



# Southern Builder

Bulletin of Builders Association of India - Southern Centre

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July, 2018



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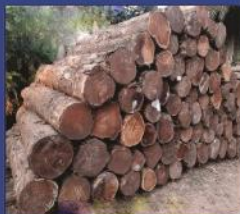
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# ஆசிரியர் மடல்



வணக்கம்

வாழ்க்கையில் சாதனை படைத்த பெரும்பாலான மனிதர்கள் சாமான்யராக பிறந்தவர்கள்தான். நீங்களே யோசித்து பாருங்கள். அடித்தட்டு மனிதராக பிறந்து மிகப் பெரிய சாதனையை படைக்கின்றார் ஒரு மனிதர். ஆனால் அவருக்கு மகனாக பிறந்து கோட்டீஸ்வரராக வளர்ந்த அவரது பிள்ளைகள் அவரது சாதனையை எட்ட முடியவில்லை.

அமெரிக்க ஜனாதிபதி ஆபிரகாம் லிங்கன், அமரர் அப்துல்கலாம், உலகின் மிகப் பெரிய பணக்காரரான பில்கேட்ஸ் ஆகியோர் சாதாரண நிலையில் பிறந்து பெரும் சாதனையாளர்களாக ஆனவர்கள். அரசியல், தொழில்நுறை, கணிணி என்று பல துறைகளில் இன்றைக்கு மிகப் பெரிய அளவில் சாதனையாளர்கள் பெரும்பாலானோர் சாதாரண நிலையிலிருந்து வந்தவர்களே.

இவர்களது உயர்ந்த நிலைக்கு காரணம் உழைப்பு, அறிவுப்பூர்வமான தன்னம்பிக்கை மற்றும் விடா முயற்சியுடன் கூடிய உழைப்பு. படிக்காதவர்கள் எந்தவித பின்புலமும் பலமும் இல்லாதவர்கள் கூட வாழ்க்கையில் உயர்ந்த நிலையை அடைந்திருக்கிறார்கள். அதற்கு அவர்களது உழைப்பு தான் காரணம். எந்த ஒரு சாதனையாளனும் உழைக்காமல் வாழ்க்கையில் வெற்றி பெறவில்லை என்பதை மனதில் கொள்ள வேண்டும். உடல் உழைப்பு என்பதை விட அறிவால் உழைப்பது என்பதுதான் முக்கியம்.

வாழ்க்கை என்பது ஒரு சதுரங்க வேட்டை. இங்கு உடல் பலத்தால் மட்டுமே வெற்றி கிட்டாது. அறிவின் பலத்தால் மட்டுமே வெற்றி கிட்டும். காரியங்கள் செய்வது மட்டும் வாழ்க்கை அல்ல. காய் நகர்த்துவதில் தான் வாழ்க்கை. நம் எதிரில் உள்ள தடைகளை எப்படி அகற்றுவது என்பதை யோசித்து தடைகளை தளர்த்து முன்னேறுவது முக்கியம். சரியான நேரத்தில் முறையான முடிவெடுத்து செயல்படுபவரே வெற்றியாளர். தனக்கு கிடைக்கக்கூடிய சந்தர்ப்பங்களை எல்லாம் வாய்ப்பாக பயன்படுத்திக் கொள்வரே வெற்றியாளர்.

ஒவ்வொரு மணித்துளியையும், ஒவ்வொரு மனிதரையும் பயன்படுத்துங்கள். உடல் கேட்கும் ஆசைகளையும், மனம் கேட்கும் இச்சைகளையும் உங்கள் அறிவைக் கொண்டு கடிவாளமிடுங்கள். நீங்கள் இயங்குவது உங்கள் சுய சிந்தனையிலும் உங்களது அறிவாற்றலின் அடிப்படையிலேயே இருக்க வேண்டும்.

உங்கள் வெற்றிகளை உரக்கச் சொல்லுங்கள். அது உங்கள் தன்னம்பிக்கையை மேலும் வலுப்படுத்தும். தோல்விகளை மனதில் கூட நினைத்துப் பார்க்காதீர்கள். அது உங்களை பலவீனப்படுத்தும். தோல்விகளிலிருந்து நாம் பாடங்களை மட்டுமே கற்றுக் கொள்ள வேண்டும். அதை நாம் சுமக்கக் கூடாது.

நான் வெற்றியாளன். நிச்சயம் வெற்றி பெறுவேன் என்று உங்கள் மனதில் சொல்லிக்கொண்டிருங்கள். நாம் உறங்கும் போதம் நாம் வெற்றி பெறுவோம் என்று தன்னம்பிக்கையுடன் உறங்கச் செல்லுங்கள். எப்பொழுதும் இந்த நெருப்பு நமது மனதில் கனன்று கொண்டே இருக்கட்டும்.

வெற்றி பெற வாழ்த்துகிறேன்.

எண்ணிய எண்ணியாங்கு எய்துப எண்ணியார்  
திண்ணியர் ஆகப் பெறின்

- திருக்குறள்

அன்புடன்  
மு. மோகன்



# மய்யத்தலைவர் மடல்



அன்புடையீர் வணக்கம் !

இதிகாசங்களிலும், பண்டைய இலக்கியங்களிலும் குருகுல கல்வி முடித்து மாணாக்கர்கள் தங்களது தேசம் விட்டு பிற நாடுகள், தேசங்களுக்கு அங்குள்ள மக்கள் வாழ்க்கை, தொழில், நிர்வாகம், படைபலம் சார்ந்த நுட்பங்களை அறிந்து பகுத்துணர்ந்து அவைகளை நமது தேசத்தில் நடைமுறைபடுத்த பயணம் மேற்கொள்வது நடைமுறையாக இருந்தது.

நமது கட்டுமானத்துறை சார்ந்த புதிய தொழில் நுட்பம், கலை நயம், கட்டிட நோத்தி ஆகியவற்றை அறிந்து கொள்ளும் முகமாக நமது நிகிமி தென்னக மய்யத்தின் மூலம் ஏற்பாடு செய்யப்பட்ட பயணத்தில் 24 உறுப்பினர்களை உள்ளடக்கிய ஒரு குழு ரஷ்ய நாட்டுத் தலைநகர் மாஸ்கோ மற்றும் செயின்ட் பீட்டர்ஸ் பர்க் நகரம் ஆகிய இடங்களுக்கு கடந்த ஜூலை 18ந்தேதி முதல் 25 வரை சென்று வந்தோம்.

செயின்ட் பீட்டர்ஸ்பர்க் நகரில் உள்ள பீட்டர் மற்றும் பால் கோட்டை, செயின்ட் இசபெல் சர்ச் ஆகிய பல நூற்றாண்டுகள் கடந்த கட்டிடங்கள் வாயிலாக அந்த நாட்டு மக்களின் வாழ்க்கை, பொருளாதாரம், பண்பாட்டை உணர முடிந்தது.

மாஸ்கோவில் கிரம்பின் மாளிகை, செயின்ட் சர்ச், ரெட் ஸ்கொயர் போன்ற பல்வேறு கலை நயத்துடன் கட்டுமான நோத்தி நுணுக்கம், சுத்தம் ஆகியவைகளை கொண்ட பகுதிகளை பார்வையிட்டோம். அது அனைவரின் கவனத்தையும் பெரிதும் கவர்ந்தது.

ரஷ்யாவில் மாஸ்கோ மெட்ரோ ரயில் சேவை கடந்த 1941ம் ஆண்டு காலவாக்கில் ஆரம்பிக்கப்பட்டு மிகவும் நேர்த்தியான அழகிய கட்டமைப்புடன், திறமையாக நிர்வாகிக்கப்பட்டு உலகிலேயே இரண்டாவது சிறந்த சேவை செய்து வருகிறது.

பயணத்தில் கலந்து கொண்ட உறுப்பினர்கள் அனைவரும் ஒருவருக்கொருவர் அன்போடும், நட்புணர்வுடனும் ஒரு குடும்பம் போல் செயல்பட்டது மனதிற்கு மிகுந்த நிறைவை தந்தது. மொத்தத்தில் இந்த இன்பச் சுற்றுலா அனைவருக்கும் பயனுள்ளதாகவும், மன நிறைவையும், திருப்தியையும் வரும் காலங்களில் தங்களது தொழில் முன்னேற்றத்திற்கு பயன்படும் விதமாகவும் அமைந்தது.

அன்புடன்,

L. வெங்கடேசன்  
மய்யத்தலைவர்

# BAI ACHIEVEMENT



## **Upto date Brief Report of the Cement Cartlization Case Filed in Competition Commission of India Case No. 29/2010 dated 20.06.2012 & RTPE/2006 dated 30.07.2012 Under Section 53B of the Competition Act, 2002**

Builders Association of India (BAI) filed a complaint with the Monopoly & Restrictive Trade Practice Commission (MRTPC Commission) in February 2006 with regard to involvement of cement manufacturers in unfair trade practices / cartelization and requested the Commission to investigate the matter. Later on Commission sought some more information in support of complaint which were made available to them in November 2006. MRTPC registered the complaint vide case RTPE-52/2006. Consequent upon coming into existence Competition Commission of India (CCI) in the year 2009, the case was transferred to CCI.

In July 2010, BAI filed another complaint with the CCI alleging unfair trade practices being adopted by the Cement manufacturing companies in jacking up artificially the price of cement. CCI registered the complaint as Case No.29/2010 and investigated the matter. The Director General (Investigation) investigated the matter and submitted his report to CCI. CCI forwarded the investigation report to the respective companies and directed them to file their replies / objections with the findings of the DG(I). The case was heard by CCI on 21st, 22nd & 23rd February 2012. CCI passed the order dated 20th June 2012, declaring 10 cement companies along with Cement Manufacturers Association indulging into unfair trade practices and ordered to deposit Rs.6307.32 Crore, as penalty within 90 days from the date of the order and directed companies to "Cease and Desist" from indulging in such activities in future. CCI by its order dated 30th July 2012, in the case of RPT-52/2006, found 12 cement companies to be indulging into unfair trade practice. Since penalties were already imposed on 11 companies including CMA other than Shree Cement Ltd. in Complaint No.29/2010, a penalty of Rs.397.51 Crore was levied on Shree Cement Ltd. with "Cease & Desist" order for not indulging in such practice, in future.

All the cement companies, aggrieved with the orders of CCI, approached to Competition Appellate Tribunal to seek a stay on deposit of the penalty amount and for setting aside the orders of "Cease & Desist" in June / July 2012.

On 17th May 2013, the Competition Appellate Tribunal passed the interim order of depositing 10% of the penalty amount imposed by the Commission (relevant portion of the order is given below)

"In that view, we find that there is a prima-facie case for granting of stay at least in respect of the penalties, which are of very substantial nature. The total penalties would come in the range of Rs.6000 crores. While inflicting the penalties, the CCI has also taken into consideration, not only the 10% turnover, gross-turnover and other factors, it has also taken into consideration the net profits earned by these appellants, which are to say the least fabulous. The Commission has chosen to impose the penalty at 0.5 times of the net profit for 2009-10 that too from 20th of May, 2009. It is pointed out by the Commission that the amount of 3 times of net profit calculated, is higher than 10% of the average turnover. In that view, the Commission has inflicted the penalties of 0.5 times of the net profit for one year that is from 2009 to 2010 that too taking from 20th May, 2009 and 2010-11. Under such circumstances, we would chose to grant stay to the penalties, however with a condition that the appellants deposit 10% of the penalties inflicted. We make it clear that the deposit of the penalty should be within one month from today. We also make it clear that if the penalties are not so deposited, the appeal shall be treated as dismissed without further reference to the Court.

Thereafter, all the cement companies approached the Supreme Court of India for seeking stay on the orders of the Tribunal dated 17th May 2013 to deposit 10% of penalty amount imposed by the Commission, The matter was heard in detail on 12th June 2013 but the Hon'ble Court refused to intervene in to the interim orders but extended the last date of deposit of the penalty amount from 16th June 2013 to 24th June 2013 with the directions that the amount of penalty may be kept in the form of Fixed Deposits in the separate accounts of the each company



The matter was argued in detail on the technicalities, in the Tribunal in October / November 2015 and the Tribunal in its order dated 11th December 2015, allowed the appeals and remanded the orders of the Commission for passing fresh orders. The relevant portion of the orders are reproduced below :-

98. In the result, the appeals are allowed. The impugned order is set aside and the matter is remitted to the Commission for fresh adjudication of the issues relating to alleged violation of Sections 3(3)(a) and 3(3)(b) read with Section 3(1) of the Act by the appellants. The appellant shall be entitled to withdraw the amount deposited by them in compliance of the interim order passed by the Tribunal.

99. The Commission shall hear the advocates/representatives of the appellants and BAI and pass fresh order in accordance with law. We hope and trust that the Commission shall pass fresh order as early as possible but within a period of three months from the date, which may be notified after receipt of this order.

100. The parties shall be free to advance all legally permissible arguments. They may rely upon the documents, which formed part of the record of the Jt. DG or which may have been filed by them before the commencement of hearing on 21.02.2012. The parties shall also be free to press the applications already filed before the Commission. However, no application, which may be filed hereinafter for cross-examination of the persons, whose statements were recorded by the Jt. DG or for any other purpose shall be entertained by the Commission.

The CCI, in its meeting held on 17th December 2015, discussed the orders passed by the Tribunal on 11.12.2015 and in accordance with the directions contained at Para No.99, listed the matter for final hearings from 19th Jan to 21st Jan 2016, as conveyed vide CCI Letter No.1(29)/2010Sectt & 1/RTPENo.52/2006/Sectt dated 11.01.2016. Since the arguments could not be completed in three days as scheduled, CCI allowed the arguments to continue on 22nd January 2016 which was kept reserved day for continuing the arguments in case the arguments are not completed in 3 days.

The Competition Commission of India passed fresh orders on 31.08.2016 and found cement companies of guilty of acting in concert and involved in the cartel. The Commission kept the amount of penalty, same for all the companies, as imposed on them in its earlier order in the year 2012 and directed them to deposit the penalty amount within 60 days from the date of order.

The Cement companies started filing appeal in Competition Appellate Tribunal against the order of CCI dated 31.08.2016. The Tribunal directed all the cement companies to deposit 10% of amount of penalty imposed by the CCI before their appeals are taken up for consideration. Accordingly, the cement companies deposited the 10% of the amount of penalty amount as reflected in the orders of the CCI.

Arguments started in the Tribunal from 8th March 2017. As agreed by all the cement companies except M/s. Shree Cement Ltd., the issue of Ambuja Cements Limited in Appeal No.61/2016 will be treated as lead case and other companies will be argue the matter before the Tribunal, if required, only on specific point which have not been covered in the arguments made by the counsel of M/s. Ambuja Cement Ltd.

M/s. Shree Cement Ltd. argue the matter separately.

The matter was again listed for hearing on 11th, 12th & 13th April 2017. When the proceedings in the Tribunal begin, Shri T. Srinivasa Murthy, learned counsel for M/s. Ramco Cements Limited (Appeal Nos. 54 and 64 of 2016) informed the Tribunal that in Civil Appeal Nos. 4300-4301 of 2017, the Hon'ble Supreme Court has stayed further proceedings till the next date of hearing i.e. 2nd May, 2017.

Since the appeal came out of the case which was part of the bunch matters filed against the impugned order dated 31.08.2016 of the Competition Commission of India, the Tribunal consider it appropriate that all the cases led by Ambuja Cement Limited were adjourned for 4 th May, 2017 for further directions.

Government of India closed Competition Appellate Tribunal and all the matters pending for decisions in the Competiton Appellate Tribunal were transferred to National Company Law Appellate Tribunal (NCLAT).

Bunch of cement appeals that were being heard in the Competition Appellate Tribunal came up for hearing in the NCLAT on 12th July 2017. Due to paucity of time the appeals could not be heard by the Hon'ble NCLAT and the appeals were fixed for final arguments on 3rd, 4th & 5th August 2017, at the request of the Senior Counsels.

It was pleaded before bench that the leading case in the matter will be of Ambuja Cement Limited and other



companies will plead / make their submissions before the bench where there is difference and / or company specific matter. Mr. C.A. Sundaram, learned Senior Counsel appearing on behalf of Ambuja Cement Limited argued the matter on 3rd August, 4th August & 8th August 2017 and concluded his arguments on 8th August. Counsels appearing on behalf of other companies argued the matter on 9th & 10th August 2017. All the appellant completed their arguments / submissions on 10th August 2017.

Shri Salman Khurshid, Senior Advocate assisted by Shri Vaibhav Gaggar and others, appearing on behalf of Competition Commission of India, argued the matter on 23rd August, 24th August and 31st August 2017 (on 3 days) and also replied to the objections / queries raised by the counsels of cement companies & CMA. He completed his arguments on 31st August 2017.

Shri C.A. Sundaram on behalf of Ambuja Cement Ltd. Learned counsel appearing on behalf of the other appellants further argued the matter on 19th September 2017 and 5th October 2017. The Tribunal was going to reserve the judgment on 5th October 2017 itself but Shri Vaibhav Gaggar appearing for CCI requested for 10 minutes time on next hearing for Shri Salman Khurshid for which the Chairman agreed and matter was posted for 11th October 2017 with the directions that Parties may file their respective written submissions by the next date.

On 11th October 2017 Shri Salman Khurshid did argue the matter for a brief time. Some of the Appellants filed their written submissions by 11th October 2017 which were kept on record. Tribunal further noted that hearing has already been concluded and reserved the judgment. Chairperson further ordered that Learned counsel for the Respondents, if so choose may file short written submissions by 16th October, 2017 of not more than three pages.

Finally the NCLAT have pronounced the order on 25th July 2018. The Tribunal Bench comprising of Justice S.J. Mukhopadhaya - Chairperson and Mr. Balvinder Singh - Member (Technical) have found the cement companies guilty of cartelization and upheld the amount of penalty. Last two paras of the orders about of the penalty and merit of the appeals are reproduced :-

109. So far as the quantum of penalty order is concerned, as we find that the Commission has imposed mere minimum penalty, no interference is called for against the same.

110. We find no merit in these appeals. They are accordingly dismissed. All Interlocutory Applications filed in these appeals stand disposed of. No costs.

## **Supreme Court of India**

**BAI vs ESIC**

**PETITION(S) FOR SPECIAL LEAVE TO APPEAL (C) NO(S). 13351/2018  
(ARISING OUT OF IMPUGNED FINAL JUDGMENT AND ORDER DATED 14-03-2017  
IN WP NO. 846/2016 PASSED BY THE HIGH COURT OF JUDICATURE AT BOMBAY  
AT GOA)**

**BUILDERS ASSOCIATION OF INDIA**

**PETITIONER(S)**

**VERSUS**

**THE EMPLOYEES STATE INSURANCE CORPORATION & ORS.**

**RESPONDENT(S)**

**Date : 06-07-2018 This petition was called on for hearing today.**

**UPON hearing the counsel the Court made the following  
O R D E R**

**Upon hearing the learned counsels for the parties and taking into account the orders passed by several High Courts in respect of the same subject matter, we are of the view that an interim order would be justified in the facts of the present case. Accordingly, the order of the Bombay High Court at Goa dated 14<sup>th</sup> March 2017 passed in W.P. No. 846 of 2016 as also the Circular dated 31<sup>st</sup> July, 2015 of the Employees State Insurance Corporation shall remain stayed until further orders.**



# GST Council Meeting



திரு. S.D. கண்ணன்  
Taxation Committee

## 1. Highlights of this GST Council meeting

### a. GST Return Filing process further simplified

- Regular taxpayers with a turnover of up to **Rs 5 crores** can opt to file GST return on a quarterly basis against earlier limit of Rs. **1.5 crores**. They have to, however, pay taxes monthly through a challan. Return can be either 'Sahaj' or 'Sugam', wherein the first one, report only B2C supplies and the other report both B2B & B2C supplies, respectively.
- Regular taxpayers with turnover over Rs. 5 crores, have to file monthly returns- the new return filing system proposed by Shri Nandan Nilekani is approved. The process would be based on Invoice "UPLOAD – LOCK – PAY TAX".
- Amendments shall be carried out by the filing of a return called amendment return and payment if any, will be through this return itself, to help save interest liability for the taxpayers.
- It is proposed, NIL return filers (no purchase and no sale) shall be given facility to file the return by sending SMS.

**Implications:** The new return for Quarterly filing taxpayers is a welcome move. Compliances made easy – The filing burden has been reduced for more than 93% taxpayers in the country, as the turnover limit for the quarterly returns filing has been hiked from 1.5 crores to 5 crores. It's to be seen how the proposal for a monthly tax payment plugs the reconciliation gaps and affect ITC claims. Challenge can be where the supply takes place between the Quarterly return filer and Monthly return Filer.

### b. Sops for Composite Dealers get a nod

- **Composition dealers can now get covered for the supply of services:** Limit equal to or below 10% of the turnover of services rendered **or** Rs 5 lakhs, whichever is higher is fixed for opting into the scheme\*. Restaurant services are not be included to reckon this criterion.
- All council members have unanimously voted for bringing into effect the increased threshold limit of Rs. 1.5 crore from existing Rs 1.0 crore as soon as possible\*.

### c. On GST Registration

- Taxpayers may opt for multiple registrations within a State/Union territory in respect of multiple places of business located within the same State/Union territory. Earlier it was restricted to multiple businesses in the separate States.
- E-commerce operators needed to have compulsory GST registration only on those non-exempt goods.
- The threshold for GST exemption increased to 20 lakhs from 10 lakhs for 6 States -Taxpayers operating in Sikkim, Arunachal Pradesh, Himachal Pradesh, Uttarakhand, Assam & Meghalaya.

\*Subject to an amendment in law

#### **d. Reverse charge mechanism deferred for a year till 30th Sept 2019**

- Meanwhile, an amendment is proposed to Levy GST on **reverse charge mechanism** only on specified goods in case of certain notified classes of registered persons who receive supplies from unregistered suppliers.

#### **e. Creation of GST Appellate Tribunal**

- National Bench to be set up at New Delhi.
- 3 State/Regional Bench to come up in Mumbai, Chennai and Kolkata with several Area benches.
- Amount of pre-deposit payable for filing of appeal before the Appellate Authority and the Appellate Tribunal to be capped at Rs. 25 Crores and Rs. 50 Crores, respectively\*.

\*Subject to an amendment in law

#### **f. Transporters to take note of heightened e-way bills compliance**

- As the RFID readers or tags to be implemented in the next 6 months, this is supposed to relieve the transporters from wait at checkposts.
- Standard operating procedure to be adopted to help the transporters from unnecessary hardship at checkpoints and to give effect to a uniform penalty for default by transporters.

#### **g. Relief to taxpayers up to 31st August 2018 to complete the registration**

- Those with Prov ID, who couldn't complete the process of Registration, to complete the process and to encourage the same, the late fees are waived for Return filing.
  - Taxpayers who filed Part A of FORM GST REG-26, but not Part B of the said FORM are requested to approach the jurisdictional Central Tax/State Tax nodal officers with the necessary details on or before 31st August 2018. The Nodal officer would then forward the details to GSTN.
  - The late fee payable for delayed filing of return in such cases is decided to be waived. First, taxpayers pay late fees, the same will then be reversed in the cash ledger under the tax head.

#### **h. Rates Rationalised: Consumer segment to enjoy the most**

- **Sanitary Napkins exempt from GST** Sanitary napkins now will be exempt from GST. This also means that the GST paid on the input raw material used cannot be available for credit due to exemption of the end product.
- **Ethanol:** The implications of reducing the Ethanol rates are far-reaching. It is clear that the government has a bigger plan in place, not only will it impact the sugarcane farmers directly but also lower the cost of producing a range of items to which ethanol is essential, like blending of petrol.
- **Lithium-Ion Batteries:** This reduction hopes to serve as a push to the Indian electronic manufacturers. Reduction of rate for Phosphoric acid has further reduced the stress on the production of ethanol.



### **i. What's in for Exporters?**

- Extension of the exemption by another year up to 30th September, 2019 granted on outward transportation of all goods by air and sea, as relief to the exporter of goods.
- Services provided in sectors like banking, IT have been provided relief by exempting services supplied by an establishment of a person in India to any establishment of that person outside India [related party].
- E-books will attract 5% GST instead of earlier 18%.

### **j. Textile Industry at vantage with allowability of refund of accumulated ITC on Inputs to make Fabric Material**

Council has proposed for the provision of allowing refund of the accumulated ITC by giving prospective effect to its applicability from 27th July 2018\*. \*Subject to CBIC Notification

### **k. Important announcement regards Invoicing**

Registered persons may issue consolidated credit/debit notes in respect of multiple invoices issued in a Financial Year.

### **1. The scope of ITC widened**

- To include further in its scope:
  - Most of the activities or transactions specified in Schedule III;
  - Motor vehicles for transportation of persons, with seating capacity of more than thirteen (including driver), vessels and aircraft;
  - Motor vehicles for transportation of money for or by a banking company or financial institution;
  - Services of general insurance, repair and maintenance in respect of motor vehicles, vessels and aircraft on which credit is available; and
  - Goods or services which are obligatory for an employer to provide to its employees, under any law for the time being in force.
- In case the recipient fails to pay the due amount to the supplier within 180 days from the date of issue of invoice, the input tax credit availed by the recipient will be reversed. Liability to pay interest is being done away with in that case.
- Commissioner to be empowered to extend the time limit for return of inputs and capital sent on job work, upto a period of one year and two years, respectively.
- The order of cross-utilisation of input tax credit is being rationalised. One must await for further announcements giving clarity to this.

### **m. Following have been kept out of scope of 'Supply'**

- Supply of goods from a place in the non-taxable territory to another place in the non-taxable territory without such goods entering into India;
- Supply of warehoused goods to any person before clearance for home consumption; and
- Supply of goods in case of high sea sales.



## **2. Recent Rate Changes on Goods**

GOODS			
S.NO	Items	New Rate	Old rate
1	Rakhi (other than that of precious or semi-precious material )	Nil	18%
2	Sanitary Napkins		12%
3	Circulation and commemorative coins		5%
4	Raw material for broom		12%
5	Stone/Marble/Wood Deities		5%
6	Sal leaves and its products		18%
7	Khali dona		18%
8	Coir pith Compost		5%
9	Chenille fabrics and other fabrcis under 5801	5%	12%
10	Handloom dari		
11	Phosphoric Acid (fertilizer grade only)		
12	Handmade Carpets, Textile Floor, Coverings		
13	Knitted cap/topi having retails sale value exceeding Rs. 1000		18%
14	Kota Stones and Simliar Stones (other than polished)		
15	Ethanol for sale to oil marketing companies for blending with fuel		
16	Solid Bio fuel pellets		
17	Marine Engine		28%
18 to 24	Bamboo Flooring, Hand operated Rubber Roller, Brass Kerosene Pressure Stove, Zip and Slide Fastener, Handicrafts (Excluding handmade), Handbags including pouches and purses; jewellery box; Fuel Cell vehicle	12%	18%
25	Televisions upto 68 cm	18%	28%
26 To 45	Refrigerators, freezers, water cooler, milk coolers, ice cream freezer, Washing Machines, Food Grinders & mixer, Vacuum Cleaners, Paints and Varnishes (including enamels and lacquers), Shavers, Hair Clippers, Hair Cleaners, Storage water heaters, Immersion heaters, Hair Dryers, Hand Dryers, Electric Smoothing irons, Scent Sprays, Toilet Sprays, Pads for application of cosmetics or toilet preparations, Lithium-ion batteries, Powder Puffs, Special purpose motor vehicles, Work Trucks (Self propelled , not fitted with lifting or handling equipment), Trailers & Semi trailers		
List of Goods Exempt			
Fortified Milk		exempt	5%

### **3. Recent Rate Changes on Services**

<b>SERVICES</b>		
<b>Rate Change</b>		
<b>Services</b>	<b>New Rates</b>	<b>Old Rates</b>
Supply of e-books	5%	18%
Supply of Multimodal Transportation	12%	Nil
<b>List of Services Exempt</b>		
<b>Senior Citizens</b>		
1. Services provided by Coal Mines provident fund organisation to the PF subscribers		
2. Services provided by Old age home run by state government / central government to the citizens aged more than 60 years upto Rs. 25000		
3. GST exempted on the administrative fee collected by National Pension System Trust		
4. Services provided by an unincorporated body or non profit entity registered under any law to own members upto Rs. 1000 per year of membership fees.		
<b>Agriculture/ Farmers</b>		
1. Services by way of artificial insemination of livestock (other than horses)		
2. Services provided by FSSAI to food businesses.		
3. Services provided by way of warehousing minor forest produce		
4. Services provided by the installation and commissioning by DISCOMS for extending electricity distribution network for agricultural use.		
<b>Banking/Finance/ Insurance</b>		
1. Reinsurance services provided to insurance scheme such as Pradhan Mantri Rashtriya Swasthya Suraksha Mission		
<b>Government</b>		
1. Guarantees are given by central/state government to their undertakings/PSUs.		
2. Services provided by government to ERCC by assigning the right to collect royalty to mining lease holders.		
<b>Miscellaneous</b>		
1. Import of services by Foreign diplomatic missions/UN other international organizations		
2. GST rate slabs will apply on the actual rate for hotel services instead of declared tariff		

# Neglect in Concrete Construction & their influence on Strength and Durability of infrastructure



**A.R.Santhakumar**  
Former Emeritus Professor,  
Department of Civil  
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**V**ery often, in concrete construction, errors are committed by men-on-the-job, not fully knowing the consequences of their neglect. These are analyzed here. Errors by neglect and lack of concern and through defective work and faulty materials are discussed. Their influence on the capacity of the structure and its durability are presented.

## Cement

Ordinary Portland Cement(OPC) and Portland Pozzolona Cement(PPC) are available in the market. Both are permitted to be used concrete, reinforced concrete and prestressed concrete. What is often forgotten is that at early ages the Portland Pozzolona cement gains strength slowly. Therefore, removal of form work should be delayed to allow PPC to gain adequate strength. 21 days for structures with PPC instead of 14 days for OPC. If we follow cube tests, before stripping of form work this rule may not have to be followed.

Yet another error is in the practice of volume batching on the basis of a 50 kg bag of cement (sometimes even less) as a result of loss in multiple handling of the bags. In addition, in volume batching, Bulking of sand cannot be assessed and accounted for properly. Adulterated cement is hard to be identified in advance. Once used in concrete it will be too late to correct after setting. Hence cement quality should be assessed before use.

## Aggregates

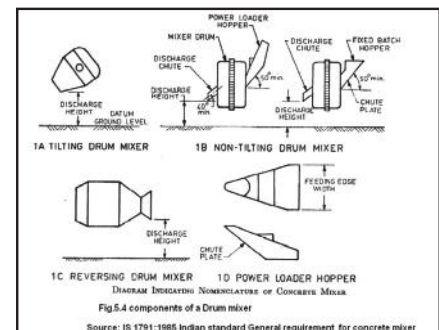
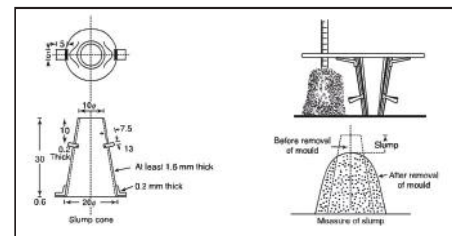
No serious checks are made on the dirt and silt contents in the aggregates. Very often stored coarse aggregates allow silt to filter to the bottom, and the bottom layer aggregate is used in concrete assuming it to be of the same quality as that of the top layer. Concrete is to be mixed/designed considering the fineness and size of sand. This is very important if M-Sand is used. However, very little of sieving is done at site to maintain uniformity of the sand size. Moisture content in sand is also not measured. Therefore, batch to batch the water cement ratio varies; as on to the varying moisture content in sand, constant quantity of water is added in the mixer for every batch. Bulkage due to moisture in sand is also often ignored or wrongly assessed or not taken into account.

## Water Cement Ratio

Water cement ratio is considered and generally understood as the most critical element for the strength and durability of concrete. However, little attention is paid to maintain a predetermined water cement ratio on the production line. The mixture operator, the loader and the mason, who finishes the concrete, add water at free will to maintain what he terms as “workability”

## Mixture Type and Mixing

Time It may be generally understood that a mixing time of 60 seconds in the drum is adequate for mixing concrete. However, it is not fully understood that this mixing time depends on the type of mixer and the position of axis of mixer. Pan mixers take only 30 second, whereas, the inclined axis mixers (Tilting drum) may need as much as 120 seconds. It is also to be understood that the sequence of loading of constituent materials into the mixer has also significant bearing on the quality of concrete. The right sequence will be to load part of mixing water into the drum in the first instance, to charge the loader with part of the coarse aggregate, sand, cement and the rest of the aggregate in that order. A change in sequence of loading is a common error that is committed at all sites of construction under the mistaken belief that what gets out of the mixer “looks good” and, therefore, concrete is good.





## Placing by Mortar

Pans One can see series of mortar pans being dumped on the reinforcement to get easy discharge of the concrete. This results in dispersed depositing of coarse aggregates and mortar remaining in isolated locations. The mortar pan is to be faced inwards from the shutter and slowly discharged to get an even distribution of the concrete matrix.

## Reinforcement

With the advent of different types of reinforcements the site staff often mistakes all deformed bars as high strength bars. The errors are in not identifying the type of bar (whether it is hot rolled or cold worked), whether the cold worked bars are made to uniform pitch or whether the bars have their deformations uniformly or are corroded away. Presence of heavy rust on the surface of the bars can endanger the life of the concrete structure. Providing cover blocks and maintaining uniform distance from the form work, and, between layers of reinforcements through chairs remain as statements made in text books only. The site staff seldom appreciate that adequate and uniform cover is essential to prevent corrosion of steel in concrete. Yet another mistake often made is on bending and re-bending of high strength deformed bars, treating them at par with mild steel bars, cold worked HSD bars have already lost its ductility and, therefore, repeated bending and re-bending of such bars will result in breakage.

## Form Work

Maintaining lines and levels for concrete form work is as essential as the mould for a metal casting. Neglect on this aspect is often on the presumption that a subsequent plaster layer can cover up all defects. It is not uncommon to see lines and levels, including plumb lines, being off by more than 2 to 3 cm. Joints of form work are seldom packed effectively. The psychological work of sealing the joints through coir ropes, mud, etc., is only to last till the first pouring of water done to wet the form surface. Therefore, all the cement slurry escapes through these joints. Coating of the form work with suitable materials as form release agents are also essential and differ for timber form work, plastic form work and steel form work in their absorption capacity. Heights of column and wall are often points of dispute at site. While old specifications restrict the height to around 1 metre, new practices tend to allow this height to be around 1.8 metre. Dropping of concrete from the top of the form work in heights more than this can lead to segregation. Hydrostatic pressure of vibrated concrete also demands heavy ties at bottom of the pour. This has often lead to gaping forms during construction. If greater heights are to be concreted in one go, use of a chute or pumped delivery to the bottom of the form work will become necessary. For the same reason, concrete should only be done in layers to ensure proper vibrations. Striking of form work is often done without proper consideration of transfer of loads to the supporting structure. One mistake often committed is the removal of the props for cantilevers from the support, outwards. Often one attempts to remove the props from below at an early date suggesting that a reproping can re-establish the supported conditions. It is not realized that while removing the props, the self weight of the elements would have already acted and there are no means by which this loading can be reversed.

## Vibration

One assumes that if there is a vibrating machine available at site, all compaction problems can be solved. Spacing of needle points far apart does not ensure compaction. The size of the aggregate and congestion of reinforcement will decide the capacity of the vibrator, to effect compaction. For fear of disturbing flimsy form work scant vibrations are done. Some supervisors and builders believe that slab concrete is not to be vibrated. Over vibration and quick withdrawal of needle vibrators are yet another set of efforts committed at site. Such operations end up in pockets of mortar or mere cavity. Improper compaction around the new types of bars can leave cavities on the under side of these bars thus preventing proper bond between concrete and steel. A displacement of steel from its designed position through indiscrete walking, stamping, and placing of heavy loads during concreting can seriously alter the resisting moment capacity of a given concrete section. Thus steel at the top of a cantilever often end up by being at the bottom by the time concreting is completed.

## Finishing

Concreting done with indiscrete addition of water will require a lot of reworking to finish the surface. Such concrete with a lot of slurry on the top leads to shrinkage, crack and crazing on top. It will be preferable to treat such surface when wet with addition of dry mortar and spreading them evenly. Plastering on concrete done with scant chipping of the hardened surface leads to peeled off plaster, later in the life of the structure.

## Curing

Wet concrete has to remain in humid atmosphere to retain the water for it to complete the hydration of lime and the chemical reactions in the cement paste. Such reactions generate considerable heat in the concrete. It is for this reason that curing by proper means are to be insisted upon. At most of the construction sites one sees very little attention paid to such curing. The concrete surface remain dry for most of the time and it is such inadequate curing that leads to cracking of concrete and spalling of surface layer.

## Expansion and Contraction

Joints During construction, the concreting may have to be stopped for purposes of rest, change of crew, etc. A partially set concrete surface is to be raked up and treated with cement slurry, mortar and then added with fresh

concrete. The new layer of concrete should be well vibrated to integrate it with the old concrete. Such an exercise often is insisted upon, but stops with pouring of some cement water. Such joints could finally be the points where leakage of water and development of temperature cracks occur. The need to concrete large surface area in squares note extending 3 meters in length is not well understood by the site staff. This is an exercise to reduce shrinkage effects. Expansion joints are to be provided as free joints, through the structure, to allow for differential movement and temperature movements. Such joints are to be at 30 metre spacing in case of masonry structures and at 45 metre on reinforced concrete structure. Very often such a provision is shown in the design drawings. However, the site staff seldom makes sure that these joints are provided for; and if provided for they are not kept completely free to allow the movement. The errors are in allowing mortar to fall through these gaps and set, as also to allow debris to get deposited in these joints. This restricts the movements and results in cracking of the building at the joint or away from the joint. Cracks in buildings founded on weak soils often exert unknown forces to cut across RCC element too. Horizontal continuous bends in RCC are to be provided in masonry structures under such conditions. The error committed is in checking for only the primary loads transferred; finding that masonry is strong enough in compression one tends to ignore all other cautions.

### **Precast Concrete**

Since large prefabricates are seldom employed in our projects, general errors normally made in small precasting works only are highlighted here.

Moulds with re-entrant angles can make release of concrete product difficult. Closed precise elements should have walls with adequate batter. Surface projections/depressions on masonry moulds are often not attended to resulting in locking of products. Release agents are not applied uniformly. Cover on thin elements is to be carefully attended to. Stripping pieces are to be inserted to facilitate easy stripping of vertical and horizontal form surfaces. One often neglects the action of self weight in handling an RCC or prestressed element. Lifting off the mould before getting adequate strength, supporting elements at centre, lifting off at diagonal corners, and giving improper lines of support while stacking are common errors. More often precast elements are kept upside down, assuming these products to behave like steel-with more or less equal strength in tension and compression. During handling and erecting, horizontal load distribution directly from the slings, rather than through a distributor beam, is the common mistake made; resulting in accident and loss of property. The above given common errors are highlighted to warn the site staff about the possible dangers from the consequences of their action.

### **Checklist for Commencing Major Concreting (Other than controlled concrete)**

1.	Final levels and lines of centering are checked	Yes/No
2.	Reinforcement and centering got approved by Engineer-in-charge	Yes/No
3.	Cover blocks for reinforcement provided	Yes/No
4.	Necessary tightening of supports and bracing completed	Yes/No
5.	Required quantity of cement, metal and sand (approved quality) for the day's work brought to site	Yes/No
6.	If construction joint is planned necessary stop board prepared and brought to site	Yes/No
7.	Concrete mixer and vibrator with operators and mechanic available	Yes/No
8.	Necessary wooden benches for walking over slab reinforcement available	Yes/No
9.	Water cement ratio fixed and measuring can for water available	Yes/No
10.	Supervisor detailed at mixing point with sufficient briefing to ensure production of quality concrete	Yes/No
11.	Cube moulds for making test cubes and slump cone kept ready	Yes/No
12.	Bulkage test is conducted and the percentage of bulkage decided for sand	Yes/No
13.	All inserts to be embedded in concrete are checked and placed in position including electrical conduits	Yes/No

## Common Defects /Problems in Concrete and Their Remedies

S.No.	Defect	Causes	Suggested Solution
<b>S.No.</b>	<b>Defect</b>	<b>Causes</b>	<b>Suggested Solution</b>
1.	Segregation and bleeding	- Mix is lean - Over vibration	- Use richer mix - Avoid over vibration
2.	Permeability & Shrinkage	- High water content in mix - Lack of compaction - Improper grading of aggregate	- Reduce water-cement ratio - Resort to sufficient compaction - Use upper graded aggregate
3.	Blow holes on exposed faces	- Improper mix design  - Inadequate cover between reinforcement and mould face which restrains local flow of concrete between mould face and reinforcement  - Lack of sufficient vibration	- Use correct water-cement ratio. Use air-entraining agent to improve workability if water-cement ratio is to be kept low  - Use adequate cover for reinforcement - Use larger and cubical coarse aggregate and only sufficient sand  - Resort to adequate mechanical vibration using vibrator head of larger circumference (It is to be noted that vibrator needle has no effect on the concrete below the tip of the needle) - Resort to knifing at the contact face of mould - Resort to vigorous tamping with a wooden mallet on all sides of form work as the concreting proceeds
4.	Plastic cracks (small, near horizontal cracks at faces)	- During compaction higher particles tend to settle down and water rises up and collects below certain points of concrete, remaining higher due to arching or interlocking. This causes cracks during drying below such points	- Use cohesive mix  - Place and compact concrete in layers avoiding any local points of arching



S.No.	Defect	Causes	Suggested Solution
5.	Crazing (map of starry fine cracks on the surface upto 3 cm long)	- Shrinkage of surface due to surface carbonation (caused due to the free lime released during hydration reacting with CO <sub>2</sub> which reduces resistance of the surface to drying shrinkage.	- Reduce water-cement ratio - Use pozzolona cement - Resort membrane curing to keep the surface covered
6.	Efflorescence (white patches)	- High water cement ratio - High quantity of free lime released during hydration	- Reduce water-cement ratio - Use pozzolona cement
7.	Spalling	- Usage of concrete of low strength - Form lining is not absorbent	- Use concrete of sufficient strength - Use absorbent form lining
8.	Cement not hardening	- Cement used is slow setting - Cement used is adulterated	- Use cement of appropriate setting time or use accelerators - In case of suspected adulteration, carry out necessary Field Tests* to ascertain whether the cement is adulterated or not, prior to incorporating in the work.
9.	Loss in workability and mix becoming harsh	- Evaporation of moisture in concrete, which is required for hydration: due to severe temperature conditions coupled with wind - Improper grading or insufficient cement sand mortar in the mix	- In case the initial setting time has not lapsed, the concrete may be tempered by adding a little quantity of water having regard to water-cement ratio and then mixing before use.

\* Field Tests 1. Test of cement adulterated with stone dust Take a sample of the doubtful stuff and heat the same on a clean steel plate with the help of a stove for about 20 minutes. If the cement changes in colour, it is indicative of adulteration of cement with stone dust whereas, genuine cement does not undergo any colour change.

2. Test of cement adulterated with fly ash: Take a small quantity of the doubtful stuff in a glass tumbler and add water till the tumbler is half full. After vigorous agitation of the content allow the mixture to settle. If the cement is adulterated with fly ash, it could be seen that the ash particles either float or remain in suspension with the cement particles settling down.

♦ ♦ ♦



# மாமல்லபுரம்

**இ**ந்தியாவின் தமிழ்நாடு மாநிலத்தில் அமைந்துள்ள காஞ்சிபுரம் மாவட்டம், திருக்கழுக்குன்றம் வட்டம், திருக்கழுக்குன்றம் ஊராட்சி ஒன்றியத்தில் இருக்கும் ஒரு பேரூராட்சி ஆகும். 7ஆம் நூற்றாண்டில் பல்லவ நாட்டின் முக்கிய துறைமுகமாக விளங்கிய நகரமாகும். இந்நகரம் மகாபலிபுரம் என்று அழைக்கப்படுகிறது.

மாமல்லபுரத்தில் உள்ள கட்டிடங்களை மூன்று வகையாகப் பிரிக்கலாம். குடைவரைக் கோயில்கள் அல்லது மண்டபங்கள். ஒற்றைக்கல் கோயில்கள் அல்லது இரதங்கள் மற்றும் கட்டுமானக் கோயில்கள். இவை தவிர படைப்புச் சிறப்புத் தொகுதிகள் வெளிப்புறத்திலும் கோயில்களின் உட்புறத்திலும் காணப்படுகின்றன.

மாமல்லபுரத்தின் சிற்பங்கள் மிக நளினமாகவும், இயல்பானவையாகவும் இருப்பதாலும் கடற்கரைக் கோயில்கள், இரதங்கள், படைப்புச் சிற்பத் தொகுதிகள் போன்ற சிறப்பு வாய்ந்த பல இருப்பதாலும், மாமல்லபுர நினைவுச் சின்னங்களை உலகப் பண்பாட்டுச் சின்னம் என்றும் 1984ல் யுனெஸ்கோ அறிவித்தது.

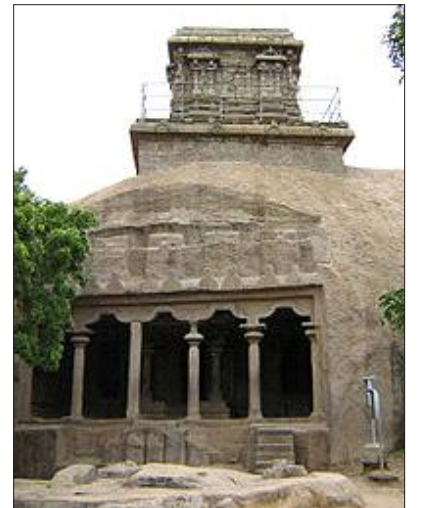
## பெயர்க்காரணம்

மாமல்லபுரம் என்பதற்கு பெயர் காரணம், ஒரு முறை நரசிம்மராகிய மாமல்லர் தனது தந்தையுடன் உலா சென்றபோது ஒரு பாறை மீது யானையின் படம் வரைந்தார். அதைப்பார்த்த பிறகு, தான் அவர் தந்தைக்கு பாறைகளில் அழியா கோவில்கள் கட்ட வேண்டும் என்ற எண்ணம் தோன்றியது. அதனால் அவர் பெயரையே அந்த நகருக்கு இட்டார்.

## மண்டபங்கள்

பெரும்பாறை ஒன்றின் முகப்பை மட்டும் பட்டையாச் செதுக்கி, அதன் பின் உள்நோக்கிக் குடைந்த வகையில் உருவாக்கப்பட்டவையே இந்த வகைக் கோயில்கள். இவற்றின் பின்புறச் சுவரில் கருவறைகளும் அதற்கு முன்பாக அர்த்த மண்டபம், முக மண்டபம் ஆகிய முன்னறைகளும் இருக்கும். கட்டுமானத்தைத் தாங்கும் வகையில் தூண்கள் செதுக்கப்பட்டிருக்கும். இவ்வகைக் கோயில்களில் ஒரு கருவறை அல்லது மூன்று கருவறைகள் அல்லது ஐந்து கருவறைகள் கூட இருக்கலாம். எல்லாக் கோயில்களிலும் கருவறைக்கு முன் அர்த்தமண்டபம் இருக்கும். சிலவற்றில் மட்டுமே முக மண்டபம் என்ற அர்த்த மண்டபத்துக்கும் கருவறைக்கும் இடைப்பட்ட இடம் இருக்கும்.

கருவறைகள் சிவன், திருமால், பிரம்மன், துர்க்கை, சுப்ரமணியன் ஆகிய தெய்வங்கள் உள்ளன. இந்த தெய்வங்கள் சில கருவறைகளில் சிலைகளாகப் பின் சுவரில் வடிவமைக்கப்பட்டுள்ளன. ஆனால் எல்லாக் கருவறைகளிலும் அப்படி இல்லை. மரத்தில் செதுக்கப்பட்டோ அல்லது துணியில் வரையப்பட்டு மரச்சட்டத்தில் பொருத்தப்பட்டோ உள்ளே வைக்கப்பட்டிருக்கலாம் என்கிறார்கள் அறிஞர்கள். சிவனுக்குரிய கருவறைகளில் லிங்கத்தை நட்டு வைப்பதற்கான குழி காணப்படுகிறது. சில கருவறைகளில் லிங்கமும் உள்ளது. ஒவ்வொரு கருவறைக்கும் வெளியே இரு துவாரபாலகர்கள் எனப்படும் வாயில் காப்பாளர்கள் சிற்பங்களைக் காணலாம். பெண் தெய்வமாக (துர்க்கை) இருக்கும் போது வாயில்காப்பாளர்களும் பெண்களாக இருப்பார்கள்.





## மாமல்லபுரத்தில் இருக்கும் மண்டபங்கள் பின்வருமாறு

- ♦ வராக அவதாரம் வராக மண்டபம்
- ♦ மகிடாசுரமர்த்தினி மண்டபம்
- ♦ இராமானுச மண்டபம்
- ♦ மும்முர்த்தி மண்டபம்
- ♦ கோடிக்கல் மண்டபம்
- ♦ கோனாரி மண்டபம்
- ♦ அதிரணசண்ட மண்டபம்



## இரதங்கள்

இயற்கையான பாறையை மேலிருந்து கீழ்நோக்கிச் செதுக்கித் தோற்றுவிக்கப்பட்ட ஒற்றைக்கல் கோயில், தேர் போலக் காட்சியளிப்பதால் இரதம் என்று அழைக்கப்படுகிறது. இவைதான் பிற்காலக் கோயில்களுக்கு மாதிரி. இவற்றின் மேல் பகுதி விமானம் என்று அழைக்கப்படும். மாமல்லபுரச் சிற்பிகள் பல்வேறு விதமான விமானங்களைச் சோதனை செய்து பார்த்திருக்கிறார்கள். ஒவ்வொரு இரதக் கோயிலிலும் ஒரு கருவறை உண்டு. கருவறைக்கு இருபுறமும் வாயில் காப்போரும் உண்டு.

## மாமல்லபுரத்தில் இருக்கும் இரதங்கள்

- ♦ பஞ்ச பாண்டவ இரதம் எனப்படும் ஐந்து இரதங்கள்
- ♦ வலையன் குட்டை இரதம்
- ♦ பிடாரி இரதங்கள் எனப்படும் இரு இரதங்கள்
- ♦ கணேச இரதம்

முதலாம் நரசிம்ம வர்மன் என்னும் மாமல்லனில் அரிய படைப்பான பஞ்சபாண்டவ இரதங்கள் என்று அழைக்கப்படும் ஐந்து ஒற்றைக்கல் கோயில்கள் மற்றும் சில விலங்குச் சிற்பங்கள் அடங்கிய ஐந்து இரதங்கள் தொகுதி தெற்கிலிருந்து வடக்காகச் சரிந்த சிறு குன்றிலிருந்து செதுக்கப்பட்டதாகும்.

இந்த ஐந்து இரதங்களும் பஞ்ச பாண்டவர்கள் பெயரைப் பெற்றிருந்தாலும் அவை மகாபாரதத்துடன் தொடர்புடையவை அல்ல. மூன்று அடுக்குகளுடன் எட்டுபட்டை சிகரத்தை (திராவிட விமானம்) உடைய தர்மராச இரதம் மற்றும் அருச்சுன இரதம், சாலை (கூண்டு வண்டி) வடிவிலான சிகரத்தை உடைய பீம ரதம், சதுரமான குடிசை போன்ற சிகரத்தை உடைய திரௌபதி இரதம் மற்றும் கஜபிருஷ்டம் (யானையின் பின்பக்கம்) போன்ற சிகரத்தை உடைய சகாதேவ இரதம் ஆகிய இரதங்கள் கோயில் மாதிரிகளுக்காக தோற்றுவிக்கப்பட்டவையே என்பதை அவற்றின் ஸ்தூபிகள் பாறையிலிருந்து பிரிக்கப்பட்டு சிகரத்தின் மீது பொருத்தப்படாமல் இருப்பதிலிருந்து அறியலாம்.

## தர்ம ராஜா இரதம்

மாமல்லபுரத்தின் ரதங்களிலேயே மிகவும் பெரியதும், மிகவும் அழகு வாய்ந்ததும் தர்மராச இரதம் ஆகும். இந்த இரதத்தில் மூன்று தளங்கள் உள்ளன. மேலே உள்ள இரண்டு தளங்களும் முழுவதுமாக முடிக்கப்பட்டுள்ளன. தரைத்தளம் முழுவதுமாகச் செதுக்கப்படவில்லை. மேல் இரு தளங்களிலும் ஒவ்வொரு கருவறை உள்ளது. அதனுள் சோமாஸ்கந்தர் சிற்பங்கள் உள்ளன. அவை தவிர இரு தளங்களின் சுற்றுகளிலும் மிக அற்புதமான சிற்பங்கள் நிரம்பியுள்ளன. ஆனால் மேலே உள்ள தளங்களுக்குச் செல்லப் படிகள் கிடையாது. பொது மக்களுக்க இந்த இடத்துக்குச் சென்று பார்க்க அனுமதியும் கிடையாது. இந்த இடத்தை நிர்வகிக்கும் தொல்லியல் துறையின் அனுமதி கிடைத்தால் மட்டுமே இங்கே சென்று பார்க்க முடியும்.

தரைத்தளத்தில் கருவறை குடையப்படவில்லை. ஆனால் அதன் எட்டு மூலைகளிலும் எட்டு அழகான சிற்பங்கள் காணப்படுகின்றன. இவை அர்த்தநாரீஸ்வரர், சிவனும், திருமாலும் இணைந்த சிற்பம், சுப்பிரமணியன், பைரவன் வடிவில் சிவன், மேலும் இரு வேறு சிவன், பிரமன் மற்றும் நரசிம்ம வர்மப் பல்லவன். நரசிம்ம வர்மனின் விருதுப் பெயர்கள் பல்லவ கிரந்த எழுத்துக்களில் தரைத்தளம் முழுவதிலும் பொறிக்கப்பட்டுள்ளன.





அர்த்த நாரீஸ்வரர் சிற்பம் பல்லவர் சிற்பக்கலைத் திறனுக்கு ஓர் ஒப்பற்ற சான்றாகும். முதல் தளத்தில் மொத்தம் 40 சிற்பங்கள் பொறிக்கப்பட்டுள்ளன.

இரண்டாம் தளத்தில் சூரியன், சந்திரன் ஆகியோரைத் தவிரக் குறிப்பிட்டுச் சொல்ல வேண்டிய சிற்பம் தட்சிணாமூர்த்தி வடிவில் உள்ள சிவன். பல்லவர் சிற்பக் கலையின் உன்னதத்துக்கு ஒரு சான்றாகத் தர்மராச இரத்ததைச் சொல்லலாம்.

#### கட்டுமானக் கோயில்கள்

ஒரு பெரும் பாறை அல்லது குன்றைக் குடைந்து அல்லது மேலிருந்து செதுக்கிச் செய்யாமல், பல்வேறு கற்களை வெட்டி எடுத்து, ஒன்றன் மீது ஒன்றாக அடுக்கிச் செய்யப்பட்டவையே கட்டுமானக் கோயில்கள். பிற்காலத்தில் தென்னிந்தியாவில் கட்டப்பட்ட கோயில்களுக்கு மாதிரியாகவும் முன்னோடியாகவும் மாமல்லபுரத்தின் இரந்தக் கோயில்களைக் கருதலாம். மாமல்லபுரத்தில் மொத்தம் மூன்று பல்லவர் காலக் கட்டுமானக் கோயில்கள் உள்ளன.

#### கடற்கரைக் கோயில்கள் (கடலோரத்தில் கட்டப்பட்டவை)

மாமல்லபுரத்தின் சின்னமாக விளங்கும் கடற்கரைக் கோயில்கள் இரண்டாம் நரசிம்ம வர்மன் எனப்படும் ராஜசிம்மனால் கட்டப்பட்டவை. முதலில் இங்க திருமால் தரையில் படுத்திருக்கும் கோலத்தில் ஒரு கோயில் இருந்திருக்கிறது. அதற்கு இரு பக்கத்திலும் கிழக்கு நோக்கியும் மேற்கு நோக்கியுமாக இரு சிவன் கோயில்கள் கட்டப்பட்டுள்ளன. கிழக்கு நோக்கிய கோயில் உயரமானதாக ஐந்து அடுக்குகள் கொண்ட கோபுரத்தை உடையதாக உள்ளது. மேற்கு நோக்கிய கோயில் சிறியதாக, மூன்று அடுக்குகள் கொண்ட கோபுரத்தைக் கொண்டதாக உள்ளது. இரண்டு கோயில்களின் கருவரையின் பின்புறச் சுவரிலும் சோமாஸ்கந்தர் எனப்படும் சிவன், உமை, குழந்தை வடிவிலான குமரன் என்ற மூன்று தெய்வங்களும் சேர்ந்திருக்கும் சிற்பம் காணப்படுகிறது. இக்கோயிலில் உள் சுற்று ஒன்றும் காணப்படுகிறது. சுவரின் பல இடங்களிலும் பல்வேறு தெய்வச் சிற்பங்களும் புராண பாத்திரங்களும் காணக் கிடைக்கின்றன.

#### புடைப்புச் சிற்பத் தொகுதிகள்

இந்தியாவிலேயே வேறு எங்கும் இல்லாத புதுமையாக மாமல்லபுரத்தில் உள்ள வெளிப்புறப் புடைப்புச் சிற்பத் தொகுதிகள் விளங்குகின்றன. வெளிப்புற சிற்பத் தொகுதிகளாக இங்கு இருப்பவை

அருச்சுனன் தபசு

கண்ணன் கோவர்த்தன மலையைத் தூக்குதல்

விலங்குகள் தொகுதி

இவைத் தவிர, வராக மண்டபம், ஆதிவராக மண்டபம், மகிஷாசுரமர்த்தின மண்டபம் ஆகியவற்றுள் சில புடைப்புச் சிற்பத் தொகுதிகள் காணப்படுகின்றன.

#### அருச்சுனன் தபசு

சுமார் 30 மீட்டர் உயரம், சுமார் 60 மீட்டர் அகலம் கொண்ட சிற்பங்கள் செதுக்கப்பட்ட பாறையே அருச்சுனன் தபசு என்றழைக்கப்படுகிறது. வானவர்கள், மனிதர்கள், மிருகங்கள் என பல வகையான சிற்பங்கள் காணப்படுகின்றன. ஒற்றைக்காலில் நின்று ஒரு மனிதர் தவமிருக்க அருகே கையில் ஓர் ஆயுதத்தை ஏந்தியபடி சிவன், பூத கணங்கள் சூழ நின்று வரம் கொடுப்பதாகச் சிற்பங்கள் வடிக்கப்பட்டுள்ளன. அருச்சுனன் தபசு ஆஸ்திரத்தை வேண்டிச் சிவனை நோக்கித் தவம் செய்யும் காட்சிதான் இங்கே செதுக்கப்பட்டுள்ளது என்று அறிஞர்கள் சொல்கிறார்கள். ஒரு சிலர் பகீரதன் கங்கையை வரவைப்பதற்காகக் சிவனிடம் தவம் செய்யும் காட்சி இது என்று கூறுகிறார்கள். ஓர் அறிஞர், இந்தச் சிற்பமே ஒரு சிலேடை என்றும் இரு காட்சிகளையும் ஒரே சிற்பத்தில் காட்டும் முயற்சி என்றும் சொல்கிறார். சமீபத்தில் ஓர் அறிஞர் இங்கே தவம் செய்வது பாசுபத அஸ்திரம் வேண்டி நிற்கும் அருச்சுனன்தான் என்றும் ஆனால் இந்தச் சிற்பம், மாகாபாரதத்தில் வனபர்வத்தின் இமய மலைச் சித்தரிக்கும் காட்சி என்றும் குறிப்பிட்டுள்ளார்.

மாமல்லபுரத்தின் அதிசயம் என்றே இந்தச் சிற்பத் தொகுதியைக் குறிப்பிட வேண்டும். இந்த ஒரு திறந்த வெளிப் பாறையில் சிற்பிகள் 150க்கும் மேற்பட்ட சிற்பங்களை செதுக்கியுள்ளனர்.

#### கோவர்த்தன சிற்பத் தொகுதி

அருச்சுனன் தபசு பாறை சிற்பத்துக்கு அருகில் கிருஷ்ண மண்டபம் என்ற மண்டபம் உள்ளது. இதற்கு உள்ளாகத்தான் கோவர்த்தன சிற்பத் தொகுதி உள்ளது. பல்லவர் காலத்தில் செதுக்கப்படும் போது இந்தச் சிற்பமும் வெளிப்புறத் புடைப்புச் சிற்பமாகத்தான் இருந்தது. பிற்காலத்தில் விஜயநகர ஆட்சியின் போது இதன் மீது மண்டபம் ஒன்று கட்டப்பட்டுள்ளது.

பல்லவர் காலத்துக்குப் பிறகு விஜயநகர அரசர்கள் காலத்தில் கட்டப்பட்ட ஒரு திருமால் கோயிலும் மாமல்லபுரத்தில் உள்ளது. ஒரு மொட்டை கோபுரத்தையும் காணலாம். கோவர்த்தன சிற்பத் தொகுதியின் மீது அமைக்கப்பட்ட கிருஷ்ண மண்டபமும் இக்காலத்தில்தான் கட்டப்பட்டது.

♦ ♦ ♦

# NEW PATRON MEMBERS



**M/s. Bose Developers**  
**Mr. R. Vijayabose**  
No.47P, 1st Street  
Union Carbide Colony  
Zamin Pallavaram  
Chennai - 600 117  
9677717744



**M/s. Red Brick  
Constructions**  
**Mr. Preetham Dev Moses**  
No.57-U Block  
7th Street, Anna Nagar  
Chennai - 600 040  
4720 3182 / 9840900012



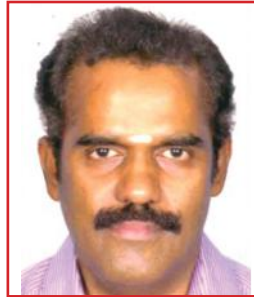
**M/s. Civicons**  
**Mr. R.K. Rajendran**  
No.4F, New Wing,  
GT Cholayil Residency,  
Rail Nagar Road  
Koyambedu, Chennai - 600 107  
9840566308



**M/s. Sankar & Ganesh  
Builders**  
**Mr. D. Gomathi Sankar**  
No.1, 10B, Colony Extn,  
G.V. Complex  
Selaiyur, Chennai - 600 073  
22291836 / 9840094230



**M/s. Elegant Constructions**  
**Mr. C. Chandran**  
1B/3, 1st Main Road  
Gandhi Nagar  
Adayar, Chennai - 600 020  
9710669568



**M/s. Sankar & Ganesh  
Constructions**  
**Mr. Ganesa Subramanian**  
S-1, Srishti Residency  
No.10, Bagaiyam Nagar,  
4th Street, Sembakkam  
Chennai - 600 073  
9840055533



**M/s. Kanya Homes Pvt Ltd**  
**Mr. N. Mathavan**  
'Kanya', 48-A,  
Taramani 100 Ft Road,  
Velacherry, Chennai - 600 042  
2243 6272 / 9444049306



**M/s. V.G.K. Builders Pvt Ltd**  
No. 2 & 5 First Floor,  
National Theatre Bldg.  
Govindarajan Street,  
West Tambaram,  
Chennai - 600 045  
22260272 / 7871023456



**M/s. LR Infrastructure Pvt Ltd**  
**Mr. L. Raveendran**  
New No.34, 2nd floor,  
Karpagambal Nagar  
Mylapore,  
Chennai - 600 004  
24661197 / 9840031104



**M/s. Stephen Constructions**  
**Mr. Stephen Theodore**  
No.12, 1st floor,  
Dra.Rajivi Towers  
No.231/27, P.H. Road,  
Purasawalkam  
Chennai - 600 007  
26424414 / 9444033240



**M/s. Pranav Foundation**  
**Mr. A.B. Satish**  
Nelson Towers,  
3rd Wing Basement  
New No.51, Old No.117,  
Nelson Manickam Rd  
Chennai - 600 029  
9840136707



**M/s. Uniscaff Engineers**  
**Mr. S. Chandrasekar**  
17/1, Gangai Amman Koil  
Street, Vadapalani  
Chennai - 600 026  
24835560 / 8754441950



## 2nd State Level Meeting at Pudhukottai



## Southern Centre Members to Pudhukottai Meeting

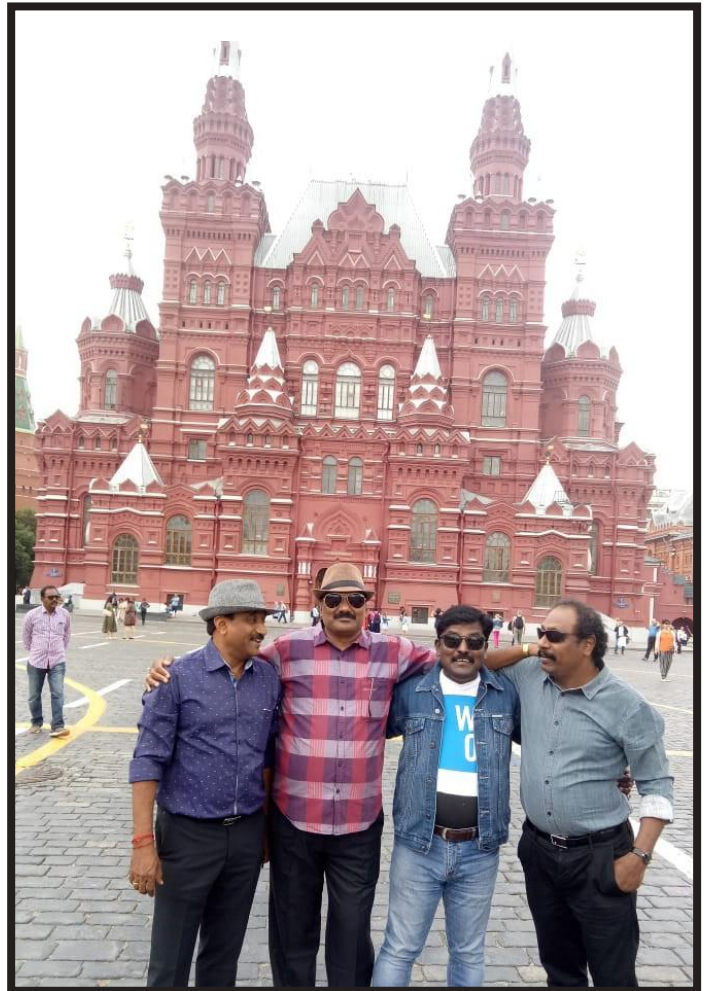
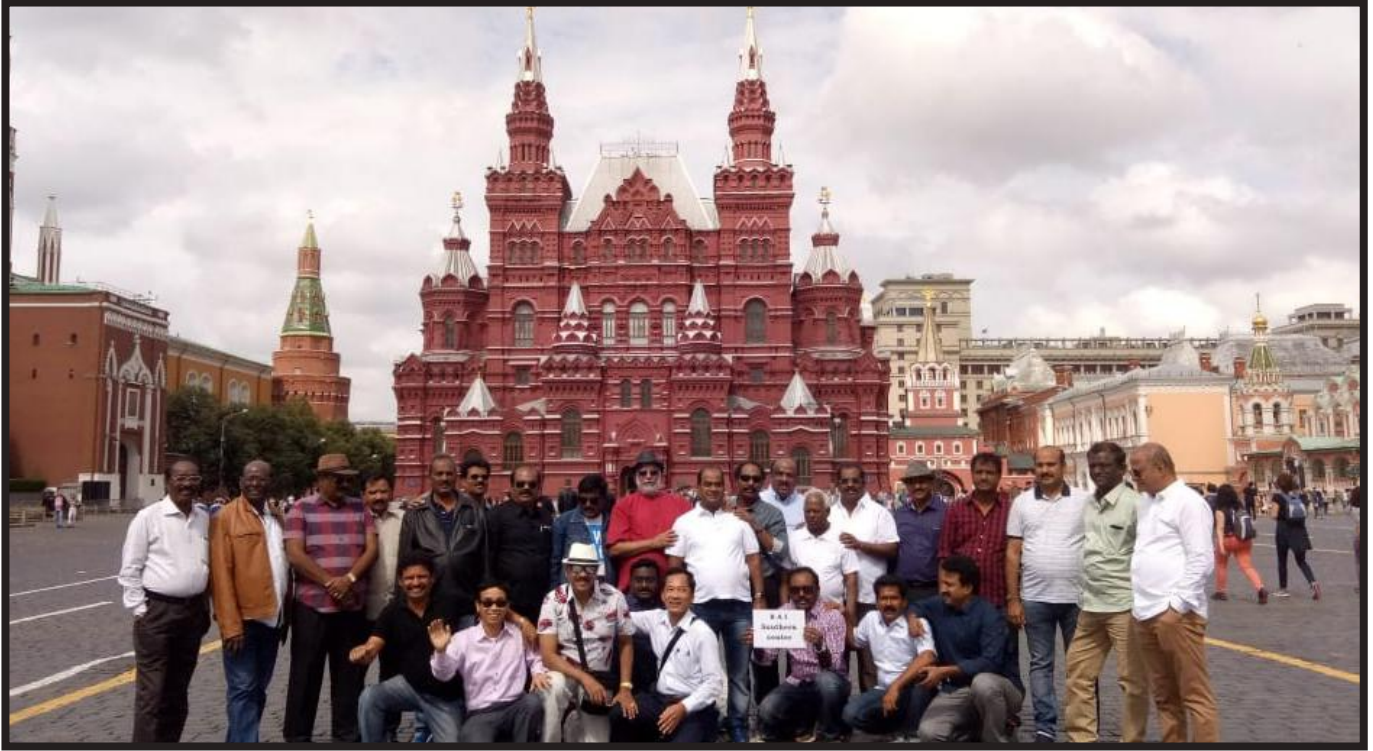


## Southern Centre 4th EC / GC Meeting





# Southern Centre Members at Russia





# Southern Centre Members at Russia





## Southern Centre Members at Russia



# PWD PLINTH AREA RATES



## PUBLIC WORKS DEPARTMENT BUILDING ORGANISATION

OFFICE OF THE ENGINEER-IN-CHIEF (BUILDINGS) &  
CHIEF ENGINEER (BUILDINGS), PWD, CHENNAI REGION, CHEPAUK, CHENNAI-5

**CIRCULAR MEMORANDUM NO. HDO (A) / 48518 / 2003, dated 29.06.2018**

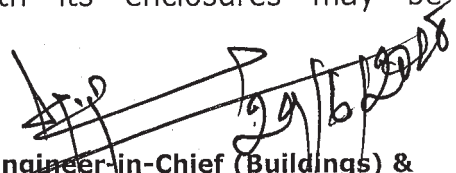
**Sub:** Buildings – Plinth Area Rates for the preparation of  
Rough Cost Estimates for building schemes during the  
year **2018-2019** – Approved – Communication of –  
Regarding.



The Plinth Area Rates for the purpose of preparation of Rough Cost Estimates for Building Schemes during the year **2018-2019**, worked out in line with the impact of adoption of Standard Schedule of Rates for the year 2018-2019 are approved and furnished in Annexure I, II, III, IV & V. The Chief Engineers, the Superintending Engineers and the Executive Engineers of Building Organisation are requested to adopt the above rates in the preparation of the rough cost estimates for building schemes with effect from **01.07.2018**, until further orders from this office.

The receipt of this circular memo along with its enclosures may be acknowledged.

**Encl.:** Annexures-I, II, III, IV & V.

  
for Engineer-in-Chief (Buildings) &  
Chief Engineer (Buildings), PWD,  
Chennai Region, Chennai-5

## ANNEXURE-I

### PLINTH AREA RATES FOR THE YEAR 2018-2019 FOR THE PREPARATION OF ROUGH COST ESTIMATE

Sl. No.	Type of Building	For works in Moffusil (other than Corporation Limits)			For works in Corporation Limits					
		Foundation	Super Structure	Roof Finishing	In Trichy, Salem, Tirunelveli, Thoothukudi, Vellore, Tiruppur and Erode			In Chennai, Coimbatore and Madurai		
					Foundation	Super Structure	Roof Finishing	Foundation	Super Structure	Roof Finishing
(Rate in Rupees per 1 sqm.)										
1.	Residential Load Bearing	3235	7230	1210	3395	7595	1275	3485	7760	1310
	Framed	3835	10080	1240	4030	10585	1310	4135	10815	1330
2.	Non-Residential Load Bearing	2495	6130	1210	2615	6430	1275	2685	6590	1310
	Framed	3835	7575	1240	4030	7950	1310	4135	8125	1330
3.	Hospital Load Bearing	2495	6865	1210	2615	7655	1275	2685	7380	1310
	Framed	3835	10555	1240	4030	11095	1310	4135	11365	1330

**Note:-**

- (1) For the calculation of Foundation Cost, Plinth area at Ground level of the building is to be taken.
- (2) For the calculation of Super Structure cost, plinth area of respective floor of the building is to be taken.
- (3) For the calculation of Roof finishing cost, Plinth area at Ground level of the building is to be taken.
- (4) For School Buildings – the Super Structure cost will be 80% of Super Structure cost of Non-Residential Buildings.
- (5) For stilt floor towards Car parking, Garages, Cycle Shed, Staircase Head Rooms etc., - the plinth area rate will be 65% of Super Structure cost of Non-residential building.
- (6) For basement floor, an extra 25% over the super structure cost of respective type of building is to be added.
- (7) In framed structure, where dummy columns are to be provided, a rate of Rs.381/m<sup>2</sup> of plinth area for Residential Building and a rate of Rs.301/m<sup>2</sup> for Hospital Buildings and Non-residential Buildings is to be allowed.





- (8) For upper floors, an extra @ Rs.29/m<sup>2</sup> may be added towards lift charges for each floor.
- (9) The additional rates allowed in the schedule of rates for works in Jails, Reserve forests, Hills and other Special tracts etc., shall be added to the above plinth area rates for works in respective areas.
- (10) For works in the belt area of Chennai City, the plinth area rate applicable for Chennai City shall be adopted.
- (11) For super structure for Earth-quake prone areas, the rates in Annexure-V shall be adopted.
- (12) All the above provisions shall be added only on the basic rates as approved in the table above.
- (13) For works in coastal area, the following rates over the basic rate as approved in the table above, (for the total plinth area) shall be added for providing concrete of higher grade
  - a. Upto 10 km distance from Sea Water Front – Rs.204/m<sup>2</sup>
  - b. Beyond 10 km and upto 24 km distance from Sea Water Front – Rs.102/m<sup>2</sup>

**(14) PROVISIONS INCLUDED IN FOUNDATION RATE:**

- (a) The rate given for foundation is applicable for Ground Floor + 2 Floors in the case of Load bearing structure.
- (b) The rate given for foundation is applicable for Ground Floor + 3 Floors in the case of Framed structure.
- (c) The rate given for foundation is to be calculated based on plinth area at Ground Floor of the building only.
- (d) The depth of foundation assumed is 1.8m below GL with conventional stepped footing in the case of Load bearing structure.
- (e) The depth of foundation assumed is 2.0m below GL with isolated footing in the case of Framed Structure.
- (f) The foundation rate is inclusive of Earth Work, Sand filling, PCC 1:5:10 for Mat Concrete, Brick Work / Random Rubble Masonry in Cement Mortar, Re-filling the sides of foundation, Plinth beam including cost of centering, Cement Concrete, Steel, Damp Proof Course, Sand filling in basement and flooring concrete in Ground Floor in the case of Load bearing structure.
- (g) The foundation rate is inclusive of Earth Work, Sand filling, PCC 1:5:10 for Mat Concrete, Cement Concrete, Centering, Steel for column footing, Pedestal, Column, Re-filling the sides of

foundation, Plinth beam, Brick work in Cement Mortar upto basement level, Damp Proof Course, Sand filling in basement and flooring concrete in Ground Floor in the case of framed structure.

- (h) The foundation rates are applicable for building with basement at 0.9m height from ground level.

**(15) PROVISIONS INCLUDED IN SUPER STRUCTURE RATE:**

- (a) This rate is inclusive of Brick work, RCC, Steel, Centering, Plastering, joinery items with steel frames and M.D.F. shutter for doors, steel glazed windows and steel glazed ventilators, Grano flooring 25mm thick in the case of residential & non residential buildings, mosaic tile flooring in the case of Hospital building and Rain water down fall pipe of adequate dia.
- (b) The height of each floor has been taken as 3.30m average.
- (c) This rate is inclusive of provision for Anti skid ceramic tile flooring and glazed tile dadoing in Toilets.
- (d) This rate is inclusive of plastering with Cement Mortar 1:5, 12mm thick, white washing two coats over one coat of white washing for interior walls and colour washing two coats over one coat of white washing for exterior faces.

**(16) PROVISIONS INCLUDED IN ROOF FINISHING RATE:**

- (a) This rate is inclusive of weathering course, finishing with pressed tiles, providing parapet wall with Brick work in Cement Mortar, plastering, white washing for interior faces and colour washing for exterior walls.

**(17) EXTRA PROVISIONS TO BE ALLOWED OVER THE ABOVE RATE:**

**(a) IN FOUNDATION:-**

Sl. No.	Type of foundation	Rate in Rupees per one sqm.	Area to which applicable
(i)	For stub column arrangements for Load bearing structure	979	Plinth area at ground level
(ii)	For combined footing	638	Plinth area at ground level
(iii)	For strip raft	2555	Plinth area at ground level
(iv)	For raft (Floating Raft)	3835	Plinth area at ground level
(v)	For every additional 0.3m basement height	377	Plinth area at ground level
(vi)	For every additional 0.3m depth in foundation	240	Plinth area at ground level

Sl. No.	Type of foundation	Rate in Rupees per one sqm.	Area to which applicable
(vii)	For every additional floor over initial Ground + 3 Floors in case of Framed Structure	525	Respective floor area
(viii)	For Anti-Termite Treatment	97	Plinth area at ground level
<b>(ix)</b>	<b>Pile Foundation</b>		
(a)	Upto 4 storeys for a depth of 15m	7520	Plinth area at ground level
(b)	More than 4 storeys but less than 8 floors	9665	Plinth area at ground level
(c)	More than 8 Floors	13160	Plinth area at ground level
(d)	<b>Add</b> extra for every one metre depth, if the depth of pile exceeds 15m	425	Plinth area at ground level
(e)	<b>Deduct</b> extra for every one metre depth, if the depth of pile is less than 15m	204	Plinth area at ground level

**(b) IN SUPER STRUCTURE:-**

Sl. No.	Description of work	Rate	
(i)	<b>For every additional 1m height</b> over the initial height of 3.30 m	Rs.475/m <sup>2</sup>	
(ii)	<b>Flooring:-</b> (Actual area of flooring has to be considered)	In Residential & Non-Residential Buildings	In Hospital Buildings
(a)	Grey Colour Mosaic Tiles	Rs.600/m <sup>2</sup>	NIL
(b)	Other Colour Mosaic Tiles	Rs.810/m <sup>2</sup>	Rs.209/m <sup>2</sup>
(c)	Ceramic Tiles (not less than 305 x 305 x 6 mm size)	Rs.862/m <sup>2</sup>	Rs.275/m <sup>2</sup>
(d)	Marble (Macrona) (not less than 600 x 600 x 18mm size)	Rs.1685/m <sup>2</sup>	Rs.1090/m <sup>2</sup>
(e)	Marble (White) (not less than 600 x 600 x 18mm size)	Rs.1875/m <sup>2</sup>	Rs.1290/m <sup>2</sup>

(f)	Marble (Adanga) (not less than 600 x 600 x 18mm size)	Rs.1400/m <sup>2</sup>	Rs.816/m <sup>2</sup>
(g)	Vitrified Tiles (not less than 600 x 600 x 8mm size)	Rs.912/m <sup>2</sup>	Rs.311/m <sup>2</sup>
(h)	Rajasthan Kota Stone (Plain)	Rs.1000/m <sup>2</sup>	Rs.413/m <sup>2</sup>
(i)	Rajasthan Kota stone (Laid in combination with marble strips)	Rs.1145/m <sup>2</sup>	Rs.560/m <sup>2</sup>
(j)	Cuddapah Slab	Rs.750/m <sup>2</sup>	Not recommended
(k)	Stain Free Nano Polish Vitrified Tiles 600 x 600 x 8mm	Rs.1065/m <sup>2</sup>	Rs.464/m <sup>2</sup>
(l)	Double Charged Vitrified Tiles 600 x 600 x 8mm	Rs.1335/m <sup>2</sup>	Rs.735/m <sup>2</sup>
(m)	Double Charged Vitrified Tiles 800 x 800 x 10mm	Rs.1540/m <sup>2</sup>	Rs.940/m <sup>2</sup>
(n)	Joint Free Rectified Glazed Ceramic Tiles 305 x 305 x 8mm	Rs.1020/m <sup>2</sup>	Rs.420/m <sup>2</sup>
(iii)	<b>Joinery:</b> (for any joinery like Aluminium (or) any other equivalent types of joineries if proposed) – Add extra	Rs.528/m <sup>2</sup> of carpet area	
(iv)	<b>Cement Painting if proposed:-</b>		
(a)	For internal faces and external faces	Rs.474/m <sup>2</sup> based on plinth area	
(b)	For external faces only	Rs.230/m <sup>2</sup> based on plinth area	

## ANNEXURE-II

### OPTIONAL ITEMS

Sl. No.	Description of work	Rate in Rupees per one sqm.	Area to which applicable
1	<b>False Ceiling using GI Channel Sections etc., (if proposed):-</b>		
(a)	False Ceiling with Plain Gypsum Board	1175	Ceiling area proposed
(b)	False Ceiling with Perforated Gypsum Board using GI Channel Sections etc.,		
(i)	Without Glass Wool	1350	Ceiling area proposed
(ii)	With Glass Wool 50mm thick below AC sheet roofing	1625	Ceiling area proposed





2	<b>Wall Panelling using GI Channel Sections etc., (with Gypsum Board) if proposed:-</b>		
(a)	Wall Panelling with Perforated Gypsum Board with Glass Wool of 25mm thick	1350	Wall Panelling area proposed
(b)	Wall Panelling with Plain Gypsum Board without Glass Wool	1080	Wall Panelling area proposed

### ANNEXURE-III

#### ELECTRICAL, WATER SUPPLY AND SANITARY ITEMS OF WORKS

Sl. No.	Description of work	Rate in Rupees per one sqm.	Area to which applicable
1	<b>AC Provision for Office Buildings and in Hospitals (if proposed):-</b>		
(a)	For non-ductable AC Units	4210	Floor area proposed
(b)	For ductable type AC Plants	5615	Floor area proposed
<b>Note:</b> 1. The above rates are not inclusive of civil works such as construction of plant room, false ceiling, etc. 2. The above AC rates are inclusive of Supply, Installation, Testing, Commissioning and handing over of Air-Cooled Self Contained Ductable AC Units.			

2	<b>Lift (if proposed):-</b>		
(a)	<b>Passenger Lift</b> SS Body-304 Grade - Gearless) having speed 1m / second including power mains	With Machine Room (G+3)	Without Machine Room (G+3)
(i)	8 Persons capacity (upto Ground + Three Floors)	Rs.16.92 lakhs	Rs.17.74 lakhs
(ii)	10 Persons capacity (upto Ground + Three Floors)	Rs.17.70 lakhs	Rs.18.55 lakhs
(iii)	13 Persons capacity (upto Ground + Three Floors)	Rs.19.69 lakhs	Rs.20.60 lakhs
(iv)	20 Persons capacity (upto Ground + Three Floors)	Rs.24.48 lakhs	Rs.26.01 lakhs
(b)	<b>Bed-cum-Passenger Lift</b> (SS Body-304 Grade - Gearless) having speed 1m / second including power mains	With Machine Room (G+3)	Without Machine Room (G+3)
(i)	15 Persons capacity (upto Ground + Three Floors)	Rs.20.70 lakhs	Rs.22.01 lakhs
(ii)	20 Persons capacity (upto Ground + Three Floors)	Rs.24.74 lakhs	Rs.25.75 lakhs

(iii)	26 Persons capacity (upto Ground + Three Floors)	Rs.25.75 lakhs	Rs.27.77 lakhs
(c)	<b>Dump Lift</b> (upto Ground + Three Floors)	Rs.6.89 lakhs	

**Note:**

1. Provision for civil works such as construction of Lift Pit, Shaft, Machine Room, etc., are not included in the above rates.
2. **For Passenger Lift and Bed-cum-Passenger Lift** – For every additional floor over the Ground + Three Floors an extra at Rs.1,02,000/- shall be allowed for each floor.
3. **For Dump Lift** – For every additional floor over the Ground + Three Floors an extra at Rs.45,870/- shall be allowed for each floor.
4. **For Lift Pit** an extra at Rs.13,100/- per sq.m. of lift well sectional area shall be allowed.
5. Comprehensive servicing and maintenance of lifts for further period of 2 years beyond free warranty period of one year from the date of commissioning of lifts will be paid at the rate of 5% of capital cost of lift.
6. **For Passenger Lift and Bed-cum-Passenger Lift** – Add extra Rs.51,000/- per Lift for Earthing, Shaft, Machine Power Mains as per CEIG Norms shall be allowed.
7. **Safety Certificate for Lift** has to be obtained by Supplier from CEIG.

Sl. No.	Description of work	Rate as per SOR, 2018-19	Allied works		Total
(3)	<b>High Tension Supply for 11 KVA Source of Supply</b> (including Erection, Testing, Commissioning and Allied Works)				
(i)	With Transformer upto 250 KVA <b>(Level-2)</b>	Rs.8.05 lakhs <b>(Level-2)</b>	HT/LT Cable	Rs.2.55 lakhs	<b>Rs.14.99 lakhs</b>
			MV Panel	Rs.2.04 lakhs	
			Safety Accessories	Rs.0.31 lakhs	
			APFC Panel	Rs.2.04 lakhs	
			<b>Sub-Total</b>	<b>Rs.6.94 lakhs</b>	
(ii)	With Transformer upto 500 KVA <b>(Level-2)</b>	Rs.11.05 lakhs <b>(Level-2)</b>	HT/LT Cable	Rs.2.81 lakhs	<b>Rs.20.28 lakhs</b>
			MV Panel	Rs.4.08 lakhs	
			Safety Accessories	Rs.0.31 lakhs	
			APFC Panel	Rs.2.04 lakhs	
			<b>Sub-Total</b>	<b>Rs.9.23 lakhs</b>	

Sl. No.	Description of work	Rate as per SOR, 2018-19	Allied works		Total
(3)	High Tension Supply for 11 KVA Source of Supply (including Erection, Testing, Commissioning and Allied Works)				
(iii)	With Transformer upto 1000 KVA (Level-2)	Rs.18.05 lakhs (Level-2)	HT/LT Cable	Rs.3.06 lakhs	Rs.28.56 lakhs
			MV Panel	Rs.5.10 lakhs	
			Safety Accessories	Rs.0.31 lakhs	
			APFC Panel	Rs.2.04 lakhs	
			Sub-Total	Rs.10.51 lakhs	

**Note:**

- Provision for civil works such as, construction of Transformer Room, MV Panel Room, etc., are not included in the above rates.
- Add extra for Service Connection Charges & Development Charges payable to TNEB and Approval Charges payable to CEIG.
- If necessary, as per the approved design based on the site condition and CEIG Norms, add extra for the provision of Vacuum Circuit Breaker Panel and Ring Main Gear adopting Schedule of Rates, 2018-2019 shall be allowed.
- Add extra of Rs.1,00,000/-** shall be allowed for **22 KVA Source of Supply for Transformers**

<b>4</b>	<b>Generator Set with AMF Panel:</b>	
(i)	100 KVA capacity	Rs.8.52 lakhs
(ii)	125 KVA capacity	Rs.9.49 lakhs
(iii)	160 KVA capacity	Rs.12.75 lakhs
(iv)	250 KVA capacity	Rs.17.54 lakhs
	<b>Generator Set with Standard Panel:</b>	
		<b>New Item (as per SOR, 2018-19)</b>
(i)	100 KVA capacity	Rs.6.52 lakhs
(ii)	125 KVA capacity	Rs.7.49 lakhs
(iii)	160 KVA capacity	Rs.10.18 lakhs
(iv)	250 KVA capacity	Rs.14.00 lakhs
<b>Note:</b>		
1. Cost of construction of Generator Room not included in the above rates		
2. Add extra of Rs.1,63,200/- for Erection, Testing, Commissioning, Power Mains and Charges for CEIG approval shall be allowed.		



5	Cold Storage facilities for Mortuary:				
(i)	9 Bodies Capacity	Rs.13.11 lakhs			
(ii)	12 Bodies Capacity	Rs.16.38 lakhs			
<b>Note:</b>					
1. Cost of Mortuary Building not included in the above rates.					
6	<b>Public Address System:</b> For Mini Conference Hall / Meeting Hall			Rs.2.65 lakhs	
7	<b>Intercom</b> with EPABX arrangements upto 300 lines			Rs.15.91 lakhs	
8	<b>Lightning Arrester</b> (For more than 5 storeys)				
	<b>Description</b>	<b>Rate</b>	<b>Allied Works</b>		<b>Total</b>
(i)	Lightning Arrester (Large)	Rs.90,000	Mounting Structure	Rs.24,000	
			Down Conductor (50 metres)	Rs.7,000	
			Test Link	Rs.5,900	
			Earth Electrode	Rs.10,900	
			Surge Protection	Rs.22,900	
			<b>Sub-Total</b>	<b>Rs.70,700</b>	<b>Rs.1,60,700</b>
(ii)	Lightning Arrester (Small)	Rs.80,000	Mounting Structure	Rs.24,000	
			Down Conductor (50 metres)	Rs.7,000	
			Test Link	Rs.5,900	
			Earth Electrode	Rs.10,900	
			Surge Protection	Rs.22,900	
			<b>Sub-Total</b>	<b>Rs.70,700</b>	<b>Rs.1,50,700</b>
	<b>Note:</b> Add extra for additional down conductor at Rs.140/- per RM for the more than 5 storeyed buildings.				
9	Civil Aviation Lights for buildings more than 8 storeys			Rs.1.34 lakhs	

10	Internal Water Supply, Sanitary Arrangements & Electrical Arrangements			
Sl. No.	Type of Buildings	Water Supply Arrangements	Sanitary Arrangements	Electrical Arrangements
		Rate in rupees per one sqm.		
(1)	Residential	540	425	815
(2)	Non-Residential	425	325	715
(3)	Hospital	540	425	840

**Note:**

1. Add extra for provision of LED Lightings for Rs.120/- per sqm. of plinth area shall be allowed.
2. Add extra for provision of Computer Plugs for Rs.15/- per sqm. of plinth area shall be allowed.
3. Add extra for provision of Power Plugs for Rs.20/- per sqm. of plinth area shall be allowed.

11	External Water Supply, Sanitary Arrangements & Electrical Arrangements						
Sl. No.	Type of Building	Water Supply Arrangements		Sanitary Arrangements		Electrical Arrangements	
		Within existing well developed campus	New campus	Within existing well developed campus	New campus	Within existing well developed campus	New campus
		Rate in rupees per one sqm.					
(1)	Residential	330	645	125	205	270	545
(2)	Non-Residential	330	645	125	205	270	545
(3)	Hospital	330	645	125	205	270	545

**Note:**

1. The above rate is applicable only for ground and first floors on plinth area basis.
2. For every upper floor over the basic ground and first floor, 50% of respective floor area alone shall be taken into account for making provision towards external water supply and sanitary arrangements.
3. For every upper floor over the basic ground and first floor, 20% of respective floor area alone shall be taken into account, for making provision towards external electrification arrangements.

**ANNEXURE – IV**  
**OTHER PROVISIONS**

Sl. No.	Description of work	Rate
<b>1</b>	<b>Construction of compound wall to a normal height of 1.50m from ground level with required number of gates, grills, etc.,</b>	
(a)	With stub column, plinth beam, etc.,	Rs.1990/RM
(b)	With load bearing foundation with brick work in cement mortar 1:5	Rs.2900/RM
<b>2</b>	<b>Approach Road</b>	
(a)	Forming approach road in layers of 450mm thick sand gravel mix of ratio 1:1 as base layer, WBM Laid in two layers of 75 mm thick each (total 150 mm thick) including cost of small culverts come across, forming berms, etc.,	Rs.530/sqm.
(b)	Black topping over WBM including tack coat and seal coat	Rs.154/sqm.
<b>3</b>	<b>Pavement all-round the building</b>	
(a)	For a width of 1.2m	Rs.984/RM
(b)	For a width of 2.0m	Rs.1590/RM
<b>Note:</b> <ol style="list-style-type: none"> <li>1. Pavement all-round the building is to be done for a width of 1.20m if the sub soil is of ordinary nature; and it is to be done for a width of 2.0m, if the sub soil is of expansive soil.</li> <li>2. The above rates include provision for earth work excavation to a depth of 450mm, PCC 1:5:10, sand filling, kerb wall with Brick work in cement mortar at external face of pavement, one impervious layer, cost of precast pavement slab of specified shape with pointing etc.,</li> </ol>		
<b>4</b>	<b>Finishing the Elevation</b>	
(a)	For all buildings	Not exceeding 1% of total value of Building
(b)	For Prestigious / Heritage Buildings	Not exceeding 2½% of total value of building
<b>5</b>	<b>Soil Investigation (minimum)</b>	Rs.31,260/-
<b>Note:</b> <ol style="list-style-type: none"> <li>1. If the area is more, higher provision towards soil investigation may be allowed.</li> </ol>		



6	Advertisement Charges	Provision is to be made depending on the norms prescribed by Government time to time for publication in Newspapers.
7	Provision for foundation stone laying and inaugural function	To be made only for works costing over Rs.10.00 lakhs at Rs.13,000/- (Rs.3,000/- + Rs.10,000/-)
8	Rain Water Harvesting	Rs.13,280/- per pit
9	<b>Provision for Lawn (Optional)</b>	
(a)	Residential	@ 1.5% of building cost
(b)	Hospital & Non- Residential	@ 3.0% of building cost
10	Labour Welfare Fund	@ 1.0% of building cost
11	Unforeseen Items, Petty Supervision Charges and Contingencies	@ 2.5% of building cost
12	Provision can be included for Price Adjustment Clause for works costing Rs.100.00 lakhs and above	@ 5.0% of building cost per one year of period of completion

## 2018-19 ஆம் ஆண்டிற்கான உறுப்பினர்கள் சந்தா விபரம்

வ.எண்	விவரம்	உறுப்பினர் சேர்க்கை தொகை
1	நிரந்தர உறுப்பினர் சேர்க்கை தொகை (Patron Member Fees) (நிரந்தர உறுப்பினர்களுக்கு புகைப் படத்துடன் கூடிய உறுப்பினர் அடையாள அட்டையும், சான்றிதழும் வழங்கப்படும்)	Rs.29,700/-
2	புதிய வருடாந்திர உறுப்பினர் கட்டணம் (சான்றிதழ் மட்டும் வழங்கப்படும்)	Rs.3,745/-
2	உறுப்பினர் புதுப்பித்தல் கட்டணம் (சான்றிதழ் மட்டும் வழங்கப்படும்)	Rs.3,627/-

ஆண்டு சந்தா உறுப்பினர்கள் 201819 ம் ஆண்டிற்கான சந்தாத் தொகையை இந்த வருடம் உடனடியாக தென்னக மய்ய அலுவலகத்தில் செலுத்தி உறுப்பினர் சேர்க்கையை புதுப்பித்துக் கொள்ளுமாறு பணிவன்புடன் கேட்டுக்கொள்கிறேன். சந்தாத்தொகையை பணமாகவோ அல்லது காசோலையாகவோ “பில்டர்ஸ் அசோசியேஷன் ஆப் இந்தியா” என்ற பெயரில் மேற்கண்ட விலாசத்திற்கு நேரடியாகவோ தபால் மூலமாகவோ அனுப்பி வைக்குமாறு கேட்டுக்கொள்கிறேன்.

மேற்கண்ட கட்டணத்தை Electronic Clearing Service (ECS) மூலமாகவும் கீழ் கண்ட வங்கிக்கு செலுத்தலாம். பணம் செலுத்திய விவரத்தை நமது அலுவலகத்திற்கு தெரிவிக்கும்படி கேட்டுக் கொள்கிறோம்.

Bank : Indian Bank  
Acc Name : BUILDERS ASSOCIATION OF INDIA  
Branch : Egmore, Chennai – 600 008  
Current A/c : 455121461  
IFS CODE : IDIB 000E004

இப்படிக்கு,  
உங்கள் அன்புள்ள  
**R. பார்த்திபன்**  
கவுரவ பொருளாளர்





# SOUTHERN CENTRE ACTIVITIES

**11.07.2018**

FSI – க்கான கோரிக்கை மனு மய்யத்தலைவர் திரு. I. வெங்கடேசன், துணைத்தலைவர் திரு. S. இராமப்பிரபு. செயலாளர் திரு. வி. சாந்தக்குமார், இணைச் செயலாளர் திரு. R. ஸ்ரீதர் அவர்களும் 11.07.2018 அன்று தமிழ்நாடு அரசின் வீட்டு வசதித்துறை முதன்மை செயலர் திரு. S. கிருஷ்ணன் அவர்களை நேரில் சந்தித்து FSI குறித்த கட்டுநர்களின் கோரிக்கை மனுவை சமர்ப்பித்தனர்.

**13.07.2018**

இரண்டாவது மாநில அளவிலான பொதுக்குழு மற்றும் மேலாண்மைக்குழு கூட்டம் 14.07.2018 அன்று புதுக்கோட்டை மய்யத்தின் உபசரிப்பில் நடைபெற்றது. அதில் தென்னக மய்ய நிர்வாகிகள் உட்பட பொதுக்குழு மற்றும் மேலாண்மைக்குழு உறுப்பினர்கள் 38 பேர் பேருந்து மூலம் ஒரே குழுவாக சென்று கலந்து கொண்டனர்.

**16.07.2018**

நான்காவது செயற்குழு மற்றும் பொதுக்குழு கூட்டம் காஸ்மோ பாலிடன் கிளப், சென்னை – 600 002ல் உயர்திரு S. கணபதி, உயர்திரு. R. எத்திராஜன், உயர் திரு. A. ஜெயசீலன், உயர்திரு. Y. சீனிவாகன் ஆகியோரின் உபசரிப்பில் நடைபெற்றது.

**19.07.2018 முதல் 25.07.2018 வரை**

தென்னக மய்ய நிர்வாகிகள் உட்பட 24 உறுப்பினர்கள் ரஷ்ய பயணம் மேற்கொண்டு செயின்ட் பீட்டர்ஸ் பர்க் மற்றும் மாஸ்கோ நகர கட்டிட கலை நுணுக்கங்களை கண்டு வந்தனர்.

**25.07.2018**

தமிழ்நாடு பொதுப்பணித்துறையின் சார்பாக 62வது Product Assessment கூட்டம் சேப்பாக்கத்தில் நடைபெற்றது. அதில் தென்னக மய்யத்தின் சார்பாக இணைச் செயலாளர் திரு.R.R. ஸ்ரீதர் அவர்கள் கலந்து கொண்டார்.

I request you to patronize the issue by providing your advertisement to promote your products on our **Southern Builder Magazine** for the year 2018.

## TARIFF

Sl. No.	Description	Rate Per Issue	Rate Per Annum
1.	Multi Colour A4 Size Rear Cover Outer	Rs.30,000/-	Rs.3,00,000/-
2.	Multi Colour A4 Size Front Cover Inner / Rear Cover Outer	Rs.20,000/-	Rs.2,00,000/-
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**Rotary Club of Aarch City Madras Awarded  
Imm. Past Southern Center Chairman Mr. K. Venkatasan Received**



**Our Senior Member Mr.S.Ganapthy Installed as President of Rotary Club of Chennai Accord**



10.07.2018 அன்று தஞ்சாவூரில் நடைபெற்ற நமது பொதுக்குழு உறுப்பினர்  
திரு. M.A.ஜேசுராஜராஜன் அவர்களின் இல்லத் திருமண விழா.





# WHY I HAVE TO JOIN BUILDERS' ASSOCIATION OF INDIA?

Along with our existing 2500 members  
you are very special to us !



This is a forum where people in construction industry together, work for the interest of the members mutually supporting each other in other words, professional fraternity prevails here which helps not only in business development but also in taking the business to heights.



On the economic front we individually play a vital role in the nation building, by being the second largest contributor to GDP and second industry to promote employment. As nation is progressing, opportunities available in plenty for all of us. In such a scenario you are ahead of others to grab the opportunities.



Prime motto of the association is to safeguard the member's interest. Being strong means higher representation. Instead of a lone voice, we can represent individual and industry concerns, as a mighty association with unity to Government and to other areas, where it should be. With our strong functioning we represent few government bodies also.



We are an active association. We often meet. Every month we have meetings and we do have extraordinary meetings to discuss important matters. We have our association office at prime location with dedicated staff. We have strong Office bearers supported by Executives, General and Marketing bodies to carry out the office of the association.



You will be always updated on the industry with recent updates, developments etc., in and around the industry. We conduct training and seminars frequently on industry updates. We have our own structured Corporate Social Responsibilities. We circulate a monthly journal by name "Southern Builder", with an expertise editorial board, which keeps you updated on industry happenings.

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Estd : 1941

# BUILDERS' ASSOCIATION OF INDIA

(All India Association of Engineering Construction Contractors)

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## MEMBERSHIP APPLICATION FORM

To  
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BAI - Head Office  
G-1/G-20, 7<sup>th</sup> Floor, Commerce Centre  
J. Dadajee Road, Tardeo  
MUMBAI – 400 034  
Ph : 022-2352 0507 / 2351 4802  
Website : www.baionline.in

Through  
The Honorary Secretary,  
BAI - Southern Centre  
"Casa Blanca", 2nd Floor, 11, Casa Major Road,  
Egmore, Chennai - 600 008.  
Phone : 044-28192006, 28191874  
Web : www.baisouthern.com  
E-mail : baisouthern1950@gmail.com /  
baisouthern@yahoo.com

Dear Sir,

Please enroll my/our name (s) PATRON / RENEWAL Member of Builders' Association of India. I/We am/are connected with the Building Profession / Trade / Construction industry as (please tick relevant box/s)

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Civil Construction Contractors | <input type="checkbox"/> Real Estate Developer / Promoter | <b>Registered With</b>   |
| <input type="checkbox"/> Electrical                     | <input type="checkbox"/> Architect/Engineer               | <input type="checkbox"/> Central PWD                             |
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| <input type="checkbox"/> Interior decorator             | <input type="checkbox"/> Engineering College/Polytechnics | _____  |
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I /we specialise in \_\_\_\_\_

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towards the membership subscription.

Yours faithfully,  
(For & On Behalf of)

Date : \_\_\_\_\_

(To be signed by Proprietor / Partner / Director of Attorney / Authorised Signatory)

Fill below in Block letters:

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a).....

b).....

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d).....

Name of the Person  
who will attend and vote at the meeting with residence  
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a).....

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Res / Address. & Tele. No. ....

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SECRETARY

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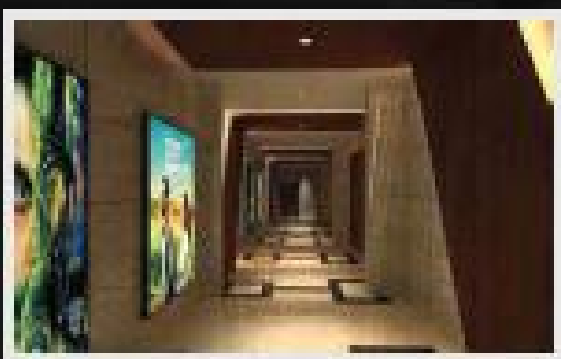
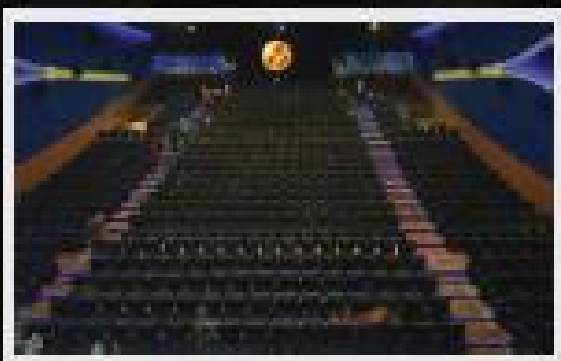
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