൈഫ് മിഷൻ
സമ്പൂർണ്ണ പാർപ്പിട സുരക്ഷാ പദ്ധതി

MITSUMI HOUSING
AN ISO 9001:2015 CERTIFIED COMPANY



LGSF Project- IOCL



IndianOil

MITSUMI HOUSING
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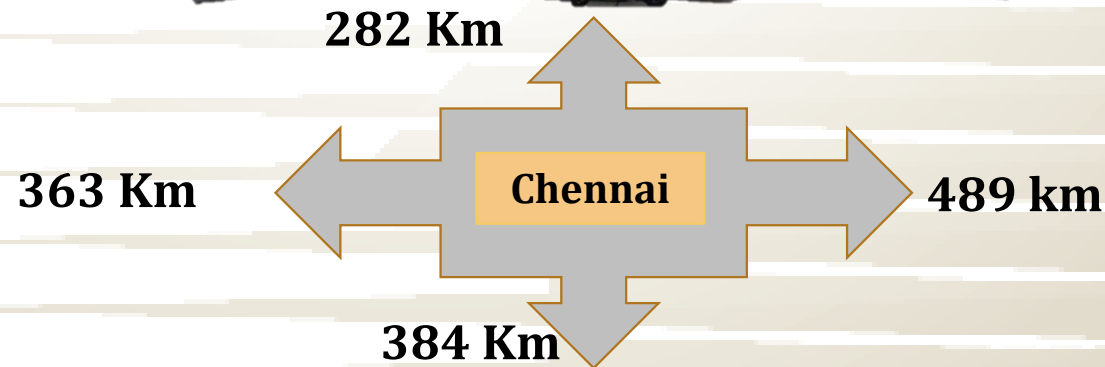
Technology Suitable in various Demographical Challenges .

Too Distant locations in IOCL, Southern States

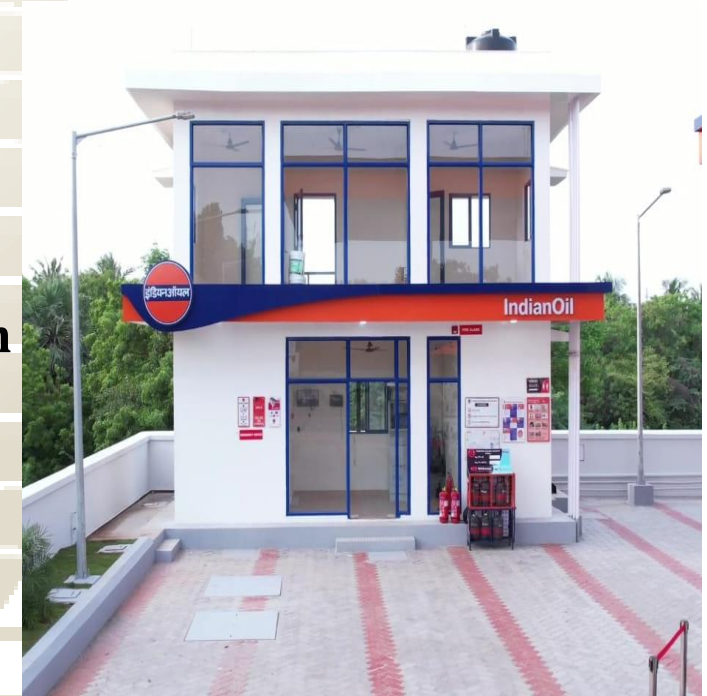
Toll Plaza site



Vadakal site



Dindigul site



Kallakuchi site



Foundation stage - Pile work



Pile Boring Work



Pile Concreting



Excavation & Pile Head Breaking



Foundation stage - Raft work



Raft PCC



Raft Steel Binding



Pedestal



Plinth Beam With Anchor bolt fixing



Plinth Beam With Anchor bolt

Superstructure stage



Superstructure stage

Super Structure

- Peb frame with kgs

Outer Cladding

- MH concrete cladding
- 22 mm th
- Size 800 ma x 300 mm

Internal Cladding

- 8 mm thick FCB board
- 12.5 mm thick gypsum board

MH Infill

- Light weight concrete
- Density 900 kg / cmt



Finishing stage



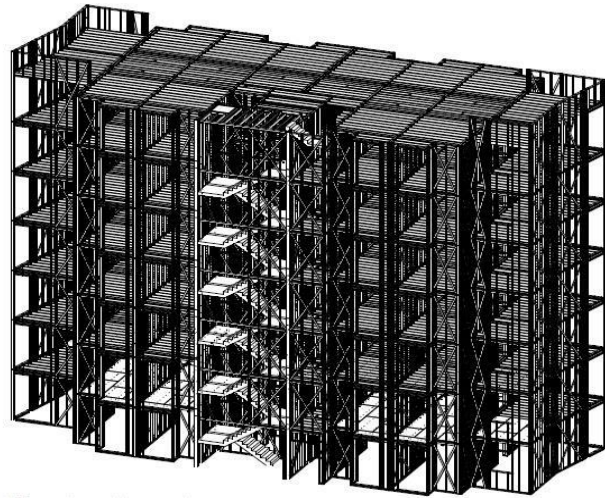


WHAT IS LGSF TECHNOLOGY ?





WHAT IS LGSF



Light Gauge Steel Framing (LGSF) Construction Technology is a New Efficient Construction method where High Tensile, Galvanized, Cold Rolled Steel forming the complete Skeletal Structure of the Building



Typical Steel Profile



GALVA STRONG

LGSF Profile Anatomy (Profiles with high IQ)

A. Dimple Punch:- When screws are Fastened on the stud, the Dimple hole helps the Screw not to protrude while fixing and the Cladding board installed upon it. Also the Dimple on both sides of the Stud and Nogging makes sure it doesn't move or shake. The Screw Hole will align perfectly and not move because of the Dimple on both the connecting members.

B. Chamfer Cut:- A 45 degree sloped or angled corner or edge. This is useful for fixing the Lattice Joists and Trusses. The Chamfer Cut ensures that the 45 degree sloped member fits nicely into the top or bottom chord.

C. Web Notch:- Making a full square punch on the web so that Noggins can be inserted through it.

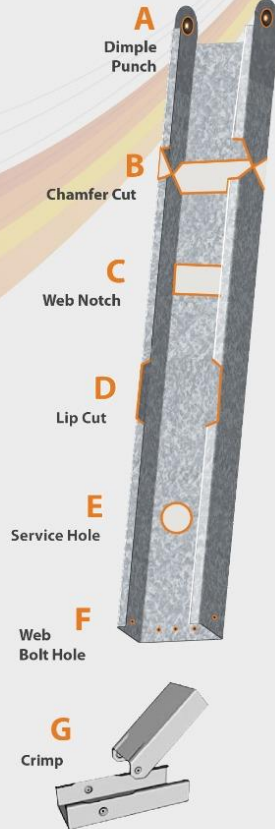
D. Lip Cut:- When the Stud is inserted into the Top Chord or Bottom Chord, the Lip will be cut in that portion, enabling easy insertion of the Stud into the top or bottom chords. Also the Lip is there surrounding the Lip Cut so the Stud cannot move around horizontally and fixed tightly.

E. Service Hole:- Meant for service lines like plumbing and electrical lines.

F. Web Bolt Hole:- Enables Nut and Bolt connection in the web.

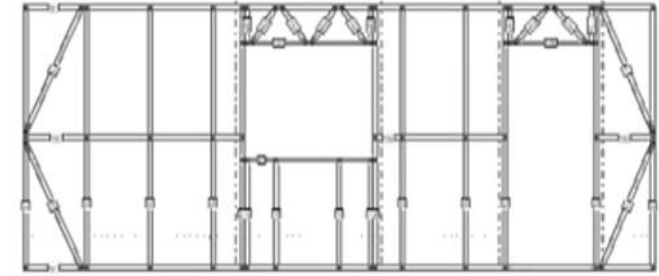
G. Crimp:- Swage or Crimp will lessen the web size of the inserting sliding profile while pthe other profile retains its web size. So the Stud smoothly slides inside. In Mitsumi LGSF systems machines the Crimp operation is used so that only one web size is sufficient for all the various channels like Stud, Top Chord, Bottom Chord and Noggins.

• Every Profile is Pre-Designed & Pre-Engineered



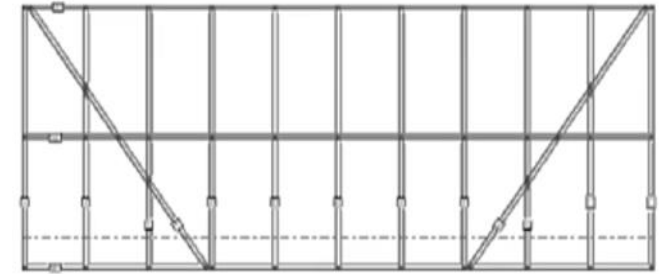
Wall 1 (EX4)

04:02
MIN SEC



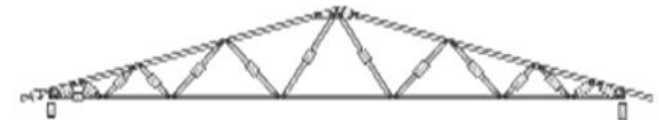
Wall 2 (EX5)

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Truss (TS1)

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Joist (TS2)

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MIN SEC





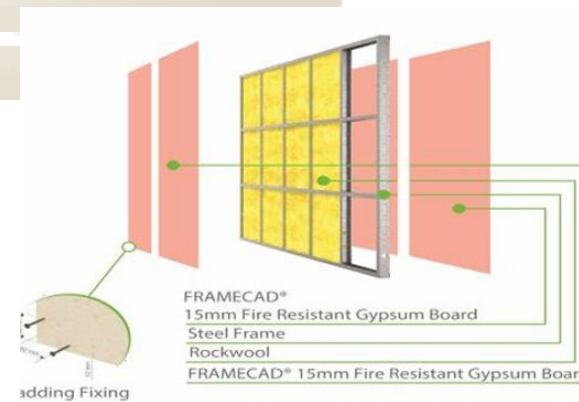
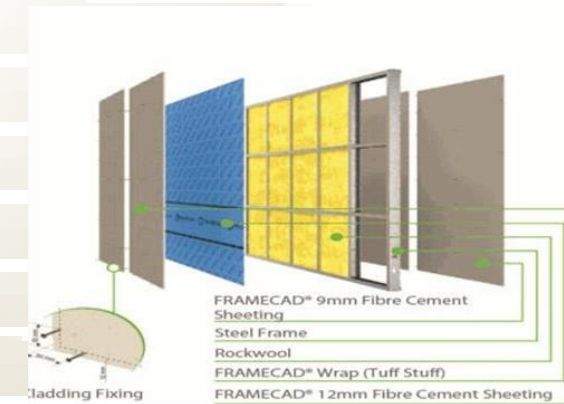
Steel Strength: **Yield Strength** **Tensile Strength**
Best Quality for LGSF: YS: 560 MPA, TS: 570 MPA
Commercial Quality: YS: 340 MPA, TS: 450 MPA
Not Suitable: **YS: 275 MPA TS: 380 MPA .**

Zinc Coating Specs:

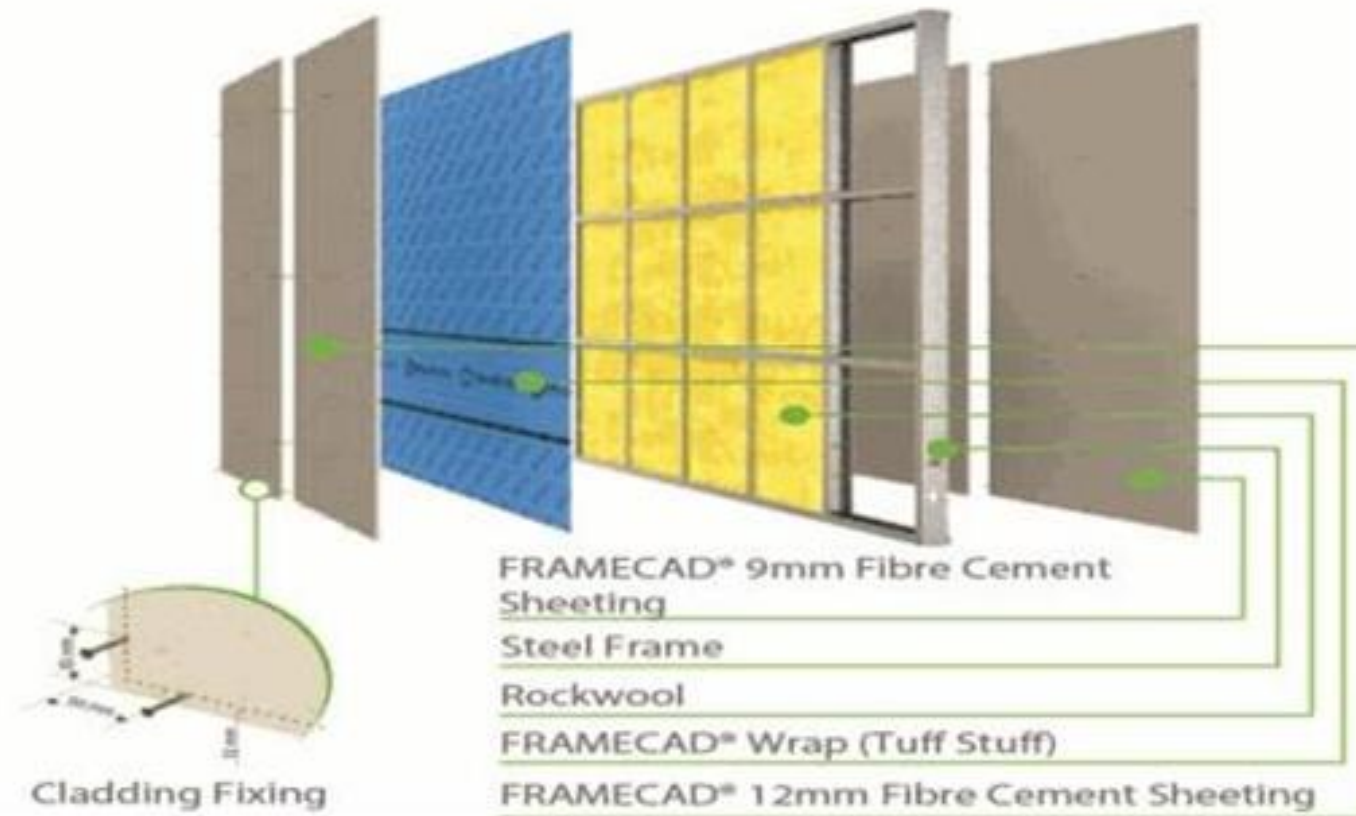
G90 – 275 GSM *Recommended for Permanent Structures.*
G60 – 180 GSM *May be used for short-life structures.*
G40 – 120 GSM *Not Recommended in many regions.*
G30 – 90 GSM *Not suitable at all.*

Wall Infill Insulation Options

- Rock Wool
- Glass Wool
- Styrofoam
- Thermocol
- Light Weight/Foam Concrete



Typical LGSF Wall Cladding and Insulation

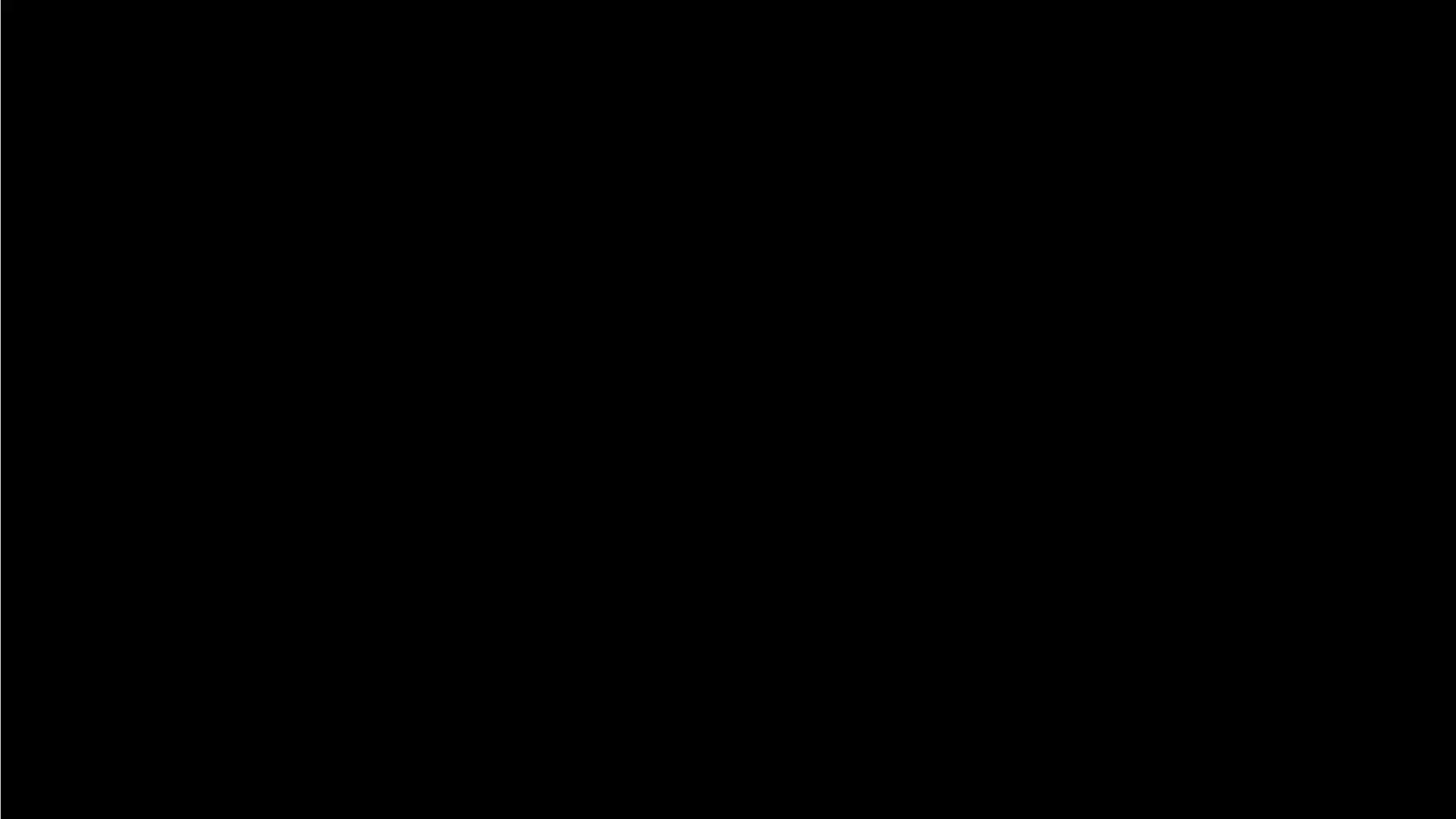


Some LGSF Projects

Any type of Structure is possible.









Serchhip Paragliding Side Development

Marc O'Polo

Compression with Conventional

Parameters	LGSF Technology	Conventional Construction
Design	<ul style="list-style-type: none"> Efficient Design Friendly due to its integral framing system Designed using national and international design codes. 	<ul style="list-style-type: none"> Design takes more time and it offers fewer design aids. Traditional codes are used for design.
Finishing	<ul style="list-style-type: none"> No plastering is required over Walls and ceiling; they can directly be finished with any choice of finishing materials, technology doesn't limits in choosing type of finishing material. 	<ul style="list-style-type: none"> Conventional Walls are having less Thermal, Acoustic and Fire insulation Properties.
Insulation	<ul style="list-style-type: none"> Suitable insulating and filler materials like Rockwool, ceramic wool, XPS boards, cellular lightweight concrete etc. can be used with good thermal, acoustic and fire insulating properties. 	<ul style="list-style-type: none"> Conventional construction does not allowed with special conditions.
Resources	<ul style="list-style-type: none"> Less Manpower is required and thus the cost; most of the items are manufactured in factory and only assembly is done on site which saves the great amount of manual work hours. 	<ul style="list-style-type: none"> Requirement if resources are much larger which involves the cost as well are dependency on manual work hours is much higher.
Quality	<ul style="list-style-type: none"> Quality of Construction is superior because materials are pre fabricated/Manufactured; which results in superior finish compared to conventional RCC Structure. 	<ul style="list-style-type: none"> Quality of the construction is dependent on workmanship
Duration - Time Frame	<ul style="list-style-type: none"> Takes about 1/3 of the construction time when compared to the normal construction technique. 	<ul style="list-style-type: none"> It takes a normal even long construction time in the lag of resources in project.
Demographic Benefits	<ul style="list-style-type: none"> LGSF Buildings can be constructed in variety if geographical locations with in very short time and difficulties due to is versatility. 	<ul style="list-style-type: none"> Conventional Structures have limitations for remote/hilly areas due to its insitu methods.
Maintenance & Recyclability	<ul style="list-style-type: none"> Maintenance and Modification becomes so easy due to its detachable and screw mechanism. Modular buildings can be disassembled and the modules relocated or refurbished for new use, reducing the demand for raw materials and minimizing the amount of energy expended to create a building to meet the new need. 	<ul style="list-style-type: none"> Maintenance & modification becomes hectic and expensive. It is not possible to transfer or disassemble these structures in future.

Compression with Conventional

Parameters	LGSF Technology	Conventional Construction
<p>Low Carbon Emission</p>	<ul style="list-style-type: none"> LGSF uses steel Coil with Rockwool/ mineral wool Intact with fibre cement board. Materials are Eco-friendly, can be reusable /recyclable and structure can be transferable easily. Due to lesser Dead weight foundation will be minimalistic. LGSF is near Zero Wastage technology. 	<ul style="list-style-type: none"> constructions make use of basic materials namely brick, cement, aggregates, sand & steel which are based on finite natural resources this are the material Are not Eco friendly, reusable and structure is not relocatable. contribute for greenhouse gas emissions and energy-intensive and therefore are not sustainable This types of construction required dense foundation. Due to it self dead weight. Which results more use of concrete and steel. Convention practice required 3-5% wastage criteria in ideal conditions.
<p>Eco Friendly</p>	<ul style="list-style-type: none"> R value (Energy Efficiency Scale) for LGSF is R13(Very Good). 	<ul style="list-style-type: none"> R value (Energy Efficiency Scale) for Conventional is R3(Poor).
<p>Green Building</p>	<ul style="list-style-type: none"> This technology Comes under GRIHA 18.1 Appraisals for reduction in Embodied energy of structure and walls. It comes under new innovative technology under green building. 	<ul style="list-style-type: none"> Conventional construction does not allowed with special conditions.

Thank You

We deeply thank MoHUA, BMTPC, and others for their vital support. As we progress, we seek backing from state government and PSUs to expand and make a bigger impact. Together, we can tackle societal challenges and promote sustainable development. We kindly request state government and PSUs to consider supporting us in building a brighter, inclusive, and resilient society. Thanks to MoHUA, BMTPC, and all who've supported us. We look forward to new partnerships and greater milestones with state government and PSUs.

Mitsumi Housing Pvt.t Ltd.

Reg Office: D-1108, The First, B/h. Keshavbaugh Party Plot, The First Avenue Road, Off. 132 Ft. Road, Vastrapur, Ahmedabad – 380015 Gujarat, India.

Website-www.mitsumihousing.com

Mail-info@mitsumihousing.com



SHAHID BADSHAH

Business Head



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Mitsumi Housing Pvt. Ltd.
C-1103, D-1108, The First,
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 **MITSUMI HOUSING**
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