

# BUILDERS' ASSOCIATION OF INDIA S O U T H E R N C E N T R E

Y E A R

2018-19



ESTD: 1950

**Builders' Association of India**  
Southern Centre - Estd: 1950

NURTURING THE VALUES  
OF BONDING, RELIABILITY &  
TRUST FOR OVER 75 YEARS !



## From the Chairman's Desk



### Dear Patron,

Greetings from Builders' Association of India, Southern Centre.

I take this opportunity to thank each and every one of you for electing me as the Chairman of this esteemed body. It is an honour and privilege to be part of an excellent team that strives on reaching success and greatness.

I strongly believe that we all want to be part of a team that leaves a legacy and is remembered for years on what we have accomplished, an attribute that defines our corporate philosophy. We as a team are committed to creating progressive approaches to our operations and services as we keep abreast of new and emerging technologies and continue to innovate. Our goal is to make sure that every members have opportunities to prosper and succeed. We seek to maximize the corporate values while trying to meet the expectations of our members and employees.

Our success would not be possible without the contribution of our members and dedicated partners who have a commendable share in our incredible journey thus far. We look forward to continuing to serve and support all of you in our efforts to exceed expectations. Thank you once again for this privilege.

**L. VENKATESAN**  
Chairman

# OFFICE BEARERS

2018-19



**Mr. L. Venkatesan**  
Chairman



**Mr. S. Ramaprabhu**  
Vice Chairman



**Mr. L. Shantha Kumar**  
Hon. Secretary



**Mr. R. Parthiban**  
Hon. Treasurer



**Mr. R.R. Sridhar**  
Joint Secretary



**Mr. K. Venkatesan**  
Imm. Past Chairman

## EXECUTIVE COMMITTEE MEMBERS



**K. Gopinath**  
Aditi Foundations



**M. V. Harikumar**  
Impress Metals



**A. Jayaseelan**  
Sun Builders



**S. Jeyaraman**  
Venus Builders



**M. Kannan**  
M.P.K. Enterprises



**K. Koteswara Chowdary**



**R. M. Meenakshi Sundaram**



**K. R. Parthasarathy**  
Sri Ramajayam Constructions



**M. Pasupathy**



**R. Ramesh**  
Varthini Foundations



**S. Saravana Perumal**  
Alpha Foundations (P) Ltd



**A. Sathya Narayana**  
Pranav Foundation Pvt. Ltd



**M. Sekar**  
Charean Builders Pvt. Ltd



**Y. Srinivasan**  
Sreepathi Builders



**J. Tajuddin**  
K.M. Enterprises

# GENERAL COUNCIL

2018-19

## GENERAL COUNCIL MEMBERS (PATRON)



**S. Ayyanathan**  
M/s. A.R.Singaravel Thevar



**T. V. Chandrasekaran**



**R. Ethirajan**  
R.Ethirajan & Co



**S. Ganapathy**  
Vinayak Builders



**L. Shantha Kumar**  
Sagas Construction



**S. D. Kannan**  
S.D.K. Constructions



**R. Manoharan**  
Ruby Builders & Promoters

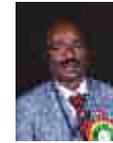


**Mu. Moahan**  
Metro Road Construction



**S. Ramaprabhu**  
Ramsons Associates

## GENERAL COUNCIL MEMBERS



**D. Anbazhagan**  
AVN Constructions



**K. Annamalai**  
KAK Constructor



**M. N. Balasundaram**  
Thillai Nataraja RMC



**R. Balasubramaniam**  
Pace Infrastructure



**B. Dhanasekaran**  
New Bharath Electricals & Enterprises



**G. Diwakar**  
G.D. Constructions



**M. Jaisankar**  
Jupiter Foundations



**M. A. Jesurajan**  
Diamond Infra Constructions



**A. Kalaivasan**  
Bannari Crushers



**D. Kumar**



**N. G. Lokanathan**  
Udayam Enterprises



**R. Nimrode**  
N. R. Associates

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**J. Nirmal Chand**  
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Sri Karpagam Construction



**S. Pandiyen**



**R. Rajendran**



**V. S. Ramakrishnan**  
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**P. Ramkumar**



**M. Senthil Kumar**



**R. R. Sridhar**  
Raghul Associates



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**V. S. B. Sunder**  
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**G. Thilagar**  
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**A. Udaya Shankar**  
Sri Shakthi Engineering Works



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## MANAGING COMMITTEE

2018-19

### All India Past President



**Bhisima R. Radhakrishnan**  
Past President & Trustee - BAI

### All India Trustee



**K. Ramanujam**  
Trustee - BAI

### ELECTION OFFICERS



**J. R. Sethuramalingam**



**O. K. Selvaraj**



**S. Sathyamurthy**

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2018-19

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2018-19

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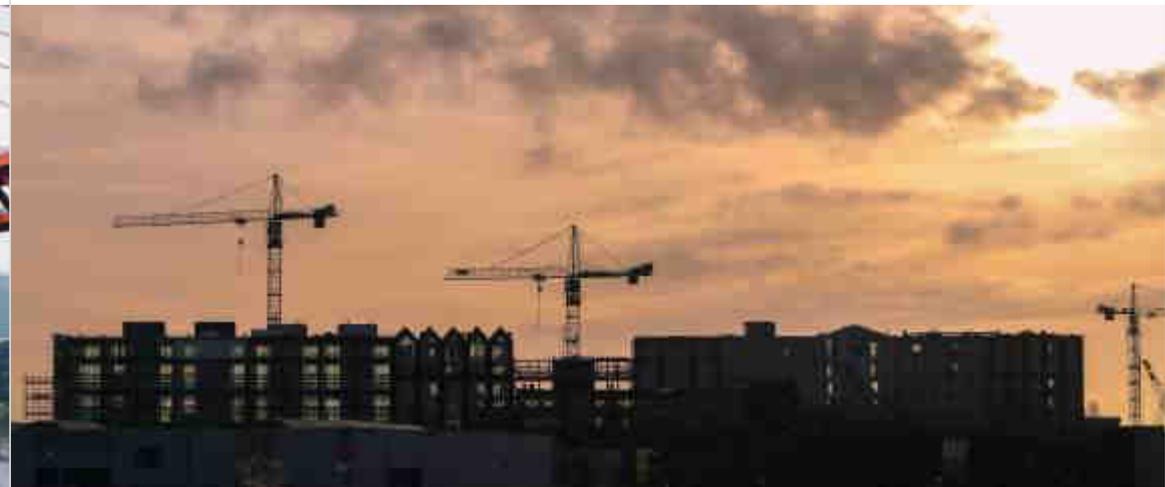
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2018-19

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2018-19

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2	Association of Builders Chennai Development	<b>Mr. K. Govardhan</b> 94440 22656 kothandavasantham@gmail.com	<b>Mr. A. Balasubramani</b> 98400 84810 bhavaplanner@yahoo.com
3	Chennai Suburban Builders Association	<b>Mr. Britto Francis</b> 98840 77962 csbachennai@gmail.com	<b>Mr. S. Ragnunath</b> 98403 75535 csbachennai@gmail.com
4	Flat Promoters Association Ambattur - Avadi	<b>Mr. S. Raghupathy</b> 98400 87617 spa.ambattur.avadi@gmail.com	<b>Mr. A. R. Rajaboopathy</b> 98400 87617 aetrium999@gmail.com
5	Flat Promoters Association Chennai South	<b>Mr. R. Tamilselvan</b> 98410 32277 tamilselvan_kumar@yahoo.co.in fpachennaisouth@gmail.com	<b>Mr. P. Muruganatham</b> 98415 62020 shrianadhapromoter@gmail.com
6	Flat Promoters Association Chennai North	<b>Mr. K. G. Janakiraman</b> 98401 55111 jcs@jcs100.com	<b>Mr. V. Sudhakar</b> 98407 55527 sudhakar@optimahomesindia.com
7	Paver Finish Road Builders Association	<b>Mr. S. Ayyanathan</b> 98410 46799 ayyanathans@gmail.com	<b>Mr. R. Parthiban</b> 98842 31324 karpagamconstruction@gmail.com
8	Singara Chennai Builders Assn	<b>Mr. AL. Arumugam</b> 94440 66839 Alarumugam1947@gmail.com	<b>Mr. N. Gopinath</b> 94440 39319 ngn.gopinath@gmail.com
9	Southern Region Petrol Corporation Contractors Assn	<b>Mr. K. Parameswaran</b> 99410 07121 parameswaran15@gmail.com	<b>Mr. K. Annamalai Samy</b> 91761 85599 sankar_cons@yahoo.co.in
10	Tamil Nadu Flyash Bricks & Blocks Manufactures Association	<b>Mr. D. S. Saravanan</b> 93444 73077 abwmdu@gmail.com	<b>Mr. R. Vijay Anandh</b> 98422 40009 crandassociatescbe@gmail.com
11	Tamil Nadu Solid, Hollow & Paver Blocks Assn	<b>Mr. G. Krishna Kumar</b> 98410 77130 gopalconcreteproduct@gmail.com	<b>Mr. V. Shrinivasan</b> 98400 94774 omparasakthipavingblocks@gmail.com
12	The Southern Railway Engineering Contractors Association	<b>Mr. K.S. Babu Raj</b> 94443 63220 baburaj1954@gmail.com	<b>Mr. K. Venkatesan</b> 98844 12122 venkatesancont@gmail.com
13	CPWD Civil Contractors Association	<b>Mr. A. Praveen</b> 94443 85737 cccassn@gmail.com & adhikaripravin2000@gmail.com	<b>Mr. M. Mani</b> 98412 59903 ccassn@gmail.com
14	The Tamil Nadu P.W.D. Engineering Contractors Association	<b>Mr. G. Ekambaram</b> 94449 06885 sabariconstn@gmail.com & arun0627@gmail.com	<b>Mr. N. Panneerselvam</b> 95000 15897 sabariconstn@gmail.com

## HQ- OFFICE BEARERS

2018-19

### **Shri A. Puhazhendi**

President

#### **M/s. Revathi Housing Promoters**

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### **Shri Neerav Parmar**

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### **Shri M. Thirusangu**

Vice President (South Zone-II)

#### **M/s. Excellent Constructions**

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### **Shri Pradeep Nagawekar**

Hon. Gen.Treasurer - Chairman, BAI, Mumbai Centre

#### **M/s. Paresh Constructions**

107, R. L. A. Tower, Tank Road,  
Opp. Municipal School,  
Bhandup (West), MUMBAI-400 078  
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pareshconstructions@yahoo.co.in

## HQ- OFFICE BEARERS

2018-19

### **Shri K. Ramanujam**

All India Trustee - Trustee,  
Builders' Association of India

#### **M/s Ramcons**

No. 28, Josier Street,  
'Nungambakkam, Chennai-600 034  
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krishnan.ramanujam@gmail.com

### **Shri. O. K. Selvaraj**

Zonal Secretary (South Zone-II)

#### **M/s. OKS Builders Private Ltd**

No.127, Judges Colony (Behind YMCA School)  
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### **Mr. K. Venkatesan**

State Treasurer, Tamil Nadu & Puducherry  
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### **Shri S. Ayyanathan**

State Chairman, Tamil Nadu,  
Puducherry & Andaman Island

#### **M/s. A.R. Singaravel Thevar**

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ayyanathans@gmail.com

### **Mr. R. Sivakumar**

State Secretary, Tamil Nadu & Puducherry

#### **M/s. S.M. Enterprises,**

No. 14/1, V.O.C Nagar, 2nd Street  
Anna Nagar East, Chennai-600 102  
Ph: 2663 1730 / 98840 46446  
smechennai06@yahoo.com



## MANAGING COMMITTEE

2018-19



ESTD: 1950

### THE SOUTHERN BUILDERS' CHARITABLE TRUST

" Casa Blanca", 2 floor, No.11 (Old No.6), Casa Major Road, Egmore, Chennai - 600 008.  
Ph: 2819 2006. Tele Fax: 2819 1874. E.mail: sbctchennai@gmail.com

**BHISHMA R. RADHAKRISHNAN**  
Chairman

**J. R. SETHURAMALINGAM**  
Managing Trustee

#### Trustees

**Mr. Mu. MOAHAN**  
**Mr. S. AYYANATHAN**  
**Mr. R. SIVAKUMAR**  
**Mr. L. SHANTHA KUMAR**

**Mr. K. RAMANUJAM**  
**Mr. K. VENKATESAN**  
**Mr. L. VENKATESAN**

BAI Southern Center Office Building



## MANAGING COMMITTEE

2018-19



### THE SOUTHERN CONSTRUCTION RESEARCH AND DEVELOPMENT SERVICE SOCIETY

Regd. S. No. 9/1982 dt. 20.01.1982 New No. 63 (Old No. 90/1 - C),  
1st Main Road, CIT Nagar, Chennai - 600 035

**Mr. K. ANNAMALAI**  
President

No: 19, Pattammal Street,  
Krishnapuram, Ambattur, Chennai-53  
Mob: 93801 42270

**Mr. A. SATHYA NARAYANA**  
Hon. Secretary

72A, L – Block, 21st Street  
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**Mr. A. KALAIARASAN**  
Vice President

No: 90, Kamaraj road,  
Anakaputhur, Chennai-70.  
Mob: 94440 63020

**Mr. R. RAJENDRAN**  
Hon. Treasurer

No.6A, Kannammal Street, Kamaraj Colony,  
Jafferkhan Pet, Chennai-83.  
Mob: 99404 86480



## SUB COMMITTEE CHAIRMEN

2018-19

Description	Chairman / Co - Chairman	Mobile No.
<b>Grievances</b>	S. Ramaprabhu	98409 31799
	L. Shantha Kumar	98400 86386
<b>Southern Builder</b>	Mr. Mu. Moahan	94444 48989
	Mr. S. D. Kannan	94445 62345
	Mr. P. K. P. Narayanan	98410 16311
<b>Seminar / Meeting</b>	Mr. V. S. B. Sunder	98410 23118
	Mr. A. Sathyanarayana	98412 75752
	Mr. K. Gopinath	98400 62785
<b>AUBAI</b>	Mr. K. Ramanujam	98410 96994
	Mr. J. R. Sethuramalingam	99404 48870
<b>Membership</b>	Mr. K. Annamalai	93801 42270
	Mr. R. Parthiban	98842 31324
	Mr. R. R. Shridhar	98415 76016
	Mr. S. Jeyaraman	98415 17799
<b>Taxation</b>	Mr. S. D. Kannan	94445 62345
<b>CMDA / DTCP</b>	Mr. S. Ramaprabhu	98409 31799
	Mr. V. S. Ramakrishnanan	98410 13338
<b>Central PWD</b>	Mr. M. A. Jesurajarajan	94440 45013
<b>Highway / PWD</b>	Mr. R. Sivakumar	98840 46446
	Mr. R. Nimrode	96000 36701
<b>Corporation of Chennai</b>	Mr. M. Jaishankar	94444 16707
	Mr. J. Niramal Chand	98410 11272

## SUB COMMITTEE CHAIRMEN

2018-19

Description	Chairman / Co - Chairman	Mobile No.
<b>Railways</b>	Mr. K. Venkatesan	98844 12122
	Mr. B. Ramesh	98400 80912
<b>Workers Medical Camp</b>	Mr. N. G. Lokanathan	928211 6804
	Mr. S. Sathyamoorthy	94440 87542
<b>Promoters / Constructions</b>	Mr. O. K. Selvaraj	98415 76016
	Mr. S. Saravanaperumal	94444 41234
<b>Tours &amp; Travels</b>	Mr. R. Ramesh	98404 27767
	Mr. J. Tajuddin	94440 26286
	Mr. Y. Srinivasan	94444 50135
<b>Hospitality</b>	Mr. K. Gopinath	98400 62785
	Mr. A. Sathyanarayana	98412 75752
<b>BAICON / BAIMAT</b>	Mr. J. R. Sethuramalingam	99404 28870
	Mr. Mu. Moahan	94444 48989
<b>Fund Raising</b>	Mr. R. Manoharan	94440 00477
<b>Builders Day</b>	Mr. G. Diwakar	94440 40652
	Mr. R. Balasubramaniam	98840 61000
<b>Family Meet</b>	Mr. T. M. S. Sivakumar	99626 70809
	Mr. J. Nirmal Chand	98410 11272
<b>Sports</b>	Mr. Yogananda Gurusamy	98410 39672
<b>Diary / Calendar</b>	Mr. T. V. Chandrasekaran	94440 03311
	Mr. R. Rajendran	99404 86480
	Mr. A. Udayashankar	98410 37285

## PAST CENTRE CHAIRMEN

2018-19

### PAST CHAIRMEN, SECRETARIES & TREASURERS OF THE SOUTHERN CENTRE

YEAR	CHAIRMAN	SECRETARY	TREASURER
1950-1952	Mr.J.H.Tarapore	Mr.S.Krishna Iyer	
1953-1954	Mr.S.K.Subramania Iyer	Mr.S.Krishna Iyer	
1955-1961	Mr.N.T.Patel	Mr.S.Krishna Iyer	
1962-1963	Mr.P.S.Subramaniam	Mr.S.Krishna Iyer	
1964-1965	Mr.S.Krishna Iyer	Mr.M.Rajagopalan	
1966-1969	Mr.S.Krishna Iyer	Mr.M.D.Krishnamurthy	
1970-1971	Mr.M.Nilakantan	Mr.N.Sankara Krishnan	
1972-1973	Mr.M.V.Murugappan	Mr.J.N.Patel	
1973-1974	Mr.M.Meeran	Mr.G.K.Shetty	
1974-1975	Mr.J.J.Patel	Mr.S.Thirunavukkarasu	
1975-1976	Mr.G.K.Shetty	Mr.M.N.Raja Raman	
1976-1977	Mr.S.Thirunavukkarasu	Mr.L.R.Natarajan	Mr.S.A.N.Ranganatha Achar
1977-1978	Mr.M.N.Rajaraman	Mr.S.A.N.Ranganatha Achar	Mr.M.Karthikeyan
1978-1979	Mr.N.Kasiviswanathan	Mr.K.E.Mohan	Mr.P.M.Krishnamurthy
1979-1980	Mr.S.A.N.Ranganatha Achar	Mr.I.Koti Reddy	Mr.R.Radhakrishnan
1980-1981	Mr.K.E.Mohan	Mr.R.Radhakrishnan	Mr.D.Thukkaram
1981-1982	Mr.I.Koti Reddy	Dr.D.Thukkaram	Mr.A.S.Rajagopal
1982-1983	Mr.R.Radhakrishnan	Mr.A.P.Prabhu	Mr.S.Ravisankar
1983-1984	Dr.D.Thukkaram	Dr.C.V.Ananthasayanam	Mr.M.K.Sundaram
1984-1985	Mr.M.Karthikeyan	Mr.P.Hemachandran	Mr.S.V.Rao
1985-1986	Mr.S.Palani	Mr.S.V.Rao	Mr.S.Srinivas N.Naik
1986-1987	Mr.P.Hemachandran	Mr.V.Ganesan	Mr.M.S.K.Vasudeva Rao
1987-1989	Mr.S.V.Rao	Mr.K.Suryanarayana	Mr.B.Venkatasamy
1989-1990	Mr.V.Ganesan	Mr.M.S.K.Vasudeva Rao	Mr.R.Raman
1990-1991	Mr.K.Suryanarayana	Mr.M.S.K.Vasudeva Rao	Mr.P.Narasimhulu

## PAST CENTRE CHAIRMEN

2018-19

### PAST CHAIRMEN, SECRETARIES & TREASURERS OF THE SOUTHERN CENTRE

YEAR	CHAIRMAN	SECRETARY	TREASURER
1991-1992	Dr.C.V.Ananthasayanam	Mr.R.Raman	Mr.M.J.Sathiyarayanan
1992-1994	Mr.S.Srinivas N.Naik	Mr.P.Narasimhulu	Mr.N.Sairam
1994-1996	Mr.M.S.K.Vasudeva Rao	Mr.N.Sairam	Mr.C.Sathish Kumar
1996-1997	Mr.P.Narasimhulu	Mr.K.Ramkumar	Mr.M.Sathish Kumar
1997-1998	Mr.P.Narasimhulu	Mr.C.Sathishkumar	Mr.S.Ganapathi
1998-1999	Mr.N.Sairam	Mr.T.S.Sarangarajan	Mr.G.Naarayana Naidu
1999-2000	Mr.K.Ramkumar	Mr.J.R.Sethuramalingam	Mr.P.Dinakar
2000-2001	Mr.R.Raman	Mr.J.R.Sethuramalingam	Mr.P.Dinakar
2001-2003	Mr.K.Ramanujam	Mr.L.Moorthi	Mr.P.Dinakar
2003-2004	Mr.J.R.Sethuramalingam	Mr.P.Dinakar	Mr.S.Sabasti Amalraj
2004-2005	Mr.M.Sathishkumar	Mr.P.Dinakar	Mr.A.V.Ramasamy
2005-2006	Mr.L.Moorthi	Mr.S.Sabasti Amal Raj	Mr.A.V.Ramasamy
2006-2007	Mr.L.Moorthi	Mr.A.V.Ramasamy	Er.S.B.M.Madaar
2007-2008	Mr.A.V.Ramasamy	Mr.C.Sathishkumar	Mr.S.Rama Prabhu
2008-2009	Mr.M.K.Sundaram	Mr.C.Sathishkumar	Mr.S.Rama Prabhu
2009-2010	Mr.Mu.Moahan	Mr.N.Raghunathan	Mr.S.Ayyanathan
2010-2011	Mr.Mu.Moahan	Mr.N.Raghunathan	Mr.S.Ayyanathan
2011-2012	Mr.N.Raghunathan	Mr.S.Ayyanathan	Mr.O.K.Selvaraj
2012-2013	Mr.S.Ayyanathan	Mr.O.K.Selvaraj	Mr.K.Annamalai
2013-2014	Mr.S.Ayyanathan	Mr.O.K.Selvaraj	Mr.K.Annamalai
2014-2015	Mr.R.Sivakumar	Mr.A.N.Balaji	Mr.K.Venkatesan
2015-2016	Mr.O.K.Selvaraj	Mr.K.Venkatesan	Mr.K.Annamalai
2016-2017	Mr.K.Venkatesan	Mr.S.Ramaprabhu	Mr.L.Shanthakumar
2017-2018	Mr.K.Venkatesan	Mr.S.Ramaprabhu	Mr.L.Shanthakumar
2018-2019	Mr.L.Venkatesan	Mr.L.Shanthakumar	Mr.R.Parthiban

Always Conscious for Quality in Construction

## ABOUT THE BUILDERS' ASSOCIATION OF INDIA

Most executors of Infrastructure development programmes and builders of real estate i.e the construction companies in India, are under the umbrella of the over seven decades-old Builders' Association of India (BAI), an internationally recognized organization, is the only all India apex representative body of civil engineering construction companies. BAI was founded in 1941 under the guidance and blessings of Brig. C.V.S. Jackson of Military Engineering Services 'poona' now known as 'Pune', who suggested that builders working under his command form a body for finding solutions to various problems. He went further and made available a piece of land inside the premises of Southern Command Headquarters in Pune, on which an office was constructed and aptly named 'Jackson Hut' which stands even today as a monument in BAI's name.

During this journey of over 71 years, BAI's membership has grown from 250 members spread over 3 centres, to more than 13,000 direct members spread over about 135 plus Centres across the length and breadth of the country. Various regional associations affiliated to BAI, add another 50,000 indirect members. BAI Southern Centre in Chennai, functioning effectively since 1950, is the biggest centre in India with over 1800

members. Many of our members were involved in creation of landmarks in the city.

BAI operates through General Council & Managing Committee at all India level And Executive Committee at Centre with office bearers managing day to day affairs. They are also assisted by the various Sub-Committees

Throughout its more than seven decades of existence, BAI has had its ups and downs, trials and tribulations, moment of strengths and weakness, moments of glory and disappointment. But its umbrella has protected and furthered the cause of the Indian construction industry and its constituents in many ways

- BAI represents various committees formed by the State and Central Governments and offer valuable suggestions/reforms for the betterment of the construction industry.
- BAI Southern Centre has represented CMDA Second Master Plan Committee and helped the Government bring it out successfully. BAI Southern Centre has sought and got the powers for Local Planning Authority to sanction plans in respective areas.
- BAI Southern Centre has been instrumental for acceptance of Price Variation Clause in contract documents of various works authorities. It also represents Schedule of

Rates Committee and strives to get fair prices.

- BAI Southern Centre has successfully taken up with the government and got a G.O for the use of manufactured sand in government works as an alternative for river sand.
- BAI is propagating adoption of a unified standard equitable contract document based on FIDIC conditions by all works authorities.
- BAI was instrumental in starting National Institute of Construction Management and Research (NICMAR) which has established campuses at Pune, Delhi and Hyderabad and is soon likely to get the status of a deemed university.
- BAI started Overseas Construction Council of India (OCCI) now known as Project Export Promotion Council of India (PEPCI) which through its members, initiated manpower

export to Gulf Countries and brought in lot of foreign remittance. PEPCI is now actively pursuing project exports in its various formats under the aegis of Ministry of Commerce and Industry, Government of India.

- BAI creates awareness among members regarding Works Contract Tax, Service Tax etc., and agitates against the menace of taxation. In the matter of Sales Tax on Works Contracts, consequent to 46th Amendments to Constitution, all State Governments were interpreting such amendments to suit their revenue requirements. BAI filed a Writ Petition and the Supreme Court correctly explained the powers of State Governments pursuant to the 46th amendment and cleared all uncertainties and doubts.
- Fighting relentlessly against the applicability



of the Provident Fund provisions to the casual and temporary construction workers, BAI has been petitioning the Government to see reason and has been suggesting ways and means to successfully implement the Provident Fund provision in such a way that intended benefit reaches the casual and temporary construction workers, who are mostly illiterate and mainly migratory in nature. A Government of India formed Sub-Committee has seen reason in BAI line of thinking and the Central Provident Fund Commissioner is expected to come out with a comprehensive workable solution.

- BAI has been fighting for unified Labour Law for the construction workers so that targeted group gets the benefits properly.

- BAI represented to the Government of India and got excise waiver on precast items made in site and service tax waiver on road maintenance.

- BAI brings to the notice of the Government the problems/grievances of the construction builders and fights to redress them. BAI galvanized the builders and contractors into raising their voice when cement and steel prices went through the sky, arising out of cartelization by the respective manufacturers. Proper presentation of facts at appropriate forums arrested the galloping prices. Recently BAI filed a petition with Competition Commission of India (CCI) and exposed the cartel formed by the leading cement companies. CCI imposed a fine of over Rs.6300 crores on them.



- BAI Southern Centre has successfully put an end to the recovery of 0.3% Labour Welfare Cess from the PWD, Highways & CPWD contractors and instead made the Government pay it.

- To avoid delay in providing new Electricity Connections, BAI Southern Centre has successfully taken up with the Tamil Nadu Electricity Regulatory Commission and got an order for permitting the consumers in building houses to use their own meters.

- Through its monthly journal 'Indian Construction' which is in its 45th year of publication. BAI provides latest and useful information to its members throughout the country. BAI Southern Centre also published a monthly journal 'Southern Builder' to familiarize members with in-house news and contemporary matters and technology development in construction industry.

- BAI Southern Centre conducts seminars and meetings to discuss burning problems of members. To develop skills and raise the quality in construction BAI conducts various training programmes for workmen, supervisors, engineers etc., BAI Southern Centre has formed a Training Centre in the campus of Anna University and has been issuing certificates after proper training.

- BAI Southern Centre periodically published Technical Data and Builders Guide to disseminate information among builders and engineers.

- BAI conducts State and all India conventions regularly and holds technical sessions on

various topics. In the recent past BAI Southern Centre has conducted three All India Conventions in which Vice President, Prime Minister and galaxy of Central/State Ministers participated.

- BAI Southern Centre identifies outstanding contractors/Builders every year and honours them in a glittering function. BAI celebrates "Builders day" every year to honour the workers by giving gifts, conducting medical camps, etc., and encourages students by conducting oratorical competition, essay competition etc.,

- BAI Southern Centre has promoted 'Southern Builders Charitable Trust' to help the needy and poor.

- BAI is an affiliate of the International Federation of Asia and Western Pacific Contractors' Association (IFAWPCA). IFAWPCA in turn is affiliated to Confederation of International Contractors Association (CICA) the world body of contractors and builders. While IFAWPCA has a consultative organization status with Asian Development Bank. CICA has a similar status with the World Bank.

- BAI has a seat as an observer to the Annual Meetings of Asian Development Bank.

- BAI is also affiliated to many national organizations, directly or indirectly connected to the construction industry. This facilitates exchange of thoughts, ideas and views.

- BAI is one of the founder member of Construction Industry Development Council (formed by Planning Commission).

- BAI representative is included in the Working Group on Construction in the formulation of Eleventh five Year Plan (2007-2012).

## BAI VISION

- To promote and foster feelings of brotherhood, unity, co-operation, mutual trust and to eliminate unhealthy competition amongst the contractors fraternity.
- To build public confidence in the construction industry by advocating ethics in the business through transparency and accountability.
- To establish healthy and cordial relationship between the clients, the contractor and the end-users, so that all construction projects are completed without any time or cost over-runs.
- To interact with Government bodies like State Public Work Department and the Central Public Work Department to modernize methods and specifications of works towards ensuring suitable work ethics in the industry and standardizing tender procedures. Contracts awarded on the basis of such standardization will ensure uniformity in execution of construction jobs.
- To achieve highest standards of efficiency and quality by adopting methodology which could be derived from both Indian and International Standards with a view to making the construction sector competitive in domestic as well as International markets.
- To ensure the contractors adopt methods which are environment-friendly like use of

pre-engineered and pre-manufactured products, seeking inter alia tax concessions on the same from the Government.

- To not only regulate safety procedures and issue guidelines for minimizing loss of life or property at construction sites but also to enhance welfare of workers.
- To develop linkages with other Industry and Trade Associations, Chambers of Commerce, Federation etc., to enhance the value of its services to members, It shall network with international bodies and gain global presence for its members.
- To regard workers and technicians as the key resource for construction industry, It shall support and establish training institutions to train workers and technicians.

## Membership

- Any person, Company, Society or any corporate body or firm connected with the trade, industry or profession of construction work or building activity of any kind whatsoever and the suppliers of building materials, hardware and construction equipment manufacturers and suppliers are eligible to become Members of the Association.

## Category of Membership

### I) Annual Members

A member shall pay the annual subscription for membership and subscription for 'Indian Construction'. The annual subscription for this

category of membership will be increased by every alternate year.

## II) Patron Members

Persons paying the Patron membership fee, BAI Headquarters may be admitted by the Managing Committee of the Association as Patron. Patron members can be individuals, firms, companies, corporate or in-corporate bodies, societies and institutions. The subscription will be increased every five years.

## III) Affiliated Association Members

Any Association operating in the territories of the Union of India and whose aim and objects are similar or identical to those of the Association' shall be eligible to become an affiliated member.

An affiliated Association member shall pay an annual subscription of Rs.4400/- and entrance fee of Rs.500/- and Rs.100/- towards subscription of 'Indian Construction' (GST Extra)

Affiliated Associations paying Rs.30000/- or more to the Headquarter may be admitted by the Managing Committee of the Association as patrons. (GST Extra) years.

## II) Corporate Members

Any firms/Private Limited Companies/ Public Limited Companies/ Society or any Corporate body by paying Rs.3,00,000/- at one time and paying annual fee of Rs.10,000/- may be admitted as Corporate members of the

Association. (GST Extra etc.,). The special privilege of Corporate Membership are:-

- (a) They can elect an exclusive Vice President amongst themselves when the Corporate Membership reaches 50.
- (b) Corporate members may elect a President from the Corporate Vice Presidents on every fourth year.



### CONSTRUCTION INDUSTRY - A PERSPECTIVE

Construction Sector emerged as very important part of economy especially when providing better physical infrastructural facilities for faster economic growth is leitmotif. Construction Sector accounts for nearly 45% of total planned investment and is second largest employer after agriculture. During XI Five Year Plan period (2007- 2012) it contributed 7.03% to GDP as per Table below:-

Macro Variable	2007-08	2008-09	2009-10	2010-11	2011-12
GDP from construction (at constant price) in Rs .Cr.	315389	332557	355918	384629	410653
Share of construction in GDP in percentage term	8.1	8.0	7.9	7.9	4.8
Growth rate of construction sector	10.7	5.4	7.0	8.1	6.2
Gross capital formation in Rs. Cr.	115157	88523	86290	98426	N.A

Source: handbook of statistics.R.B.I.2010 upto 2010-11.Central statistical organisation's estimate realised in February 2012 for 2011-12.GCF from economic Survey 2011-12.

Construction industry being an important indicator of growth and development as it creates investment opportunity and increases production capacity across various related sectors, the sector is labour intensive and including indirect jobs provides employment to around 13 million people. It is estimated that about 70% of these are employed in infrastructure and remaining 30% in real estate segment. Industry is expected to generate additional employment of 47 million people with total number employed in the sector reaching 83 millions by 2022.After sector was given Industry status in 2000,there have been more initiative by the government to undertake project on PPP basis. FDI up to 100% under Automatic route is allowed in townships, housing and built-up infrastructure. Construction sector is fragmented and is unorganized sector, However with more emphasis on infra structure many industrial houses have entered this sector. At last count there are about 67 listed construction companies on Mumbai Stock Exchange. Planning Commission has taken initiative in creating model engineering – procurement construction (EPC) contract document. Estimate shows that for every rupee invested in construction sector 78 paise gets added to GDP.

### BAI CENTRES

- 
- Agra
  - Ahmednagar
  - Aligarh
  - Allahabad
  - Allepey
  - Amaravati
  - Andhra Pradesh (Hyderabad)
  - Asansol
  - Aurangaabad
  - Baramati
  - Baroda
  - Belgaum
  - Bhopal
  - Bharuch
  - Butibori
  - Calicut
  - Chenglepet
  - Coimbatore
  - Delhi
  - Dhanbad
  - Dhule
  - Dindigul
  - Durgapur
  - Durg-Bhilai
  - Eastern Centre (Kolkatta)
  - Erode
  - Gautham Bhudha Nagar
  - Ghaziabad
  - Goa
  - Greater Noida
  - Guajarat (Ahmedabad)
  - Haldia
  - Hapur
  - Ichalkaraji
  - Indore
  - Jabalpur
  - Jagadalpur
  - Jalegaon
  - Jamshedpur
  - Jharkhand (Ranchi)
  - Kanpur
  - Kanyakumari
  - Karaikal
  - Karaikudi
  - Karim nagar
  - Karnataka (Bangalore)
  - Kerala (Thiruvananthapuram)
  - Kochi
  - Kodaikanal,
  - Kottayam
  - Kumbakonam
  - Latur
  - Loni
  - Lucknow
  - Madurai
  - Malegaon
  - Medak
  - Meerut
  - Modinagar
  - Mumbai
  - Musiri
  - Mysore
  - Nagpur
  - Nalgonda
  - Nandad
  - Nashik
  - Neyveli
  - North Malabar (Kannur)
  - Parbhni
  - Patna
  - Phaitan
  - Pondicherry
  - Pudukottai
  - Puna
  - Raichur
  - Rajasthan (Jaipur)
  - Raipur
  - Ramanathapuram
  - Salem
  - Sangamnar
  - Sangli
  - Satara
  - Shimoga
  - Sitapur
  - Solapur
  - Southern (Chennai)
  - Surat
  - Tezpur
  - Thanjavur
  - Theni
  - Thirupunithura
  - Thiruvannamalai
  - Thiruchirapalli
  - Tirunelveli
  - Tiruppur
  - Tuticorin
  - Ulhasnagar
  - Vellore
  - Vijayawada
  - Visakapatnam
  - Warangal

## GENERAL INFORMATION

2018-19

### Chennai Corporation

#### Address

#### Phone Number Mail Id

Corporation of Chennai (Zone 1)	(Thiruvottiyur) No.947, Thiruvottiyur High Road, Thiruvottiyur, Chennai - 19	9445190001 / 25993494 aczone1@chennaicorporation.gov.in
Corporation of Chennai (Zone 2)	(Manali) No.127, Padasalai, Manali, Chennai - 68	9445190002 / 25941079 aczone2@chennaicorporation.gov.in
Corporation of Chennai (Zone 3)	(Madhavaram) No.1, Thattnkula Street, Bazar Road, Madhavaram, Chennai - 60	9445190003 / 25530427 / 1134 aczone3@chennaicorporation.gov.in
Corporation of Chennai (Zone 4)	(Tondiarpet) No.266, Thiruvottiyur High Road, Chennai - 21	9445190004 / 25951083 / 25961199 aczone4@chennaicorporation.gov.in
Corporation of Chennai (Zone 5)	(Royapuram) No.62, Basin Bridge Road, Old Washermentpet, Chennai - 21	9445190005 / 25206655 / 9269 aczone5@chennaicorporation.gov.in
Corporation of Chennai (Zone 6)	(Thiru-Vi-Ka Nagar) No.5, Anderson Road, Ayanavaram, Chennai - 23	9445190006 / 26749990 / 1802 aczone6@chennaicorporation.gov.in
Corporation of Chennai (Zone 7)	(Ambattur) Thiruvallur High Road, OppDunlop, Chennai - 53	9445190007 / 26253331 / 0231 aczone7@chennaicorporation.gov.in
Corporation of Chennai (Zone 8)	(Anna Nagar) No.36B, 2nd Cross Street, Pulla Avenue, Shenoy Nagar Avenue, Chennai - 30	9445190008 / 26412646 aczone8@chennaicorporation.gov.in
Corporation of Chennai (Zone 9)	(Teynampet) No.4, 4th Cross Street, Lakeview Road, Chennai - 34	9445190009 / 28170738 / 4775 aczone9@chennaicorporation.gov.in
Corporation of Chennai (Zone 10)	(Kodambakkam) No.64, NSK Salai, Kodambakkam, Chennai - 24	9445190010 / 24838968 / 24801959 aczone10@chennaicorporation.gov.in

## GENERAL INFORMATION

2018-19

Corporation of Chennai (Zone 11)	(Valasaravakkam) No.33, Arcot Road, Valasaravakkam, Chennai - 87	9445190011 / 24867054 aczone11@chennaicorporation.gov.in
Corporation of Chennai (Zone 12)	(Alandur) No.1, New Street, Near GST Road, Alandur, Chennai 600016	9445190012 / 22341702 aczone12@chennaicorporation.gov.in
Corporation of Chennai (Zone 13)	(Adyar) No.115, Dr. Muthulakshmi Salai, Chennai - 20	9445190013 / 24425961 / 5963 aczone13@chennaicorporation.gov.in
Corporation of Chennai (Zone 14)	(Perungudi) No.6/64, Puzhuthivakkam Main Road, Chennai - 61	9445190014 / 22420520 aczone14@chennaicorporation.gov.in
Corporation of Chennai (Zone 15)	(Sholinganallur) No.120, Rajiv Gandhi Salai, OMR, Sholinganallur, Chennai - 119	9445190015 / 24500923 aczone15@chennaicorporation.gov.in

### CHENNAI CORPORATION ZONE DETAILS CHENNAI METROPOLITAN DEVELOPMENT AUTHORITY (CMDA)

"Thalamuthu Natarajan building " 1, Gandhi Irwin Road, Egmore, Chennai 600 008  
(PBX NO 28414855) Email: mscmda@tn.gov.in Website: www.cmdachennai.gov.in

DESIGNATION SECTION	NAME	DIRECT	PABX
Chairman	Thiru. O.PanneerSelvam	28414402	234
Member – secretary	Thiru. A.M.Raman I.A.S	28414355(D) 28414855	200
210CEO	Thiru. Mathivanan I.A.S	28415618(D)	400
FAX		28548416	

**PUBLIC GRIEVANCE AND REDRESSAL SYSTEM  
IN CHENNAI CORPORATION**

Register complaint via phone	Chennai ties Can Register Their Complaints Via Phone If They Dial 1913
Control room	Ph: 25619501 /502
Register complaint via paper from	Chennai ties Can Register Their Complaints in The Following Address The Commissioner, Corporation of Chennai, Ripon Building, EVR Salai, Chennai – 600003 Ph: 25619555

**CONTACT DETAILS OF IMPORTANT PERSONS IN  
CORPORATION OF CHENNAI**

Email Id of Mayor in Chennai Corporation	mayor@chennaicorporation.gov.in
Email Id of deputy Mayor in Chennai Corporation	deputy.mayor@chennaicorporation.gov.in
Email Id of Commissioner in Chennai Corporation	commissioner@chennaicorporation.gov.in
Email Id of JC - Works in Chennai Corporation	jc.works@chennaicorporation.gov.in
Email Id of DC - Education in Chennai Corporation	dc.education@chennaicorporation.gov.in
Email Id of DC - Health in Chennai Corporation	dc.health@chennaicorporation.gov.in
Email Id of Health Officer in Chennai Corporation	ho@chennaicorporation.gov.in

**AMBULANCE NAME**

**(+91 - 44)**

A.C.AMBULANCE SERVICE	24355942
Accident relief force	42077777
Apollo hospital	829 4302
Aksha hospital	642 1255 / 3786
Balaji hospital	234 3863 / 5282
Bismi ambulance service	94442 80414
Chennai kaliappa	493 6098 / 6157
Child trust hospital	827 7487 / 5279
Emergency ward direct no	28260816
Devaki hospital	499 2607 / 0788
Govt.royapettah hospital	28483051
Govt.stanley hospital	25282350
Hindu mission hospital	236 7711
Helping point	825 8922 / 828 02557
Jayadev ambulance service	641 2317 / 642 7541
K.J.HOSPITAL	6411513 / 15 / 17
A SRI KUMARAN AMBULANCE	374 3348
SHEEPA NURSING HOME	537 9055 / 537 1219
MV HOSPITAL	5954913 / 14/15
MADRAS MEDICAL MISSION	26561801
MALAR HOSPITAL LTD	4914369 / 4657
MASS & CO22301890MIOT HOSPITAL	231 2638 / 231 2288
NATIONAL HOSPITAL	5240130
NICHANI HEALTH CENTRE	25978777
RAKSHITH HOSPITAL	42029999
ROBINA & ROBIN HEALTHCARE	6205252
SAMPATH NURSING HOME	24980572
SANKARA NETHRALARA	8271616 / 9435
SRI KUMARAN AMBULANCE SERVICE	23743348
SRI RAMACHANDRA HOSPITAL	4768402
ST.ISABEL HOSPITAL	4991081 / 1082
ST.JOHN AMBULANCE ASSOCIATION	8264630 / 8255707
VOLUNTARY HEALTH SERVICE	2353971 / 72
TAMILNADU HOSPITAL	2375221 / 5225
TRAUMA CARE CONSORTIUM	8230700

## FIRE SERVICE STATION AREA

(+91 - 44)

ENNORE	25733633
ATHIPATTU	4119250080
MANALI	25941147
VILLIVAKKAM	26174718
AVADI	26555202
POONAMALLE	26274700
J.J.NAGAR	26563629
KOYAMBEDU	24872620
RAJ BHAVAN	22354835
AMBATTUR	26251601
RED HILLS	26418468
TAMBARAM	22382204
FIRE CONTROL ROOM	101 / 102
EGMORE & PBX CONNECTION TO 23 FIRE STATION	28554309

## ELECTRICITY

(+91 - 44)

ELECTRICITY SUPPLY FAILURE ( L.T)	+91 - 44 -28515014
HUNTING FACILITIES	1912
ELECTRICITY SUPPLY	28515062
TNEB ELECTRICITY ASSISTANCE	28521787
H.T BREAKDOWN CENTRE/CENTRAL	28521942
H.T BREAKDOWN CENTRE/NORTH	25901071
H.T BREAKDOWN CENTRE/SOUTH	24349246
H.T BREAKDOWN CENTRE/WEST	24754397

## TNEB ANNA SALAI DIVISION CONTACT DETAILS

Bells road	25361336 / 9445850782
Flower bazaar	25340708 / 9445850783
High court	25341964 / 9445850784
Pudupet	28451469 / 9445850785

## TNEB MYLAPORE DIVISION CONTACT DETAILS

Nungambakkam	28330162 / 9445850786
Mylapore	28112526 / 9445850787
Royapettah	28419823 / 9445850788
Mandaveli	24941134 / 9445850789

## TNEB EGMORE CONTACT DETAILS

Ignore	26618008 / 9445850790
Kilpauk	26413312 / 9445850791
Otteri	26622168 / 9445850793
Sowcarpet	25268855 / 9445850793
Pulianthope	26670066 / 9445850794

## TNEB T.NAGAR CONTACT DETAILS

Mambalam	24341052 / 9445850795
Saidapet	24341898 / 9445850796
R.A.Puram	24937383 / 9445850797
West Mambalam	24896754 / 9445850767
Teynampet	24351295 / 9445850777

## TNEB TONDIARPET CONTACT DETAILS

Mambalam	24341052 / 9445850795
Saidapet	24341898 / 9445850796
R.A.Puram	24937383 / 9445850797
West Mambalam	24896754 / 9445850767
Teynampet	24351295 / 9445850777

## TNEB VYASARPADI CONTACT DETAILS

Vyasarpadi	25514067
Royapuram	25901994
Stanley	25268336
Kodungaiyur	25580167

### TNEB K.K.NAGAR CONTACT DETAILS

K.K.Nagar	044 – 24713988
Kodambakkam	044 – 24838750
Ashok Nagar	044 - 23729952

### TNEB PERAMBUR CONTACT DETAILS

Sembium	25375393 / 9445850979
Villivakkam	26262971 / 9445850980
Perambur	25508050 / 9445850981

Besides these numbers, the public can contact the computerized complaint centre of Tamil Nadu Electricity Board in the telephone number – 155333 and telephone number of the chairman of the Tamil Nadu Electricity board or T.N.E.B viz., 044 – 28521109 / 28524422

### CHENNAI ELECTRICITY BOARD OFFICES

Arumbakkam	23631714	9445850381
Adyar	24913001	9445850438
Alandur	22321755	9445850441
Ambattur	26242004	9445850392
Anna Nagar North	26214427	9445850378
Anna Nagar West	26162800	9940104088
Ashok Nagar	23662672/23729952	9445850436
Avadi	25361336	9445850782
Chetpet	26414398	9445850389
Egmore	26618008	9445850790
Ennore	25750247	9445850975
Flower Bazaar	25340708	9445850783
Gandhi Nagar	24913001 / 24464415	9445850438
Guindy	22332805 / 22342300	9445850442
High Court	25341964	9445850784
Indira Nagar	24405025 / 24919382	9445850440
Industrial estate Ambattur	26251224	9445850395
J J Nagar	26565002	9445850391
K.K.Nagar	24713988 / 23714713	9445850434
K.K.Nagar South	24891008	
Kadapperi	22411565 / 22418277	9445850447
Kilpauk	26413312	9445850791

Kodambakkam	24838750 / 24811698	9445850435
Korattur	26241082	9445850396
Korukupet	25921581	9445850978
Koyambedu	24799171	9445850383
Maduravoyal		9445850386
Mambalam	4341052	9445850795
Mandaveli	24841134	9445850789
Mylapore	28112526	9445850787
Nanganallur	22242843	9445850443
Nungambakkam	28330162	9445850786
Otter	26622168	9445850792
Pallavaram	22418871 / 22640603	9445850446
Pattabiram	26850152	
Perambur	25508050	9445850981
Porur	24826554	9445850445
Pudupet	28451489	9445850785
Pulianthope	26670066	9445850794
R.A.Puram	24837383	9445850797
Redhills	26418293	
Royapettah	28419823	9445850788
Royapuram	25901049	9445850983
Saidapet	24341898	9445850796
Sembium	25375393	9445850879
Shenoy Nagar	9445850380	
Sowcarpet	25268855	9445850793
Stanley	25289412	9445850984
Tambaram	22790808/22266200	9445850448
Teynampet	24351295	9445850777
Thiruvottiyur	25990619	9445850977
Tollgate	25910120	9445850976
Tondiarpet	25951156	9445850974
Valasaravakkam	24860800/24860694	9445850437
Velacherry	22450001/2244464	99445850439
Villivakkam	26262971	9445850980
West Mambalam	24896754	9445850767
Vyasarpadi	25522232	9445850982

## GENERAL INFORMATION

2018-19

### PRESS NAME

(+91 - 44)

### PRESS NAME

(+91 - 44)

Daily Thanthi	25303000	Malai Malar	25821067
Deccan Chronicle	22254747	Makkal Kural	24179191
Deccan Herald	28267680	Malai Murasu	28297211
Dinakaran	42209191	Mathrubhumi daily	28228862
Dinamalar	28540001	Murasoli	28179191
Dinamani	23457601	Statesman	28278037
Eenadu Daily	28270434	The Hindu	28576300
New Indian Express	23457801	The Hindustan Times	28521495
		Times of India Group	24342121

### Voluntary Organisations

(+91 - 44)

Accident Victims Association	26423145 / 25365733
Aids Control Organisation	1097
Arora De – Addiction centre	24343672
Asha Nivas Concern Counselling	28331601 / 2833111
Bala Vidyalaya (School for Young Deaf Children)	24917199
Child Line (The 24 Hours Free Phone Outreach Service)	1098
Deepam Education Society for Health	24340620
Guild of Service for (Central)	28261279
Haemophilia Society – Madras Chapter	22541852
Indian Council for Child Welfare ( N) and Don Bosco	
Anbu Illam (Child Line – North)	25352101 / 25330092
Saadhan Clinic (Counselling and HIV Testing)	55856746
Sneha Suicide Prevention Centre	28115050
T.T. Ranganathan Clinical Research Foundation	24416458
Women Help Line	1091

## GENERAL INFORMATION

2018-19

### CMWSSB AREA OFFICE AND ADDRESS

Sl. No	New Area	Location	Area Office Address	Phone No
01	AREA – I	Thiruvottiyur	976/245 T V High Road, Thiruvottiyur, Chennai - 19	25991908
02	AREA – II	Manali	112,Ambedkar Rd, Manali, Chennai - 68	25940719
03	AREA – III	Madhavaram	No 1,Thattankulam Road, Madhavaram, Chennai - 60	25530100
04	AREA – IV	Tondiarpet	35/19,Ramanujar street, Old Washermanpet, Chennai - 21	25984647
05	AREA – V	Royapuram	M.C.Road, Chennai - 21	25904310
06	AREA – VI	Thiru Vi Ka Nagar	No3,Vadivelu II cross Street, Perambur, Chennai - 11	25517457
07	AREA – VII	Ambattur	No.1,T.S.Krishna Nagar, Ambattur, Chennai - 37	26561457
08	AREA – VIII	Anna Nagar	227,II Avenue, Near 12th Main Rd, Anna Nagar, Chennai - 40	26212101
09	AREA – IX	Teynampet	No 1,Dr.Ranga Rd, Abhiramapuram, Chennai - 82	4996796
10	AREA – X	Kodambakkam	No1,Muthukrishnan Street, T.Nagar, Chennai - 17	28150059
11	AREA – XI	Valasara vakkam	No 124,Arcot Road, Valasa ravakkam, Chennai - 87	24867244
12	AREA – XII	Alandhur	No 1,New Street, Alandhur, Chennai - 16	22331606
13	AREA – XIII	Adayar	No 42,1st Main road, Chennai -20	24451121
14	AREA – XI	Vperungudi	No 6/64, Puzhuthivakkam Main Road, Chennai - 22	422566
15	AREA – X	Vsholinganallur	No 120,Rajiv Gandhi Salai, Sholinganallur, Chennai - 24	500262

## GENERAL INFORMATION

2018-19

### WATER SUPPLY LOCATION

(+91 - 44)

Area - I	25544415
Area - II	25226651
Area - III	25517814
Area - IV	26444623

### WATER SUPPLY LOCATION

(+91 - 44)

Area - V	26212101
Central Complaint Cell	28535312
Regional Office I Kilpauk Water Works, Chennai - 10	26441179
Regional Office, CMWSSB, Chennai - 52	26590360

### Tourist Information Office

#### Address

(+91 - 44)

Directorate of Tourism, Govt of Tamil Nadu	Panagal Building, Chennai Tamil Nadu, India	+91-44-24321694
Tamil Nadu Tourism Development Office	25,Dr.Radhakrishnan Salai, Mylapore, Chennai, Tamil Nadu, India	+91-44-28547344
Government of India, Tourist Office	154,Anna Salai, Chennai, Tamil Nadu, India	+91-44-28524295
Tourist Information Centre	Kamaraj Domestic Airport Terminal, Chennai, Tamil Nadu, India	+91-44-22340569
India Tourism Development Corporation	29,Victoria Crescent, C-in-C Road, Chennai, Tamil Nadu, India	+91-44-28274216
Tamil Nadu Government Tourist Office	LLA (Local Library Authority) 735, Anna Salai, Chennai, Tamil Nadu, India	+91-44-28514850
TTDC Sales Counter	4,EVR Periyar High Road, Chennai, Tamil Nadu, India	+91-44-25360294

## GENERAL INFORMATION

2018-19

### RAILWAY

(+91 - 44)

COACH RELATED	097-605-34057
EPF AND SECURITY	097-605-34063
FOOD	097-605-34983
CLEANING	097-605-34983
ENQUIRY	1-800-266-1332
DRINKING WATER	097-605-34069
MEDICAL	097-605-34073
ENQUIRY	099-201-42151
ELECTRIC	097-605-34060

### ROAD TRANSPORT

(+91 - 44)

APSRTC (Tirupathi Depot)	+91-44-25795479
KSRTC	+91-44-42179362
Metropolitan transport Corporation	+91-44-23455858
State Express Transport Corporation	+91-44-24794709

### RAILWAY

(+91 - 44)

AADHAR CARD INDIA	18003001947
ANTI CORRUPTION BUREAU	1800222021
ANTI RAGGING	18001805522
CENSES OF INDIA	18003450111
CENSES OF INDIA	18002095040
YUVA COUNSELING HELP LINE	1800116888
ANTI RAGGING	155222
LPG	18002333555

### RAILWAY

(+91 - 44)

MOTOROLA CARE GKP	05513248322
ACER HELP	180030002237
B.Ed HELPLINE	1800110039
DELHI FEMALE HELP	1091
FIRE101FOCUS NEWS	
WHATSAPP	9711204289
HCL HELPLINE	18601800425
UP FEMALE HELPLINE	
COMPLAINT FOR GARBAGE	1090
SCALD	9717593474
POLICE	100

## GENERAL INFORMATION

2018-19

### Air Line Companies

(+91 - 44)

Air France	+91-44-28554899
Air Lanka Ltd	+91-44-28117748
All Nippon Airways	+91-44-28331951
British Airways	+91-44-28554680
Canadian Airlines International	+91-44-28269140
Cargolux Airlines International SA	+91-44-28333151
Cathay Pacific Airways Ltd	+91-44-28522418
Continental Air Services Ltd	+91-44-28550876
East West Airlines	+91-44-28284632
Elal Israeli Airlines	+91-44-28587990
France Air (P) Ltd	+91-44-28545740
Global Aviation	+91-44-28523957
Gulf Air Cargo	+91-44-28553478
Japan Airlines	+91-44-28524832
Jet Air	+91-44-28554422
Jet Airway (I) Ltd	+91-44-22561826
KLM Royal Dutch Airlines	+91-44-28522640
Korean Airlines	+91-44-28523415
Kuwait Airways Corporation	+91-44-28553978

### Air Line Companies

(+91 - 44)

Lufthansa German Airlines	+91-44-28525095
Malaysia Airlines	+91-44-24333450
Oman Air	+91-44-28211212
Peclian Air	+91-44-28523738
SITA	+91-44-28523636
Sabena Air	+91-44-28514337
Sahara Airlines	+91-44-22561643
Sahara India	+91-44-28256491
Scandinavian Airlines System	+91-44-28262315
Singapore Airlines Ltd	+91-44-28472325
Sri Lankan Airlines	+91-44-28111537
Swiss International Airlines Ltd	+91-44-28524783
United Airlines	+91-44-28262294
Wings Span	+91-44-24983367

## GENERAL INFORMATION

2018-19

### CMWSSB AREA OFFICE AND ADDRESS

Division Name	Station Name	STD	Phone No	Mobile No. of Station Officer	
CHENNAI-NORTH	ESPLANADE		101	9445086012	
	KORUKKUPET	044	25544662	9445086019	
	ROYAPURAM		101	9445086021	
	SECRETARIAT		101	9445086022	
	SEMBIUM	044	25370101	9445086023	
	TONDIARPET		101	9445086024	
	V.O.C.NAGAR		101	9445086025	
	VYASARPADI	044	25520101	9445086026	
	WASHERMANPET		101	9445086027	
	CHENNAI-SOUTH	ASHOK NAGAR		101	9445086046
		GUINDY		101	9445086050
MYLAPORE			101	9445086047	
RAJBHAVAN		044	22354835	9445086051	
SAIDAPET			101	9445086049	
TEYNAMPET			101	9445086048	
THIRUVANMIYUR		044	24401213	9445086052	
TAMBARAM		044	22382204	9445086053	
T.NAGAR			101	9445086045	
CHENNAI-CENTRAL		KILPAUK	044	26428544	9445086063
		VEPERY			9445086069
	EGMORE			9445086065	
	TRIPPLICANE			9445086068	
	KOYAMBEDU	044	20479261	9445086067	
	J.J.NAGAR	044	26563629	9445086066	
	VILLIVAKKAM	044	26174718	9445086070	
CHENNAI- SUB-URB	ANAMBATHUR	044	26251601	9445086064	
	AVADI	044	26555202	9445086059	
	ATHIPATTU	044	27950080	9445086013	
	ENNORE	044	25750633	9445086018	
	MANALI	044	25941147	9445086020	
	THIRUVOTTIYUR	044	25990596		

## POLICE STATIONS IN CHENNAI

Police Station	Contact No (044)	Police Station	Contact No (044)
C1 Flower Bazaar	23452464/465	T8 Muthapudupet	26841795T9
C2 Elephant Gate	23452467/468	Pattabiram	26851632T12
C3 Seven Wells	23452471/472	Poonamallee	26272082T16
C4 Govt Hospital	23452473	Nasarathpet	26271414T5
B2 Esplanade	23452458/459	Thiruverkadu	26800091T16
B4 High Court	23452462	SRMC	23452767T14
B5 Harbour	23452500/501	Mangadu	26791102T13
B1 North Beach	23452457	Kunrathur	24780039
B3 Fort	23452460/461	K6 TP Chatram	23452729 / 730
N3 Muthialpet	23452514/515	G3 Kilpauk	23452699 / 700
C5 Kothawalchavadi	23452474	G7 Chetpet	23452686
B6 Port Marine	23452502	G6 KMC Hospital	23452709
H1 Washermanpet	23452481	G1 Vepery	23452690 / 691
H3 Tondiarpet	23452485/486	G2 Periamet	23452696 / 697
H4 Korukkupet	23452488/489	K2 Ayanavaram	23452714 / 715
H6 R.K.Nagar	23452493/494	K7 ICF	23452731 / 732
H2 Stanley Hospital	25281347	G5 Secretariat Colony	23452704 / 706
H8 Thiruvottiyur	23452496/497	D1 Triplicane	23452655 / 656
H7 Peripheral Hospital	23452495	D8 K.G.Hospital	23452676
H5 New Washermanpet	23452490/491	D2 Anna Salai	23452661 / 662
N1 Royapuram	23452504/505	D4 Zam Bazaar	23452665 / 666
N2 Kasimedu	23452511/510	D6 Anna Square	23452667 / 668
N4 Fishing Harbour	23452517/518	F1 Chintadripet	23452673 / 674
CMBT	9677099958	J6 Thiruvanmiyur	23452602 / 603
V1 Villivakkam	23452744/745	J13 Taramani	22541636
V4 Rajamangalam	23452750/751	J9 Thoraipakkam	23452776
V6 Kolathur	23452758	J10 Chemmancherry	24500707
T1 Ambathur	23452797	J11 Kannagi Nagar	9791090918
T2 Ambathur Estate	23452798	J8 Neelangerai	24491196
T3 Korattur	23452799	J12 Kannathur	27472182
T6 Avadi	26554750	R1 Mambalam	23452608 / 609
T7 Tank Factory	23452771	R4 Sundarapandianar	
T10 Thirumullaivoyal	23452772	Angadi(Pondy Bazaar)	23452624 / 625
T11 Thirunindravur	26390293		

## EMERGENCY HELP LINE NUMBER

POLICE	100	CHENNAI CORPORATION COMPLAINTS	1913
TRAFFIC POLICE	103	CHENNAI CORPORATION 24HRS	044-2561 9206
AMBULANCE	108		9511 25385005
FIRE SERVICE	101		4965 / 3694
FIRE SERVICE AMBULANCE	102	WHATS APP	9445477207 / 203
HELP FOR CHILDREN	1098		206/201/ 205
HELP FOR WOMEN	1091		

## EMERGENCY NUMBER FOR OTHER HELP

STATE	1070	DISTRICT	1077	ELECTRICITY	1912
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## FESTIVALS OF 2018

MONTH	DATE	DAY	HOLIDAYS
January	01	Monday	New Year Day
	14	Sunday	Pongal
	15	Monday	Thiruvalluvar Day
	16	Tuesday	Uzhavar Thirunaal
	24	Friday	Republic Day
March	18	Sunday	Telugu New Year day
	29	Thursday	Mahavir Jayanthi
	30	Friday	Good Friday
April	14	Saturday	Tamil New Year Dr.Ambedkar Jayanthi
May	01	Tuesday	May Day
June	15	Friday	Ramzan (id-ul-fitter)
August	15	Wednesday	Independence Day
	22	Wednesday	Bakrid
September	03	Monday	Janmashtami
	13	Thursday	Ganesh Chaturthi
	21	Friday	Moharam
October	02	Tuesday	Gandhi Jayanthi
	18	Thursday	Ayudha Pooja
	19	Friday	Vijaya Dasami ( Dussehra)
November	06	Tuesday	Deepavali
	21	Wednesday	Milad-un-Nabi
December	25	Tuesday	Christmas Day

**PERSONAL MEMORANDA**

**Personal Record**

Name.....

Home Address.....

.....

Business Address.....

.....

Home Phone..... Business..... Fax.....

Identity Code..... Life Insurance Policy No.....

Income Tax No..... Vehicle Insurance Policy No.....

Passport No..... Blood Group.....

Others..... E-mail.....

**Bank Account**

Bank..... Account No.....

Bank..... Account No.....

Bank..... Account No.....

**Credit Cards / Cash Cards**

Issued by..... Card No..... Due Date.....

Issued by..... Card No..... Due Date.....

Issued by..... Card No..... Due Date.....

**Reminders / Renewals**

Passport..... Income Tax..... Insurance Agent.....

Driving Licence..... Insurance..... Property Tax.....

Birthday..... Anniversaries..... Medical Check up.....

Health Club.....

**Important Contacts**

Solicitor..... Ambulance.....

Bank Manager..... Police Station.....

Travel Agent..... Insurance Agent.....

Taxi Service..... Physician.....

Airport Information..... Dentist.....

Motor Service..... Railway Enquiry.....

Stock Broker..... Fire Station.....

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**Documents to be maintained at Site**

01. Organization Chart
02. EHS Manual and Safety Register
03. Hindrances Register
04. Standard Works Instructions Register for Supervisory Staff and Labours
05. Drawings: Site Plans, Main Building and other sub-works architectural drawings / Structural drawings, Set of Services drawings. All working drawings, as built drawings.
06. Estimate: Sanctioned Copy Original and Revised, if so (Accepted tender rate be entered item-wise on estimate to keep watch).
07. Tender Agreement: Certified Copy (estimated rates and amount of each item be entered item-wise to keep watch).
08. Site Register: For recording day to day information, measurements, giving details, sketches etc.,
09. Work Order Book: For inspecting officer. The inspecting officer will record the observations and give instructions thereon in the work order book. One copy of the work Order Sheet signed by the inspecting officer shall be forwarded to the Divisional Engineer, Executive Engineer and the Contractor, Compliance Report to be obtained and made available to the inspecting officer in due course.
10. Bar Chart : Showing item-wise progress.
11. Expenditure Graph : Showing details of work i.e. Administrative approval. Technical Sanction, Work Order, Time Limit, Extension/Compensation and monthly Expenditure Actual Anticipated.
12. Bill Copy: Corrected Audited copy.
13. Daily Cement Consumption Register: up-to date record of Cement with issue voucher No and date to be maintained jointly.
14. Item-wise Cement Register: For each bill, the Junior engineer should put quantities executed and calculated cement consumption for keeping watch on actual consumption.
15. Material Testing Register & File : True copies of test results be maintained on site of work.
16. Field Book: Actual levels and other measurements to be entered in Field Book and should be signed by Owner and Contractor.
17. Register of Material : Requirement of materials and daily entry of incoming materials.

18. Register of labour : Daily No of labour be recorded.
19. Daily Progress Report: Daily progress made, with collection of materials, labour engaged and Cement consumption / Balance and approximate quantity of work done.
20. Weekly Progress Report: Showing actual work executed during Week, with details of labour and Cement supported with photographs.
21. Commencement / Plinth Checking Certificate.
22. N.A. Order and other Government Permission (s).  
Approvals from all Concerned Authorities.

## List of Indian Standards

### INDIAN STANDARDS

- |             |  |
|-------------|--|
| 05-1978     | Colours for ready mixed paints and enamels (third revision)  |
| 44-1969     | Iron oxide pigments for paints (first revision)  |
| 63-1978     | Whiting for paints and putty (second revision)   |
| 73-1961     | Paving bitumen (revised)   |
| 75-1973     | Linseed oil.raw and refined (second revision)  |
| 102-1962    | Ready mixed paint, brushing, red lead, non-setting, priming (revised)  |
| 104-1979    | Ready mixed paint, brushing, zinc chrome, priming (second revision)  |
| 109-1968    | Ready mixed paint, brushing, priming, plaster (first revision)   |
| 129-1950    | Ready mixed paint, brushing, finishing, interior, Oil gloss for general purposes to Indian Standard Colours                            |
| 157-1950    | Ready mixed paint, brushing acid and alkali resisting, lead free, for general purposes   |
| 158-1981    | Ready mixed paint, brushing, bituminous, black, lead free, acid, alkali, water and heat resisting for general purposes(third revision) |
| 159-1981    | Ready mixed paint, brushing acid resisting for protection against acid fumes (first revision)  |
| 161-1950    | Ready mixed paint, brushing, mattt heat resisting  |
| 162-1950    | Ready mixed paint, brushing, fire resisting, silicate type for use on wood   |
| 164-1981    | Ready mixed paint, brushing for road marking (first revision)  |
| 165-1963    | Fire clay mortar for laying fire clay refractory bricks (second revision)  |
| 204-(Part I | Tower bolts (fourth revision) part I (for ferrous metals and part II for & II) 1978 non ferrous metals                                 |

- |          |   |
|----------|---|
| 205-1978 | Non-ferrous metals butt hinges (third revision)   |
| 206=1981 | Tee and strap hinges (third revision)   |
| 207=1964 | Gate and shutter hooks and eyes (revised)   |
| 208-1969 | Door handles (third revision)   |
| 210-1978 | Grey iron castings (third revision)   |
| 212-1983 | Crude coal tar for general use (second revision)  |
| 217-1961 | Cur-back bitumen (revised)  |
| 218-1983 | Creosote of oil for use as wood preservatives (second revision)   |
| 226-1975 | Structural steel (standard quality) (fifth revision)  |
| 261-1982 | Copper sulphate (second revision)   |
| 269-1976 | Ordinary and low heat Portland cement (third revision)  |
| 277-1985 | Galvanized steel sheets (plain and corrugated) (fourth revision)  |
| 278-1978 | Galvanized steel barbed wire for fencing (third revision)   |
| 280-1978 | Mild steel wire for general engineering purposes (third revision)   |
| 281-1973 | Mid steel sliding door bolts, for use with pad-locks (second revision)  |
| 287-1973 | Recommendations for maximum permissible moisture content for timber used for different purposes (second revision) |
| 290-1961 | Coal tar black paint (revised)  |
| 303-1975 | Plywood for general purposes (second revision)  |
| 334-1982 | Glossary of terms relating to bitumen and tar (second revision)   |
| 335-1983 | New insulating oil for transformers and switch gear (third revision)  |
| 341-1973 | Black Japan, Type' A', 'B', and 'C' (first revision)  |
| 345-1952 | Wood filter, transparent, liquid  |
| 348-1968 | French polish (first revision)  |
| 349-1981 | Lacquer, cellulose, nitrate clear finishing, glossy for metals (first revision)                                   |
| 362-1982 | Parliament hinges (fourth revision)   |
| 363-1976 | Hasps and staples (third revision)  |
| 364-1970 | Fan-light catch (second revision)   |
| 371-1979 | Ceiling roses (second revision)   |
| 375-1963 | Marking and arrangement for switch gear, bus bars, main connections and auxillary wiring (revised)                |

## TECHNICAL DATA

2018-19

383-1970	Coarse and fine aggregate from natural sources for concrete (second revision)
398	(part I & ii Aluminium conductors for overhead purposes ((second revision)
1978	(i) 398 (part i) 1976 Aluminium standard conductors (Second revision)
	(ii) 398(part ii) 1976.Aluminium conductors galvanized steel reinforced (second revision)
401-1982	Code of practice for preservation to timber (third revision)
412-1975	Expanded metal steel sheets for general purposes (second revision)
419-1967	Putty for use on window frames (first revision)
423-1961	Plastic wood for joiner's filter (revised)
427-1965	Distemper, dry colour as required (revised)
428-1969	Distemper,oil emulsion, colour as required (first revision)
430-1972	Paint remover, solvent type, non-flammable (second revision)
431-1972	Paint remover, solvent type, flammable (second revision)
432(part D	Mild steel and medium tensile steel bars (third revision)
1982	
451-1972	Technical supply conditions for wood screws (second revision)
452-1973	Door springs rat tail type (second revision)
453-1973	Double acting spring hinges (second revision)
454-1961	Cut back bitumen Digboi type (revised)
455-1976	Portland slag cement (third revision)
456-2000	Code of practice for plain and reinforced concrete (fourth revision)
458-1971	Concrete pipes (with and without reinforcements) (second revision)
459-1970	Un-reinforced corrugated and semi-corrugated asbestos cement sheets (second revision)
516-1959	Methods of test for strength of concrete
524-1983	Varnish, finishing, exterior synthetic air drying (second revision)
525-1968	Varnish, finishing, exterior and general purposes (second revision)
613-1984	Copper rods and bar for electrical purposes (second revision)
640-1956	Ready mixed red oxide for Hessian
651-1980	Salt glazed stoneware pipes and fittings (fourth revision)
653-1980	Sheet lincieum and tiles (second revision)

## TECHNICAL DATA

2018-19

654-1972	Clay rooting tiles, Mangalore pattern (second revision)
692-1973	Paper insulated lead sheathed cables for electric supply (second revision)
694-1977	PVC insulated cables (for working voltage up to and including 1100 volts) (Second revision)
702-1988	Industrial bitumen (second revision)
712-1984	Building limes (third revision)
723-1972	Steel countersunk head wire nails (second revision)
729-1979	Drawer locks, cupboard locks and box locks (third revision)
730-1978	Hook bolts for corrugated sheet roofing (second revision)
731-1971	Porcelain insulators for overhead power lines with nominal voltage greater than 100 volts (second revision)
731-1963	code of practice for electrical wiring installations (System voltage not exceeding 650 V) (revised)
732	(part I,ii & code of practice for electrical wiring installations (System voltage exceeding 650 V)
iii) – 1983	Part I definition and general requirement (second revision)
	Part ii 1983 Design and construction (second revision)
	Part iii 1982 inspections and testing of installation (second revision)
737-1986	Wrought aluminium and aluminium alloys, sheet and strip for general engineering purposes (third revision)
749-1978	Handloom cotton Dungri cloth, grey (first revision)
774-1984	Flushing cisterns for water closets urinal valve less Syphonic type (fourth revision)
775-1970	Cast iron supports and brackets for wash basin and sinks (second revision)
777-1970	Glazed earthen-ware tiles (first revision)
781-1984	Cast copper alloy screw down bib taps and stop valves for water services locks (third revision)
782-1978	Caulking lead (third revision)
800-2007	Code of practice for structural steel in general building constructions (third revision)
809-1970	Rubber flooring materials for general purposes (first revision)

## TECHNICAL DATA

2018-19

814-1974	Covered electrodes for metal arc welding of structural steel (fourth revision)
816-1969	Code of practice for use of metal arc welding for general constructions in mild steel (First revision)
818-1968	Code of practice for safety and health requirements in electric and gas welding and cutting operations (first revision)
822-1970	Code of procedure for inspections of welds
851-1978	Synthetic resin adhesive for construction work (non-structural) in wood (first revision)
852-1969	Animal glue for general wood finishing working purposes (first revision)
876-1970	Wood poles for overhead power and telecommunication lines (second revision)
1019-1974	Rim latches (second revision)
1038-1983	steel door window and ventilator (third revision)
1077-1986	Common burnt clay building bricks (fourth revision)
1081-1960	Code of practice for fixing and glazing of metal (steel and aluminium) doors, windows and Ventilators
1120-1975	Coach screws (first revision)
1121	(part I Methods of test for determination of strength properties of natural building stones To iv)
1974	(first revision)
1124-1974	Method of test for determination of water absorption, apparent specific gravity and porosity of natural building stones (first revision)
1148-1982	Hot-rolled steel reinforcement bars (up to 40 mm dia) for structural purposes (third revision)
1180	(part i) Non sealed type (second revision)
1981	
1180	(Part ii) Sealed type
1979	
1195-1978	Bitumen mastic for flooring (second revision)
1199-1959	Method of sampling and analysis of concrete.
1230-1979	Cast iron rain water pipes and fitting (second revision)
1232-1964	Ready mixed paint, brushing, yellow ochre, semi- gloss for general purposes (revised)
1236-1968	Ready mixed paint, brushing, oil gloss, heat resisting,

## TECHNICAL DATA

2018-19

1237-1980	Cement concrete flooring tiles (first revision)
1239	(part i) Mild steel tubes (fourth revision)
1979	
1239	(part ii) Mild steel tubular and other wrought steel pipe fittings (third revision)
1982	
1254-1975	Specification for corrugated aluminium sheet
1255-1983	Code of practice for installation and maintenance of paper insulated power cables Up to and including 33KV (second revision)
1258-1987	Bayonet lamp holders (third revision)
1284-1975	Wrought aluminum alloy, bolts and screw stock (for general engineering purposes) (Second revision)
1293-1988	Three pin plugs and socket outlets (second revision)
1307-1982	Aldrin emulsifiable concentrate (second revision)
1322-1982	Bitumen felts for water proofing and damp proofing (third revision)
1328-1982	Veneered decorative plywood (second revision)
1341-1981	Steel butt hinges (fourth revision)
1344-1981	Calcined clay pozzolana (second revision)
1961-1978	Steel windows for industrial buildings (first revision)
1363	(part I to Black hexagon bolts, nuts and lock nuts size (MS to M36) and black hexagon iii)
1984	screws (M5 to M36) (second revision)
1367	Technical supply conditions for threaded steel fasteners (second revision)
1445-1977	Porcelain insulators for overhead power lines with nominal voltage up to and including 1000 volts (second revision)
1464-1973	Clay ridge and ceiling tiles (first revision)
1489-1976	Portland pozzolana cement (second revision)
1526-1960	Sizes and shapes for fire bricks (230 mm series)
1536-1976	Centrifugally cast (spun) iron pressure pipes for water, gas and sewage (second revision)
1537-1976	Vertically cast iron pressure pipes for water, gas and sewage (first revision)
1538	(part I to Cast iron fittings for pressure pipes for water, gas, sewage (second revision) xxiii)

## TECHNICAL DATA

2018-19

1976	
1542-1977	Sand to plaster (first revision)
1854	(part i)- PVC insulated (heavy duty) electric cable part I ( for working voltages up to and 1976 including 1100 Volts) (second revision)
1554	(Part ii) PVC insulated (heavy duty) electric cable part II (for working voltages from 3.3 KV up to and including 11 KV) (first revision)
1566-1962	Hand drawn steel wire fabric for concrete reinforcement (Second revision)
1568-1970	Wire cloth for general purposes (first revision)
1569-1976	Capacitors for use in tubular fluorescent high pressure mercury and low pressure sodium vapour discharge lamp circuits (first revision)
1580-1969	Bituminous compound for water proofing & caulking purposes (first revision)
1592-1960	Asbestos cement pressure pipes (second revision)
1596-1977	Polyethelene insulated cables for working voltage up to and including 1100 volts (Second revision)
1597	(part I to Code of practice for construction of stone masonry II) -1967
1628	(part i-1980 Asbestos cement building pipes and pipe fittings (first revision)
1626	(Part II) Asbestos cement gutters and gutter fittings (first revision)
1980	
1626	(Part III)- Asbestos cement gutters and roofing fittings (first revision)
1981	
1646-1982	Code of practice for the safety of buildings (general) electrical installations
1658-1977	Fibre hard boards (second revision)
1659-1979	Block boards (second revision)
1678-1978	Pre-stressed concrete poles for overhead power traction and telecommunication Lines (first revision)
1703-1977	Ball valves (horizontal plunger type) including floats for water supply purpose (second revision)
1706-1972	Method for determination of resistance to wear by abrasion of natural building Stones first revision)
1711-1984	Self closing taps for water supply purposes (second revision)

## TECHNICAL DATA

2018-19

1726	(Para I to Cast iron man hole covers and frames (second revision) VII) -1974
1729-1979	Sand cast iron, spigot and socket soil waste and ventilating pipes, fittings and Accessories (first revision)
1777-1978	Industrial luminaire with metal reflectors (first revision)
1786-2008	High strength deformed steel bars and wires for concrete reinforcement (fourth revision)
1795-1982	Pillar taps for water supply purposes (second revision)
1823-1980	Floor door stoppers (third revision)
1834-1984	Sealing compounds, hot applied for joints in concrete (first revision)
1837-1966	Fan, light pivots (first revision)
1838-	Preformed fillers for expansion joints in concrete, non-extruding and resilient type (Bitumen impregnated fibre)
1866-1983	Code of practice for maintenance and supervision of mineral insulating oil in equipments (second revision)
1879	(Part I to Malleable cast iron pipe fittings (second revision) X) – 1987
1893	(Part I) 2000 Criteria for earth quake Resistant design of Structure
1905-1980	Code of practice for structural safety of building masonry wall (second revision)
1913	(Part I) General safety requirements for luminaries (Part I tubular fluorescent lamps
1978	
1944	(Part I & II)- Code of practice for lighting of public thoroughfares (second revision)
1970	
1977-1975	Structural steel (ordinary quality) (second revision)
2016-1967	Plain washers (first revision)
1977	
2046-1969	Decorative thermosetting synthetic resin bonded laminated sheets first revision)
2062-1984	Structural steel (fusion welding quality) (third revision)
2065-1983	Code of practice for water supply in building
2074-1979	Ready mixed paint red oxide – zinc chrome, priming (first revision)
2086-1982	carriers and bases used in rewirable type electric fuses up to 650 volts) (second revision)
2098-1964	Asbestos cement building boards

## TECHNICAL DATA

2018-19

2114-1984	Code of practice for laying in-situ terrazzo floor finish (first revision)
2116-1980	Sand for masonry mortars (first revision)
2121-1962	Fittings for aluminium and steel cored aluminium conductors for overhead power lines.
2141-1979	Galvanised stay strand (second revision)
2185-Part-I-1979	Concrete masonry units (second revision)
2185-Part-II-1984	Concrete masonry units
2202 (Part-I)-1983	Wooden flush door shutters (solid core type) part I, plywood face panels (fourth revision)
2202 (Part-II)-1983	Particle board and hardboard face panel (third revision)
2209-1976	Mortice locks (vertical type) (third revision)
2215-1983	Starters for fluorescent lamps (third revision)
2268-1988	Electric call bells and buzzers for in-door use (second revision)
2309-1969	Code of practice for protection of buildings and allied structures against lightning (first revision)
2315-1978	Thimbles for wire ropes (second revision)
2326-1987	Automatic flushing cisterns for urinals (first revision)
2339-1963	Aluminium paint, for general purposes, in dual containers.
2366-1983	Code of practice for nail-jointed timber construction (first revision)
2386	(Part I to Method of test for aggregates for concrete. VIII)-1963
2412-1975	Link clips for electrical wiring (first revision)
2418	(Part I to Tubular fluorescent lamps for general lighting service (second revision) IV)-1977
2470	(Part I & Code of practice for septic tanks. II)-1985
2486	(Part I)- Insulator fittings for overhead power lines for 3.3 KV and above (Part I) General 1971 requirements and tests (first revision)
2486	(Part II)- Insulator fittings for overhead power lines for 3.3 KV and above (Part II) - 1974 Dimensional requirements (first revision)
2502-1963	Code of practice for bending and fixing of bars for concrete reinforcement
2508-1984	Low density polythene films (second revision)
2544-1973	Porcelain post insulators for systems with nominal voltages greater than 1000 Volts (first revision)
2548	(Part I & Plastic seats and covers for water closets. Part I thermostat seats and covers. II)-1983 Part II, thermo plastic seats and covers (Forth revision)

## TECHNICAL DATA

2018-19

2548	Plastic water closet seats and covers (third revision)
2551-1982	Danger notice plates (first revision)
2556	(Part I)- Vitreous sanitary appliances (Vitreous China) Part I, General requirements (Second 1974 revision)
2556	(Part II)- Vitreous sanitary appliances (Vitreous China) Part II, specific requirement of 1981 wash down water closets (third revision)
2556	(Part III)- Vitreous sanitary appliances (Vitreous China) Part III specific requirements of 1981 squatting pans (third revision)
2556	(Part IV)- Vitreous sanitary appliances (Vitreous China) Part IV) Specific requirements of 1972 wash basins (second revision)
2556	(Part V)- Vitreous sanitary appliances (Vitreous China) Part V specific requirements for 1979 laboratory sinks (second revision)
2556	(Part VI / Sec D-1979)Vitreous sanitary appliances (Vitreous China) Part VI, specific requirements of urinals Sec. 1 Bowl type (third revision)
2556	(Part VI / Sec 2) -1974Vitreous sanitary appliances (Vitreous China) Par VI, Sec 2 Half urinal (Second revision)
2556	(Part VI / Sec 3) -1974Vitreous sanitary appliances (Vitreous China) Part VI, Sec 3 Squatting plates (Second revision)
2556	(Par VI / Sec 4) -1974Vitreous sanitary appliances (Vitreous China) Part VI, Sec 4 partition slabs (second revision)
2556	(Part x) - 1974Vitreous sanitary appliances (Vitreous China) Part X Specific requirements of foot rest (second revision)
2645 -1975	Integral cement water proofing compounds (first revision)
2667-1976	Fittings for rigid steel conduits for electrical wiring (first revision)
2675- 1983	Enclosed distribution fuse boards and cutouts for voltages not exceeding 1000 volts (second revision)
2681-1979	Nonferrous metal sliding door bolts (Aldrops) for use with padlocks (second revision)
2682-1984	Chlordane emulsifiable concentrates (Second revision)

## TECHNICAL DATA

2018-19

- 2686 -1977 Cinder aggregates for use in lime concrete (first revision)2690 (Part II)-1975 Burnt clay terracing tile, part II, handmade (first revision)
- 2691 -1988 Burnt clay facing bricks (second revision)
- 2713 (Part I to III)-1980Tubular steel poles for overhead power lines (second revision)
- 2720 (part VII) -1980 Methods of test for soils, part VII, determination of water content-dry density relation using light compaction (second revision)
- 2721 - 1979 Galvanised steel wire chain link fences (first revision)
- 2751 - 1979 Code of practice for welding of mild steel bars used for reinforced cement concrete construction (first revision)
- 2835 - 1987 Flat transparent sheet glass (third revision)
- 2911 (Part I, Sec 1 to 4)-2010 Code of practice for design and construction of pile and pile foundations.
- 2932 - 1974 Enamel. Synthetic, exterior, under-coating and finishing (first revision)
- 2963 - 1979 Copper alloys waste fittings for wash basins and sinks (first revision)
- 3016 - 1982 Code of practice for fire precautions in welding and cutting operations (first revision)
- 3034 - 1981 Code of practice for fire safety of industrial buildings electrical generating and distributing stations (First revision)
- 3043 - 1987 Code of practice for earthing (first revision)
- 3063 - 1972 Single coil rectangular section spring washers for bolts, nuts and screws ( first revision)
- 3068 - 1986 Broken brick (burnt clay) coarse aggregate for use in line concrete (second revision)
- 3070 (part I)-  
1985 Lightning arresters for alternating current systems, part I, non-liner resistor type lightning arrester (first revision)
- 3070 (part II)-  
1966 Lightning arresters for alternating current systems, part II, expulsion type lightning arrester (first revision)
- 3076 - 1985 Low density polyethylene pipes for potable water supply (second revision)
- 3087 - 1985 Wood particle boards (medium density) for general purposes.
- 3097 - 1980 Veneered particle boards (first revision)
- 3117 - 1965 Bitumen emulsion for roads (anionic type)
- 3129 - 1985 Low density particle board for insulation purposes (first revision)

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- 3188 - 1980 Dimensions for disc insulators (first revision)
- 3287 - 1965 Industrial lighting fittings with plastic reflectors.
- 330811981 Wood wool building slabs. (first revision)
- 3311 - 1979 Waste plug and its accessories for sinks and wash basins (first revision)
- 3323 - 1980 Bi-pin lamp holders for tubular fluorescent lamps (first revision)
- 3324 - 1982 Holders for starters for tubular fluorescent lamps (first revision)
- 3337 - 1978 Ballies for general purpose (first revision)
- 3348 - 1965 Fibre insulation boards
- 3384-1986 Bitumen primer for using water-proofing and damp-proofing (first revision)
- 3386 -1979 Wooden fencing posts (first revision)
- 3419-1976 Fittings for rigid non-metallic conduits (second revision)
- 3427-1969 Metal enclosed switchgear and control gear for voltages above 1000 volts but not exceeding 11000 volts.
- 3461-1980 PVC asbestos floor tiles (first revision)
- 3462-1986 Flexible PVC flooring (second revision)
- 3480-1966 Flexible steel conduits for electrical wiring.
- 3486-1966 Cast iron spigot and socket drain pipes.
- 3502-1981 Steel chequered plates(first revision)
- 3536-1966 Ready mixed paint, brushing, wood primer, pink.
- 3553-1966 Waterlight electrical lighting fittings.
- 3564-1986 Door closers (hydraulically regulated) (third revision)
- 3585-1966 Ready mixed paint, aluminium, brushing, priming, water resistant for wood work.
- 3629 - 1986 Structural timber in building (first revision)
- 3639-1966 Fittings and accessories for power transformers.
- 3678-1966 Ready mixed paint, thick white for lettering.
- 3696-(Part D-1987 Safety code for scaffolds and ladders, part I, scaffolds (first revision)
- 3696 (Part II)-1966 Safety code for scaffolds and ladders, part II, ladders.
- 3764-1966 Safety code for excavation work.
- 3812-(Part III)-1981 Fly ash for use as pozzolana and admixture (first revision)
- 3818 -1986 Continuous (piano) hinges (second revision)

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- 3837-1976 Accessories for rigid steel conduits for electrical wiring (first revision)
- 3847-1966 Mortise night latches
- 3854-1966 Switches for domestic and similar purposes.
- 3989-1984 Centrifugally cast (spun) iron spigot and socket soil, waste and ventilating pipes fittings and accessories (second revision)
- 4004-1985 Application guide for nonlinear resistor type surge arrester for AC system (second revision)
- 4014-(Part II) -1967 Code of practice for steel tubular scaffolding, part II, safety regulations for scaffolding.
- 4020-1967 Method and test for wooden flush doors type tests.
- 4064 (Part I & II)-1978 Air break switches air break disconnecters, air break switch disconnector and fuse combination units for voltages not exceeding 1000 V AC or 1200 V DC (first revision)
- 4081-1986 Safety code for blasting and related drilling operations. (first revision)
- 4130-1976 Safety code for demolition of building (first revision)
- 4160-1967 Interlocking switch socket outlets.
- 4237-1982 General requirement for switchgear and control gear for voltages not exceeding 1000 volts. (first revision)
- 4346-1982 Washers for water taps for cold water services. (first revision)
- 4351-1976 Steel door frames (first revision)
- 4457-1982 Ceramic unglazed vitreous acid resistant tiles. (first revision)
- 4615-1968 Switch socket outlets (non-interlocking type)
- 4648-1968 Guide for electrical layout in residential buildings
- 4671-1984 Specification for expanded polystyrene for thermal insulation purposes (first revision).
- 4710-1968 Switch and switch isolators above 1000 volts but not exceeding 11000 volts.
- 4832 (Part II)-1969 Chemical resistant mortars, part II, Resin type.
- 4832 (Part III)-1968 Chemical resistant mortars, part III, sulphur type.
- 4835-1979 Polyvinyl acetate dispersion based adhesive for wood. (first revision)
- 4860-1968 Acid resistant bricks.
- 4948-1974 Welded steel wire fabric for general use (first revision)

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- 4984-1987 High density polyethylene pipes for potable water supplies, sewage and industrial effluent (third revision)
- 4985-1988 Unplasticized PVC pipes for potable water supplies (second revision)
- 5039-1983 Specification for distribution pillars for voltage not exceeding 1000 volts. (first revision)
- 5083-1988 Knifing stopper (second revision)
- 5121-1969 Safety code for piling and other deep foundations.
- 5133-(Part D-1969) Boxes for enclosures of electrical accessories Part I, steel and cast iron boxes.
- 5187-1972 Flush bolts (first revision)
- 5216 Guide for safety procedures and practices in electrical works
- 5219 (Part D-1969) Cast copper alloy traps Part J, P, & S traps.
- 5300-1969 Porcelain guy strain insulators.
- 5382-1985 Rubber sealing rings for gas mains, water mains and sewers (first revision)
- 5410-1669 Cement paint, colour as required
- 5411 (Part D -1974) Plastic emulsion paint part I for interior use (first revision)
- 5437-1969 Wired and figured glass.
- 5454-1978 Methods for sampling of clay building brick (first revision)
- 5455-1969 Cast iron steps for manholes
- 5331 (Part I to III)-  
1988 Cast iron specials for asbestos cement pressure pipes for water gas and sewage (second revision)
- 5578-1984 Guide for making of insulated conductors (first revision)
- 5613-(Part I, Sec D-1970) Code of practice for design, installation and maintenance of overhead power lines part I Lines upto and including 11 KV section 2 installations and maintenance. (first revision)
- 5640-1970 Method of test for determining aggregates impact value of soft coarse aggregates.
- 5660-1970 Ready mixed paint, brushing, aluminium red oxide primer.
- 5691-1970 Lacquer cellulose pigmented, finishing glossy.
- 5779-1986 Burnt clay soling bricks (first revision)
- 5820-1970 Precast concrete cable covers.

- 5916-1970 Safety code for construction involving use of hot bituminous materials.
- 5930-1970 Mortice latch (Vertical type)
- 6163-1978 Centrifugally cast (spun) iron low pressure pipes for water, gas and sewage (first revision)
- 6165-1971 Dimension for special shapes of clay bricks.
- 6248-1979 Metal rolling shutter and rolling grills. (first revision)
- 6313-(Part D 1981) Anti-termite measures in building. Constructional measures (first revision)
- 6313 (Par II) Anti-terminate measures in building. Pre –constructional chemical treatment measures (first revision)
- 6313 (Part III)-1981 Anti –terminate measures in building, treatment for existing building (first revision)
- 6439-1978 Heptachlor emulsifiable concentrates (first revision)
- 6523-1983 Precast reinforced concrete door and window frames. (first revision)
- 6530-1972 Code of practice for laying of asbestos cement pipe.
- 6607-1972 Rebated mortise locks (vertical type)
- 6639-1972 Hexagon bolts for steel structures.
- 6908-1975 Non pressure asbestos cement and fittings for sewage and drainage.
- 7164-1973 Stopper
- 7197-1974 Double action floor springs (without oil check) for heavy doors.
- 7205-1973 Safety code for erection on structural steel work.
- 7293-1974 Safety code for working with construction machinery.
- 7307-(Part D 1974) Approval test of welding procedures Part I, fusion welding of steel.
- 7534-1985 Mild steel locking bolts with holes for padlocks (first revision)
- 7861 (Part D 1971) Code of Practice for extreme weather concreting recommended practice for hot weather concreting
- 7861-(Part II)-1981 Code to practice for extreme weather concreting recommended practice for cold weather concreting.
- 7969-1975 Safety code for storage and handling of building materials.
- 8008- (Part I to VII)-1976 Injection moulded high density polyethylene (HDPE) fittings for portable water supply
- 8042-1978 White Portland cement (first revision)

- 8061-1976 Code of practice for design. Installation and maintenance of service lines upto and including 650 volts.
- 8183-1976 Bonded mineral wool.
- 8360- (Part I to III)-1977 Fabricated high density polyethylene (HDPE) fittings for potable water supplies.
- 8756-1978 Ball catches for use in wooden almirahs.8931-1978Case copper alloy fancy bib taps and stop valves for water services.
- 8934-1978 Cast copper alloy fancy pillar taps for water services.
- 9224- (Part II)-1979 HRC Cartridge fuse links upto 650 volts
- 9385 (Part II)-1980 High Voltage Explosion fuses and similar fuses
- 9537-1980 Conduits for electrical installations.
- 9595-1980 | 9968 (Part I & II) - 1988 Recommendation for metal or welding of carbon and carbon magnese sheet. Specification for Elastomer insulated cables (first revision) Part I for working voltages upto and including 1100 volts. Part II for working voltages from 3.3 KV upto and including 11 KV.
- 10440-1983 Code of practice for construction of R.B. and R.B.C floor and roof.
- 10521-1983S pecification of collapsible gab.
- 1786-1985 High strength deformed steel bars and wires for concrete reinforcement (third revision) superseding IS 1139
- 9537- (Part II) 1981 Rigid steel conduits for electrical installation.
- 9537- (part III) 1981 Rigid plain conduits of insulating materials superseding IS 1653 and IS 2509
- 9921 AC disconnecters (isolators) and earthing switches for voltage above 1000 volts. (Part I to V)
- 10028 (Part II) 1981 Installations.
- 10028 (Part III) 1981 Maintenance
- 10118 (Par I to IV) 1982 Code of practice for installation and maintenance of switch gear and control gear superseding IS 3072 and IS 3106
- 10322 (Part 5 Sec-3)- 1987 Particular requirement, section 3 luminaries for roads and street lighting.
- 10353 – 1982 Pliers neckellops type dental size A4
- 12701-1989 Specification for “Rotational moulded Polyethylene Water Storage Tanks”.
- 12866-1989 Plastic translucent sheet-glass fibre reinforced.

## Method of Measurement

1200		Building & Civil Engineering Works
1200 Pt I	1992	Measurement of Earth Work
1200 Pt I	11974	Measurement of Cement Concrete Work
1200 Pt III	1976	Measurement of Cement Brick Work
1200 Pt IV	1976	Stone Masonry
1200 Pt V	1974	Measurement of Form work
1200 Pt VII	1982	Steel Work and iron work
1200 Pt XI	1977	Paving and Floor Finishes
1200 Pt X	1973	Ceiling and Linings
1200 Pt IX	1973	Roof Covering (including cladding)
1200 Pt XII	1977	Plastering and painting
1200 Pt XIII	1987	White Washing, Colour Washing, Distemping & other finishes
1200 Pt XV	1987	Painting, Polishing, Varnishing etc.
1200 XVIII	1974	Demolition and Dismantling
NBC -2005		National Building Code
IS 875 (All Parts)		Code of Practice for design loads other than earthquake for buildings and structures
IS 1139		Specifications for hot rolled mild steel and medium tensile steel & HYS steel deformed bars
IS 1642		Fire safety of buildings (general): details of construction code of practice
IS 1893		Criteria for earthquake resistant design of structures
IS 1893 (Part 1)		Criteria for earthquake resistant design of structures – General provisions and buildings
IS 1904		For design and construction of foundations in soils – General requirements
IS 2185 (Part 3)		Auto claved Cellular (Aerated) concrete blocks
IS 3370 (Part-I / II/ IV)		For reinforced concrete structures for storage of liquids
IS 3792		Guide of heat insulation of non-industrial buildings
IS 4082		Recommendations on stacking and storage of construction materials and components at site

IS 4326		Earthquakes resistant design & construction of building – code of practice
IS 4926		Specification for Ready mix concrete
IS 6073		Specification for Autoclaved reinforced cellular concrete floor and roof slabs
IS 8112		Specification for ordinary Portland cement.
IS 8142		Specification for determining setting time of concrete.
IS 8989		Safety code for erection of concrete framed structures.
IS 9013		Method of making curing & determining comp. strength of accelerated cured cone. Specimen.
IS 9103		Admixtures for concrete.IS 9417For welding cold worked bars for reinforced concrete construction.
IS 10262		Guidelines for concrete mix designs.
AC 1318M-08, IBC-09 & ASCE/ SC17-10		Ductile detailing of reinforced concrete structures subjected to seismic forces
ACI550R -96		Design Recommendations for Precast Concrete Structures
NZS 3101 Part 1:2006		Column confinement
IS 13311 (Part 1)		Method of non-destructive testing of concrete – Ultrasonic pulse velocity.
IS 13311 (Part 2)		Rebound hammer.
IS 15916		Building design and erection using prefabricated concrete
IS 15917		Building design and erection using mixed / composite construction
Technical Report No.65		Expansion joints in buildings



## Key Words and their meanings

### **Built up Area**

The area covered by a building on all floors including cantilevered portion, mezzanine floors, if any, but excepting the areas excluded specifically under these Regulations.

### **Building Line**

The line up to which the plinth of a building adjoining a street or an extension of a street or on a future street may lawfully extend.

### **Building Height**

The vertical distance measured in the case of flat roofs, from the average level of the ground around and contiguous to the building or as decided by the Authority to the terrace of last livable floor of the building adjacent to the external walls: to the highest point of the building and in the case of pitched roofs, up to the point where the external surface of the outer wall intersects the finished surface of the sloping roof; and in the case of gable facing road, the mid-point between the eaves level and the ridge. Architectural features serving no other function except that of decoration shall be excluded for the purpose of measuring heights.

### **Builder**

"Builder" means a person who is legally empowered to construct or to execute work on a building unit, building or structure or where no person is so empowered, the owner of the building unit, building or structure.

### **Carpet Area**

The net usable floor area within a building excluding that covered by the walls or any other areas specifically exempted from floor space index computation in these regulations.

### **Control Line**

A line on either side of a highway or part of highway beyond the building line fixed in respect of such highway by the Highway Authority.

### **Courtyard or Chowk**

A space permanently open to sky enclosed on sides fully or partially by building and may be at ground level or any other level within or adjacent to a building.

### **Development**

Development with its grammatical variations means the carrying out of buildings, engineering, mining or other operations in, or over, or under land or the making of any material change, in any building or land or in the use of any building or land or any material or structural change in any Heritage building or its precinct and includes demolition of any existing building, structure or erection of part of such building, structure of erection and reclamation, redevelopment and layout or sub-division of any land and to develop shall be construed accordingly.

## Key Words and their meanings

### **Development Plan**

"Development Plan" means a plan for the development of the area within the jurisdiction of a planning Authority and includes revision of a development plan and proposals of a Special planning Authority for development of land within its jurisdictions.

### **Dwelling Unit / Tenement**

An independent housing unit with separate facilities for living, cooking and sanitary requirements.

### **Density**

The residential density expressed in terms of the number of dwelling units per hectare.

### **Enclosed Stair-Case**

A stair case separated by fire resistant walls and door (s) from the rest of the building.

### **Floor Space Index (FSI)**

The quotient obtained by dividing the total covered area (plinth area) on all floors excluding exempted areas by the area.

**F.S.I =  $\frac{\text{Total covered areas on all floors}}{\text{Plot area}}$**

### **Plot area**

### **Group Housing Scheme**

Group Housing Scheme means a building or a group of buildings constructed or to be constructed with one or more floors, consisting of more than one dwelling units and having common service facilities. Common service facilities means facilities like stair case, balcony, Corridor and verandaha, lift, etc.,

### **Marginal Open Space / Set back**

Minimum distance required to be left open to sky between the boundary of the building plot and the building plot and the building excluding court yard / chowk, which is an integral part of the plot.

### **Parapet**

A low wall or railing built along the edge of a roof, terraces, balcony, verandah etc.

### **Parking Space**

An enclosed or unenclosed, covered or open areas sufficient in size to park vehicles, parking space shall be served by a driveway connecting them with a street or alley and permitting ingress or egress of vehicles.

### **Plinth**

The portion of a structure between the surface of the surrounding ground and surface of the floor immediately above the ground.

## Vastushastra – Few Hints by Experts

Any structure whether it is a Residential House, Office, Industrial House, Business Concern, Theatre, Temple, Poultry, Hotel – should be built according to VASTUSHASTRA, The main points to be kept in mind are:

1. The building should be built leaving open space on all sides. More open space should be left in North side of the plot and less space in the South.
2. Simple more open space should be left in the East than West side of the plot.
3. The building height should be more on the South and West. The height or level of the building should be less in North and East.
4. On a multi-storied building, terrace should be left towards North or East not towards South or West.
5. Balconies should be towards East or North.
6. More window openings should be towards East and North. Less window openings should be towards West and South.
7. Doors and Openings should be towards North and East side. Doors should be less in numbers towards West and South.
8. Thicker wall should be built on West and South side.
9. Thinner walls should be built on East and North side.
10. The compound walls of South and West should be thicker and more in height than those of North and East.
11. Gate should be on the North East direction; depending upon the road whether it is North or East For South road facing house, the gate should be on south-East and not the South –West For a West road facing house, the gate should be in West or North – West and no in South- West.
12. South-West room should be the master bed room, South –East room should be kitchen, North –East room should be Pooja room.
13. Bathroom normally preferred in East, where it is not convenient, South-East or North –West may be recommended.
14. The number of doors or windows should be even and not odd.
15. Verandahs should be designed in East and North. No Verandahs should be built in West and South.
16. The level of Verandah roof should be less than the normal roof level.
17. Portico should be designed in the North – East or East or North. Roof level of the portico should be equal or less than the Verandahs.
18. Staircase should be to South-West because of its height and weight.

19. Overhead Tank should either in South or West there is a difference of opinions to have it on South-West more weight is acceptable on south-West but water in South –West is not advisable.
20. Water Pumps: In the North East that too below the ground level only. Water tank above the ground level in the North-East is not correct.
21. Septic Tanks in North-West or South-East are acceptable.
22. Out- houses can be built in South-East or North –West but they should not touch North and East walls and the height of the rooms should be less than the main house.
23. Car garages also should be along with out-houses on the same principle but portico should be in North East.

## Measures

NAUTICAL OR GEOGRAPHICAL MEASURE				MEASURES OF WEIGHT			
1 Fathom	=6 Feet	1 Foot	=0.17 Fathom	1 ounce	=16 Drams	1 dram	=0.06 Ounces
1 Cable	=120 Fathoms	1 Fathom	=0.0083 Cable	1 pound	=16 Ounce	1 Ounce	=0.06 Pound
1 Knot	=1.15 Mile	1 Mile	=0.87 Knot	1 stone	=14 pounds	1 pound	=0.07 stone
				1 quarter	=28 Pounds	1 pound	=0.04 quarter
				1 hundred	=4 quarters	1 quarter	=0.25 hundred Weight
MEASURES OF LENGTH							
1 Yard	=36 inches	1 inch	=0.0277 Yard	1 Short Ton	=20 hundred Weight	1 hundred Weight	=0.05 Short Ton
1 Furlong	=220 Yards	1 Yard	=0.0045 Furlong	1 hundred weight	=112 Lbs.	1 pound	=0.009 hundred weight
1 Mile	=8 Furlongs	1 Furlong	=0.125 Mile	1 Long Ton	=2,240 Lbs.	1 pound	=0.0004 Long Ton
1 League	3 Miles	1 Mile	=0.33 League	1 Metric Ton	=2204.6 Lbs	1 pound	=0.00045 Me. Ton
1 Chain	=22 Yards	1 Yard	=0.0454 Chain	1 Milligram	=1000 Micro gram	1 Microgram	=0.001 Milligram
				1 Gram	=1000 Milligram	1 Milligram	=0.001 Gram
				1 Kg	=1000 Grams	1 Gram	=0.001 Kg

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MEASURES OF AREA							
1 Sq.ft.	=144sq.in	1sq.in	=0.0069 Sq.ft	1Kg	=2.2 Lbs.	1 pound	=0.454 Kg
1 Sq.Yd.	=9 Sq. Ft.	1 Sq.Ft.	=0.1111 Sq. Yd.	1 Kg	=32.3 Ounces	1 ounce	=0.0283 Kg
1 Acre	=4,840 Sq. Yds	1 Sq. Yd.	=0.00055 Acre	MEASURES OF VOLUME			
1 Acre	43,560 Sq.Ft	1 Sq. Ft.	=0.000022 Acre	1 Cubic In.	=16.39 Cubic Cm	1 Cubic Cm	=0.0609 Cubic in
1 Sq. Mile	=640 Acres	1 Acre	=0.0015 Sq. Mile	1 Liter	=61.024 Cubic	1 Cubic In.	=0.0163 Litre
1 Hectare	=2.47 Acres	1 Acre	=0.001 Hectare	1 Cubic Meter	=35.31 Cubic Ft.	1 Cubic Ft.	0.0283 Cubic Mt.
1 Sq. Meter	=10.76 Sq. Ft	1 R.	=100 Sq. M	1 Cubic Ft.	=1728 Cubi In.	1 Cubic In.	=0.0005 Cubic Ft.
1 Sq. Meter	=1.2 Sq. Yds.	1 Sq. Yd	=0.83 Sq. Meter	1 Cubic Yd.	=27 Cubic Ft.	1 Cubic Ft.	=0.037 ubic Yd.

## Conversion Factors

Unit from (1) (a)	Unit from (2) (b)	Multiply to obtain (2) (c)	Multiply to obtain (1) (d)
<b>1. LINEAR MEASURE</b>			
Inch	Millimeter	25.400.	03937
Foot	Meter	0.3048	3.281
Yard	Meter	0.9144	1.0936
Mile	Kilometer	1.6093	0.62137
Furlong	Meters	201.1678	0.0114971
Miles	Nautical miles (int.)	0.858975	1.15078
<b>2. WEIGHT MEASURES</b>			
Ounces	Grams	28.3495	0.035274
Pounds	Kilograms	0.4536	2.20462
Ton	Kilograms	1016.05	0.0009842
U.S. Ton	Kilograms	907.18	0.0011
Ton (2340 lb)	Metric Ton (Tonne)	1.01605	0.9842
Pounds	Ton	0.036735	27.2222
Tola	Ounce	0.411429	2.43056
Tola	Grams	11.6638	0.087535

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Unit from (1) (a)	Unit from (2) (b)	Multiply to obtain (2) (c)	Multiply to obtain (1) (d)
<b>3. SQUARE MEASURES</b>			
Square Feet	Square Meter	0.0929	10.764
Square Yard	Square Meter	0.836	1.196
Acre	Square Meter	4046.9	0.00025
Square mile	Square Kilometer	2.59	0.3861
Acre (4840sq.Yd)	Hector (1000 Sq.M)	0.40468	2.4711
<b>4. CUBIC MEASURES</b>			
Cubic Feet	Cubic Meter	0.02832	35.315
Cubic Yard	Cubic meter	0.76455	1.308
Cubic Foot	Gallon (Imp)	6.2288	0.16054
Cubic Foot	Liters (1,000Sq C.C.)	28.3161	0.0353156
Gallon (Imp)	Liters	4.54596	0.219976
Pint (0.124 Imp)(Gin)	Liters	0.564	1.76
U.S. Gallon	Liters	3.78533	0.264178
<b>5. PRESSURE &amp; DENSITIES</b>			
Pounds Per sq.	Kg. Per Sq.Cm	0.070307	142233
Pounds per Sq.Ft	Kg. Sq. Meter	4.88243	0.204816
Tonnes Per Sq. Ft.	Tonnes Per Sq.Meter	10.937	0.091436
Atmospheres	Pounds Per Sq. In	14.6959	0.06804
Inch of HQ'	Pounds Per Sq. In	14.6959	0.06804
Inh of HQ.	Kg. Per Sq. Cm	0.0345316	28.959
Pounds Per Sq. Ft	MM of HQ	0.035913	2.78450
Pounds Per Sq. In.	Feet of Water	2.30672	0.433516
Feet of Water	Kg. Per Sq. cm	0.304792	32.81
Pound Per Cu. In	Grammer Per C.C.	27.6799	0.0361273
Pound Per Cft.	Kg Per Cu. Meter	16.00	0.062422
<b>6. MISCELLANEOUS</b>			
Pounds Per Foot	Kg Per Meter	1.48816	0.67197
Miles Per Hour	Feet per Second	1.46667	0.68182
Feet Per Second	Km. Per Hour	1.09728	0.91134
H.P. (5550 Ftib / Sec)	Metric H.P.	1.01387	0.98632

## ELECTRICAL

1Hp = 746 Watts 1 Metric	=0.746 Kw = 33,000 ft. Lbs / Minute	1 Kilowatt hour (KWH)	3.413B. Th .U. =860 Calories
H.P. IB.O. T Unit	=0.735 Kw (Kilowatts) or 1,000W Mrs.	1 Foot Pound (ft.lb)	=0.1383 Mkg =778.3Ft. lb =107.6 Mkg
Torque (ft. LB.)	=1 Kilowatt Hours	1B Th. U.	Mkg
Current Motors Output in H.p.	=(H.P. X33,000) / rpmX2	1 Calorie (Call)	0.2520 Calories =3.099 Ft. pounds =3.968B.Th. U.
K.V.A True Power in 3 phase circuit in Kilowatt Single	=Watt / Volts = (Kilowatt input x Efficiency) 0.735	Apparent power In 1 Phase circuit	=(Volts x Amps / 1000) KVA
Phase Motor Amperes 1	=(1.73 x Volts x Amps x P.P.)/ 100	Apparent power In 3 phase circuit	=(3VL X 1L /1000) KVA =Apparent power x Cos
Electrical Units	= (H.P. X 735 / Efficiency x Volts x P.F.) =1 Kilowatt hour (KWH) 7.38 FT. Per Sec. 1.341 horsepower 1.360 Metric Horse Power	Useful Power Kw	=KVA X P.F. Apparent power x Sin =KVAXSin = (5 /9) (°F-32)

TMC 1 TMC = One Thousand Million Cubic Feet  
 = 1000000000 x .02832 m<sup>3</sup>  
 = 28.32 million Cum.  
 = 28320 ML. (Million Liters)  
 Water body of 1 TMC Covers area of 1 km x 1km with depth 28.32 m

Cusec = One Cubic Foot per second  
 = 101.95 m<sup>3</sup> /Hr  
 = 2446.84 m<sup>3</sup> /day  
 = 2.446 MLD

## CONCRETE MIXES REQUIREMENT OF MATERIALS PER M3 OF CONCRETE

Proportion (nominal mix)	Cement bags of 50 Kg	Sand M <sup>3</sup>	COARSE Aggregates
1:1:2	10.50	0.39	0.78
1:1 ½ :3	7.80	0.43	0.86
1:2:4	6.20	0.46	0.92
1:2 ½ :5	5.10	0.47	0.95
1:3:6	4.40	0.48	0.96
1:4:8	3.40	0.50	1.00
1:5:10	2.70	0.50	1.00

Note: The quantities of cement indicated above are approximate requirements subject to variations as per exigencies at site and quality and grading fine and coarse aggregates.

## QUANTITY OF CEMENT REQUIRED FOR VARIOUS CIVIL WORKS

SI No	Item of works	Quantity of finished work	Cement bags
<b>A.</b>			
1.	Brick works in cement mortar (1:2)	M <sup>3</sup>	2.95
2.	-do- (1:3)	-do-	2.20
3.	-do- (1:4)	-do-	1.77
4.	-do- (1:5)	-do-	1.47
5.	-do- (1:6)	-do-	1.24
6.	-do- (1:8)	-do-	0.98
<b>B.</b>			
1.	Half brick work in cement mortar (1:2)	M <sup>2</sup>	0.27
2.	-do- (1:3)	-do-	0.18
3.	-do- (1:4)	-do-	0.16
4.	-do- (1:5)	-do-	0.13
5.	-do- (1:6)	-do-	0.11
<b>C.</b>			
1.	Rule pointing in cement mortar (1:2)	10M <sup>2</sup>	0.22
2.	-do- (1:3)	-do-	0.16
3.	-do- (1:4)	-do-	0.13
4.	-do- (1:5)	-do-	0.11
5.	-do- (1:6)	-do-	0.09

Sl No	Item of works	Quantity of finished work	Cement bags
D.			
1.	¾" Cement plaster (1:2)	M <sup>2</sup>	0.26
2.	-do- (1:3)	-do-	0.19
3.	-do- (1:4)	-do-	0.15
4.	-do- (1:5)	-do-	0.13
5.	-do- (1:6)	-do-	0.11
E.			
1.	½" Cement plaster (1:2)	M <sup>2</sup>	0.17
2.	-do- (1:3)	-do-	0.13
3.	-do- (1:4)	-do-	0.11
4.	-do- (1:5)	-do-	0.09
5.	-do- (1:6)	-do-	0.07

### Weight of M.S. Sheets and Plates

M.S. SHEET		M.S. PLATE	
Thickness in mm	Weight in kg per Sq. Metre	Thickness in mm	Weight in kg per Sq. Metre
0.40	3.15	5	39.25
0.50	3.90	6	47.10
0.63	4.95	8	62.80
0.80	6.30	10	78.50
0.90	7.05	12	94.20
1.00	7.85	14	109.90
1.12	8.80	16	125.60
1.25	9.80	18	141.30
1.40	11.00	20	157.00
1.60	12.55	22	172.70
1.80	14.15	25	196.25
2.00	15.70	28	219.80
2.24	17.60	32	251.20
2.50	19.60	36	282.60
2.80	22.00	40	314.00
3.15	24.75	45	353.25
3.55	27.85	50	392.50
4.00	31.40	56	439.60
		63	494.55

AREA, PERIMETER AND WEIGHT OF STEEL ROUNDS			
Bar Diameter (mm)	Area of Cross Section (Sq.cm)	Perimeter (cm)	Weight kg per metre
28	6.16	8.78	4.834
25	4.91	7.85	3.853
22	3.80	6.91	2.984
20	3.14	6.27	2.466
16	2.01	5.03	1.578
12	1.13	3.77	0.888
10	0.79	3.14	0.617
8	0.50	2.51	0.394
6	0.28	1.88	0.222

### Chemical Composition of Pipes

Specification	Type or Grade	Carbon %	Manganese %	Phosphorus %	Sulphur %	Silicon %	Molybdenum %	Chromium %
I.S.1239	L.M.&H.	.25 Max	—	.06 Max	.06 Max	—	—	—
API 5L & ERWA Commercial Quality	B	.21	0.90	.04	.05	—	—	—
APL 5LX	X-42	.28	1.25	.04	.05	—	—	—
	X-46	.31	1.35	.04	.05	—	—	—
	X-52	.31	1.35	.04	.05	—	—	—
B.S. 3059	33	.15 Max	.40-0.7	.05	.05 Max	.10-.35	—	—
	45	.12-.18	.90-1.2	.04	.035	.10-.35	—	—
B.S. 3602 (B.S. 806)	23	.20 Max	.30-0.7	.05 Max	.05 Max	.10-.35	—	—
	27	.25 Max	.30-0.7	.05 Max	.05 Max	.10-.35	—	—
ASTM A53 Or A.106	A	.25 Max	.30-0.9	.04 Max	.06 Max	.10 Min	—	—
	B	.30 Max	.35-1.0	.04 Max	.06 Max	.10 Min	—	—
ASTM A209	T <sub>1</sub>	.10-.2	.30-0.8	.04 Max	.05 Max	.1-.5	.45-0.65	—
ASTM A-252	I	.21 Max	1.06 Max	.04 Max	.05 Max	—	—	—
	II	.26 Max	1.15 Max	.04 Max	.05 Max	—	—	—
	III	.31 Max	1.35 Max	.04 Max	.05 Max	—	—	—

# TECHNICAL DATA

2018-19

ASTM A-335	P <sub>1</sub>	.10-.2	.3-.80	.045 Max	.045 Max	.1-0.5	.44-0.65	—
	P <sub>11</sub>	.15 Max	.3-.60	.03 Max	.03 Max	.5-1.0	.44-0.65	1.0-1.5
	P <sub>12</sub>	.15 Max	.3-.61	.045 Max	.045 Max	.5 Max	.44-0.65	0.8-1.25
	P <sub>22</sub>	.15 Max	.3-.60	.03 Max	.03 Max	.5 Max	.87-1.13	1.9-2.60
<b>CHEMICAL COMPOSITION OF PLATES</b>								
Specifica- tion No.	Type or Grade	Carbon Max	Sulphur Max	Phos- phorus	Silicon Max	Manga- nese Max	Chro- mium	Nickel
		%	%	%	%	%	%	%
IS2002	1	0.18	0.04	0.04	0.35	—	—	—
	2A	0.20	0.05	0.05	0.35	—	—	—
	2B	0.22	0.05	0.05	0.35	—	—	—
IS2062	*A	0.25	0.055	0.055	—	1.6	—	—
	B	0.22	0.05	0.05	0.4	1.6	—	—
	C	0.20	0.04	0.04	0.4	1.6	—	—
AISI 304	—	0.08	0.03	0.045	1.00	2.00	18-20	8.5-10.5
AISI 304L	—	0.03	0.03	0.045	1.00	2.00	18-20	8.5-10.5
AISI 310	—	0.06	0.03	0.045	1.50	2.00	24-26	19-22
AISI 316L	—	0.03	0.03	0.045	1.00	2.00	16-18	10-14
AISI 316	—	0.08	0.03	0.045	1.00	2.00	16-18	12-14
AISI 321	—	0.08	0.03	0.045	1.00	2.00	17-19	9-11
AISI 347	—	0.08	0.03	0.045	1.00	2.00	17-19	9-10.5
*Covers rolled sections also.								

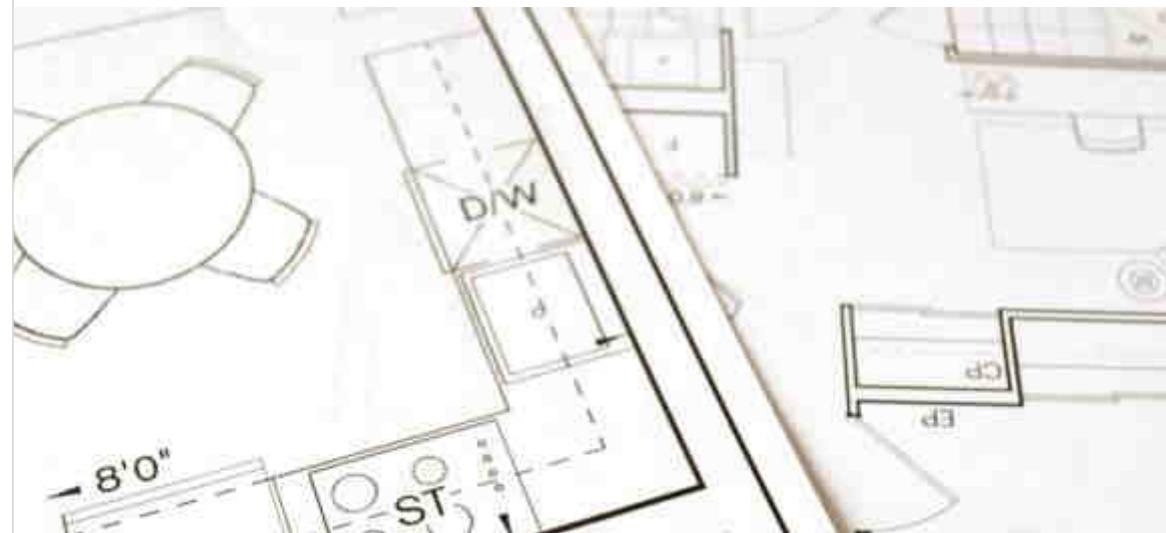
## Maximum Permissible Spacing Between Pipe Supports

Pipe Size (inch)	Spacing (Metre)
1	2.1
1½	2.7
2	3.0
2½	3.3
3	3.6
4	4.2
5	4.8
6	5.1
8	5.7
10	6.6
12	6.9
14	7.5
16	8.1
18	8.4
20	9.0
24	9.6

# TECHNICAL DATA

2018-19

<b>TECHNICAL DATA AS PER IS: 3589/1966</b>					
N.B.8" PIPE					
Outside Diameter		Wall Thickness	Weight Kg/m.	Mts./M.T.	Test Pressure
Inches	mm	mm			Kg./Sq.cm.
8.5/8	219.1	5.00	26.65	37.53	77
"	"	5.20	27.69	36.12	84
"	"	6.00	31.83	31.42	84
"	"	7.00	36.96	27.06	85
"	"	8.00	42.04	23.79	94
N.B.10" PIPE					
10.3/4	273.050	5.00	33.37	29.97	56
"	"	5.20	34.68	28.84	67
"	"	6.00	39.89	25.07	70
"	"	7.00	46.37	21.57	84
"	"	8.00	52.80	18.94	84
N.B.12" PIPE					
12.¾	323.8	5.00	39.70	25.19	50
"	"	6.00	47.51	21.05	67
"	"	7.00	55.25	18.10	70
"	"	8.00	62.94	15.89	77



**WALL THICKNESS AND WEIGHT OF PIPES OF DIFFERENT SCHEDULES**

Wall thickness in mm; Weight in kg/m

Nominal pipe size (inches)	O.D. mm	Standard		Extra Strong		Double Extra Strong		Schedule 10		Schedule 20		Schedule 30	
		Wall	Wt	Wall	Wt	Wall	Wt	Wall	Wt	Wall	Wt	Wall	Wt
¼	21.34	2.77	1.26	3.73	1.62	7.47	2.54						
½	26.67	2.87	1.68	3.91	2.19	7.82	3.63						
1	33.40	3.38	2.50	4.55	3.23	9.09	5.45						
1¼	42.16	3.56	3.38	4.85	4.46	9.70	7.75						
1½	48.26	3.68	4.05	5.08	5.40	10.2	9.54						
2	60.32	3.91	5.43	5.54	7.47	11.1	13.44						
2½	73.02	5.16	8.62	7.01	11.40	14.0	20.39						
3	88.9	5.49	11.28	7.62	15.25	15.2	27.65						
3½	101.6	5.74	13.06	8.08	18.62	16.15	34.00						
4	114.3	6.02	16.06	8.56	22.29	17.1	40.99						
5	141.3	6.55	21.76	9.52	30.92	19.0	57.37						
6	168.3	7.11	28.23	11.0	42.53	21.9	79.11						
8	219.1	8.18	42.49	12.7	64.57	22.2	107.78			6.35	33.28	7.04	36.76
10	273.0	9.27	60.24	12.7	81.46					6.35	41.73	7.80	50.96
12	323.8	9.52	73.76	12.7	97.36					6.35	49.68	8.38	65.14
14	355.6	9.52	81.21	12.7	107.28					6.35	54.83	7.92	67.98
16	406.4	9.52	93.12	12.7	123.18					6.35	62.58	7.92	77.92
18	457.2	9.52	105.05	12.7	139.07					6.35	70.63	7.92	87.85
20	508.0	9.52	116.97	12.7	154.97					6.35	78.47	9.52	116.97
24	609.6	9.52	140.81	12.7	186.75					6.55	94.37	14.3	209.54

**WALL THICKNESS AND WEIGHT OF PIPES OF DIFFERENT SCHEDULES - Contd.**

Wall thickness in mm; Weight in kg/m

	Schedule 40		Schedule 60		Schedule 80		Schedule 100		Schedule 120		Schedule 140		Schedule 160	
	Wall	Wt	Wall	Wt	Wall	Wt	Wall	Wt	Wall	Wt	Wall	Wt	Wall	Wt
¼	2.77	1.26			3.73	1.62							4.75	1.95
½	2.87	1.68			3.91	2.19							5.54	2.89
1	3.38	2.50			4.55	3.23							6.35	4.23
1¼	3.56	3.38			4.85	4.46							6.35	5.60
1½	3.68	4.05			5.08	5.40							7.14	7.23
2	3.91	5.43			5.54	7.47							8.71	11.10
2½	5.16	8.62			7.01	11.40							9.52	14.90
3	5.49	11.28			7.62	15.25							11.1	21.30
3½	5.74	13.56			8.08	18.62							—	—
4	6.02	16.06			8.56	22.29			11.1	28.25			13.5	33.51
5	6.55	21.76			9.52	30.92			12.7	40.24			15.9	49.04
6	7.11	28.28			11.00	42.53			14.3	54.20			18.2	67.47
8	8.18	42.49	10.3	53.07	12.70	64.57	15.1	75.79	18.2	90.67	20.6	100.86	23.0	111.18
10	9.27	60.24	12.7	81.46	15.1	95.84	18.2	114.59	21.4	132.85	25.4	154.97	28.6	172.11
12	10.3	79.71	14.3	108.97	17.4	131.81	21.4	159.67	25.4	186.75	28.6	207.87	33.3	238.60
14	11.1	94.31	15.1	126.51	19.0	157.94	23.8	194.64	27.8	224.36	31.8	253.32	35.7	281.49
16	12.7	123.18	16.7	160.04	21.4	203.26	26.2	245.34	30.9	286.33	36.5	332.72	40.5	364.94
18	14.3	155.90	19.0	205.62	23.8	254.24	29.4	309.55	34.9	363.33	39.7	408.21	45.2	459.18
20	15.1	183.14	20.6	247.78	26.2	310.91	32.5	381.20	38.1	441.06	44.4	507.63	50.0	564.24
24	17.4	254.74	24.6	354.62	30.9	441.30	38.9	546.84	46.0	639.18	52.4	719.16	59.5	806.74

**CONVERSION TABLES**

**ENERGY CONVERSIONS**

	Joule	Calorie	Btu	Chu	kW.h	Hp.h	ft.lbf	ft.pdl	erg
1 J	1	0.239	9.48-04	5.27-04	2.78-07	3.72-07	0.738	23.7	1+07
1 Cal	4.18	1	3.97-03	2.20-03	1.162-06	1.559-06	3.09	99.3	4.18+07
1 Btu	1.055+03	252	1	0.556	2.93-04	3.93-04	778	2.50+04	1.055+10
1 Chu	1.889+03	454	1.8	1	5.28-04	7.07-04	1.401+03	4.51+04	1.899+10
1 kW.h	3.60 + 06	8.60+05	3.41+03	1.896+03	1	1.341	2.66+06	8.54+07	3.60+13
1 Hp.h	2.68+06	6.42+05	2.54+03	1.41+03	0.746	1	1.980+06	6.37+07	2.68+13
1 ft.lbf	1.356	0.324	1.285-03	7.14-04	3.77-07	5.05-07	1	32.2	1.356+07
1 ft.pdl	4.21-02	1.007-02	3.99-05	2.22-05	1.171-08	1.570-08	3.11-02	1	4.21+05
1 erg	1-07	2.39-08	9.48-11	5.27-11	2.78-14	3.72-14	7.38-08	2.37-06	1

1J = 1 W.s = 1 N.m  
1 ft.lbf = 1 slug.ft<sup>2</sup>/S<sup>2</sup>

1 ft. poundal = 1 lbm.ft<sup>2</sup>/s<sup>2</sup>  
1 erg = 1 dyne.cm

**PRESSURE CONVERSIONS**

	Pa	bar	atm	Torr	in H <sub>2</sub> O	in Hg	psi	pdl/ft <sup>2</sup>	lbf/ft <sup>2</sup>
1 Pa	1	1+05	9.87-06	7.50-03	4.20-03	2.95-04	1.450-04	0.672	2.09-02
1 bar	1+05	1	0.987	750	402	29.5	14.5	6.72+04	2.09+03
1 atm	1.013+05	1.013	1	760	407	29.9	14.70	6.81+04	2.12+03
1 Torr	133.3	1.33-03	1.316-03	1	0.535	3.94-02	1.934-02	89.6	2.78
1 in H <sub>2</sub> O	249	2.49-03	2.46-03	1.868	1	7.36-02	3.61-02	167.4	5.20
1 in Hg	3.39+03	3.39-02	3.34-02	25.4	13.60	1	0.491	2.28+03	70.7
1 psi	6.90+03	6.90-02	6.80-02	51.7	27.7	2.04	1	4.63+03	144
1 pdl/ft <sup>2</sup>	1.488	1.488-05	1.469-05	1.116-02	5.97-03	4.40-04	2.16-04	1	3.11-02
1 lbf/ft <sup>2</sup>	47.9	4.79-04	4.72-04	0.359	0.1922	1.414-02	6.94-03	32.2	1

1 Pa = 1 N/m<sup>2</sup>      1 poundal/ft<sup>2</sup> = 1 lbm./(ft.s<sup>2</sup>)      1 Torr = 1 mm Hg

NOTE: 1 + 04 corresponds to 1 x 10<sup>4</sup>  
1 - 04 corresponds to 1 x 10<sup>-4</sup>

**POWER CONVERSIONS**

	Watt	ft.pdl/s	cal/s	kcal/h	Btu/s	Btu/h	Ft.lbf/s	Chu/s	Hp
1 w	1	23.7	0.239	0.860	9.48-04	3.41	0.738	5.27-04	1.341-03
1 ft. pdl/s	4.21-02	1	1.007-02	3.63-02	3.99-05	0.1438	3.11-02	2.22-05	5.64-05
1 cal/s	4.18	99.3	1	3.6	3.97-03	14.28	3.09	2.20-03	5.61-03
1 kcal/h	1.162	27.6	0.278	1	1.102-03	3.97	0.857	6.12-04	1.559-03
1 Btu/s	1.055+03	2.50+04	252	908	1	3.60 + 03	778	0.556	1.415
1 Btu/h	0.293	6.96	7.00-02	0.252	2.78-04	1	0.216	1.543-04	3.93-04
1 ft.lbf/s	1.356	32.2	0.324	1.167	1.285-03	4.63	1	7.14-04	1.818-03
1 Chu/s	1.899+03	4.51+04	454	1.634+03	1.8	6.48+03	1.401+03	1	2.55
1 Hp	745.7	1.774+04	178.2	642	0.707	2.54 + 03	550	0.393	1

1 w = 1 J/s      1 ft.pdl/s = 1 lbm.ft<sup>2</sup>/S<sup>3</sup>      1 Torr = 1 slug. ft<sup>2</sup>/s<sup>2</sup>

STANDARD SECTIONAL WEIGHT OF COMMONLY USED ANGLES					
Designation	size a x b x tmm	Weight per metre w kg	Designation	size a x b x tmm	Weight per metre w kg
ISA 2020	20 X 20 X 3	0.9	ISA 7070	70 X 70 X 5	5.3
ISA 2020	20 X 20 X 4	1.1	ISA 7070	70 X 70 X 6	6.3
ISA 2525	25 X 25 X 3	1.1	ISA 7070	70 X 70 X 8	8.3
ISA 2525	25 X 25 X 4	1.4	ISA 7070	70 X 70 X 10	10.2
ISA 2525	25 X 25 X 5	1.8	ISA 7575	75 X 75 X 5	5.7
ISA 3030	30 X 30 X 3	1.4	ISA 7575	75 X 75 X 6	6.8
ISA 3030	30 X 30 X 4	1.8	ISA 7575	75 X 75 X 8	8.9
ISA 3030	30 X 30 X 5	2.2	ISA 7575	75 X 75 X 10	11.0
ISA 3535	35 X 35 X 3	1.6	ISA 8080	80 X 80 X 6	7.3
ISA 3535	35 X 35 X 4	2.1	ISA 8080	80 X 80 X 8	9.6
ISA 3535	35 X 35 X 5	2.6	ISA 8080	80 X 80 X 10	11.8
ISA 3535	35 X 35 X 6	3.0	ISA 8080	80 X 80 X 12	14.0
ISA 4040	40 X 40 X 3	1.8	ISA 9090	90 X 90 X 6	8.2
ISA 4040	40 X 40 X 4	2.4	ISA 9090	90 X 90 X 8	10.8
ISA 4040	40 X 40 X 5	3.0	ISA 9090	90 X 90 X 10	13.4
ISA 4040	40 X 40 X 6	3.5	ISA 9090	90 X 90 X 12	15.8
ISA 4545	45 X 45 X 3	2.1	ISA 100100	100 X 100 X 6	9.2
ISA 4545	45 X 45 X 4	2.7	ISA 100100	100 X 100 X 8	12.1
ISA 4545	45 X 45 X 5	3.4	ISA 100100	100 X 100 X 10	14.9
ISA 4545	45 X 45 X 6	4.0	ISA 100100	100 X 100 X 12	17.7
ISA 5050	50 X 50 X 3	2.3	ISA 110110	110 X 110 X 8	13.4
ISA 5050	50 X 50 X 4	3.0	ISA 110110	110 X 110 X 10	16.5
ISA 5050	50 X 50 X 5	3.8	ISA 110110	110 X 110 X 12	19.6
ISA 5050	50 X 50 X 6	4.5	ISA 110110	110 X 110 X 15	24.2
ISA 5555	55 X 55 X 5	4.1	ISA 130130	130 X 130 X 8	15.9
ISA 5555	55 X 55 X 6	4.9	ISA 130130	130 X 130 X 10	19.7
ISA 5555	55 X 55 X 8	6.4	ISA 130130	130 X 130 X 12	23.4
ISA 5555	55 X 55 X 10	7.9	ISA 130130	130 X 130 X 15	28.9
ISA 6060	60 X 60 X 5	4.5	ISA 150150	150 X 150 X 10	22.8
ISA 6060	60 X 60 X 6	5.4	ISA 150150	150 X 150 X 12	27.2
ISA 6060	60 X 60 X 8	7.0	ISA 150150	150 X 150 X 15	33.6
ISA 6060	60 X 60 X 10	8.6	ISA 150150	150 X 150 X 18	39.9
ISA 6565	65 X 65 X 5	4.9	ISA 200200	200 X 200 X 12	36.6
ISA 6565	65 X 65 X 6	5.8	ISA 200200	200 X 200 X 15	45.4
ISA 6565	65 X 65 X 8	7.7	ISA 200200	200 X 200 X 18	54.0
ISA 6565	65 X 65 X 10	9.4	ISA 200200	200 X 200 X 25	73.6

STANDARD SECTIONAL WEIGHT OF COMMONLY USED CHANNELS					
Designation	size h x b mm	Weight per metre w kg	Designation	Size h x b mm	Weight per metre w kg
ISJC 100	100 x 45	5.8	ISLC 350	350 x 100	38.8
ISJC 125	125 x 50	7.9	ISLC 400	400 x 100	45.7
ISJC 150	150 x 55	9.9	ISMC 75	75 X 40	6.8
ISJC 175	175 x 60	11.2	ISMC 100	100 x 50	9.2
ISJC 200	200 x 70	13.9	ISMC 125	125 x 65	12.7
ISLC 75	75 x 40	5.7	ISMC 150	150 x 75	16.4
ISLC 100	100 x 50	7.9	ISMC 175	175 x 75	19.1
ISLC 125	125 x 65	10.7	ISMC 200	200 x 75	22.1
ISLC 150	150 x 75	14.4	ISMC 225	225 x 80	25.9
ISLC 175	175 x 75	17.6	ISMC 250	250 x 80	30.4
ISLC 200	200 x 75	20.6	ISMC 300	300 x 90	35.8
ISLC 225	225 x 90	24.0	ISMC 350	350 x 100	42.1
ISLC 250	250 x 100	28.0	ISMC 400	400 x 100	49.4
ISLC 300	300 x 100	33.1			

ISJC (Indian Standard Junior Channels)  
ISLC (Indian Standard Light Channels)  
ISMC (Indian Standard Medium Channels)

STANDARD SECTIONAL WEIGHT OF COMMONLY USED BEAMS					
Designation	Size h x b mm	Weight per metre w kg	Designation	size h x b mm	Weight per metre w kg
ISJB 150	100 x 50	7.1	ISMB 550	550 x 190	103.7
ISJB 175	175 x 50	8.1	ISMB 600	600 x 210	122.6
ISJB 200	200 x 60	9.9	ISMB 150	150 x 100	17.0
ISJB 225	225 x 80	12.8	ISWB 175	175 x 125	22.1
ISLB 75	75 x 50	6.1	ISWB 200	200 x 140	28.8
ISLB 100	100 x 50	8.0	ISWB 225	225 x 150	33.9
ISLB 125	125 x 75	11.0	ISWB 250	250 x 200	40.9
ISLB 150	150 x 80	14.2	ISWB 300	300 x 200	48.1
ISLB 175	175 x 90	16.7	ISWB 350	350 x 200	56.9
ISLB 200	200 x 100	19.8	ISWB 400	400 x 200	66.7
ISLB 225	225 x 100	23.5	ISWB 450	450 x 200	79.4
ISLB 250	250 x 125	27.9	ISWB 500	500 x 250	95.2
ISLB 275	275 x 140	33.0	ISWB 550	550 x 250	112.5
ISLB 300	300 x 150	37.7	ISWB 600	600 x 250	133.7
ISLB 325	325 x 165	43.1	ISWB 600	600 x 250	145.1
ISLB 350	350 x 165	49.5	ISHB 150	150 x 150	27.1
ISLB 400	400 x 165	56.9	ISHB 150	150 x 150	30.6
ISLB 450	450 x 170	65.3	ISHB 150	150 x 150	34.6
ISLB 500	500 x 180	75.0	ISHB 200	200 x 200	37.3
ISLB 550	550 x 190	86.3	ISHB 200	200 x 200	40.0
ISLB 600	600 x 210	99.5	ISHB 225	225 x 225	43.1
ISMB100	100 x 75	11.5	ISHB 225	225 x 225	46.8
ISMB125	125 x 75	13.0	ISHB 250	250 x 250	51.0
ISMB150	150 x 80	14.9	ISHB 250	250 x 250	54.7
ISMB175	175 x 90	19.3	ISHB 300	300 x 250	58.8
ISMB 200	200 x 100	25.4	ISHB 300	300 x 250	63.0
ISMB 225	225 x 110	31.2	ISHB 350	350 x 250	67.4
ISMB 250	250 x 125	37.3	ISHB 350	350 x 250	72.4
ISMB 300	300 x 140	44.2	ISHB 400	400 x 250	77.4
ISMB 350	350 x 140	52.4	ISHB 400	400 x 250	82.2
ISMB 400	400 x 140	61.6	ISHB 450	450 x 250	87.2
ISMB 450	450 x 150	72.4	ISHB 450	450 x 250	92.5
ISMB 500	500 x 180	86.9			

ISJB (Indian Standard Junior Beams)  
ISLB (Indian Standard Light Weight Beams)  
ISMB (Indian Standard Medium Weight Beams)  
ISWB (Indian Standard Wire Flange Beams)  
ISHB (Indian Standard Column Sections - H Beams)

**Load in Amperes per phase for AC Motors**

Motor hp	Single Phase	Three Phase		
	230 volts	400 volts	440 volts	500 volts
1/8 (0.125)	1.0	0.3	0.3	0.3
1/4 (0.25)	1.8	0.7	0.6	0.6
1/2 (0.50)	3.5	1.2	1.0	1.0
3/4 (0.75)	4.8	1.7	1.4	1.3
1	6.2	2.0	1.7	1.5
1 1/4 (1.25)	7.4	2.5	2.2	1.9
1 1/2 (1.50)	8.7	2.8	2.5	2.2
1 3/4 (1.75)	10.0	3.2	2.8	2.5
2	11.8	3.5	3.2	2.8
2 1/2 (2.50)	14.0	4.3	4.0	3.6
3	17.5	5.0	4.5	4.2
4	20.0	6.5	6.0	5.5
5	24.0	8.0	7.5	7.0
7 1/2 (7.50)	36.0	12.0	11.0	10.0
10	47.0	15.0	14.0	13.0
12 1/2 (12.50)	59.0	19.0	18.0	16.0
15	70.0	22.0	21.0	19.0
20	91.0	29.0	28.0	25.0
30	135.0	42.0	39.0	36.0
40	183.0	56.0	53.0	47.0
50	227.0	71.0	66.0	58.0

**Tinned Copper Fine Wire (Ref. Table A-IM OF IEE 1970)**

SIZE OF FUSE ELEMENTS OF PLAIN TINNED COPPER WIRE FOR USE IN SEMI-ENCLOSED FUSES			
Current rating of fuse (amp)	Approximate fusing current (amp)	Tinned Copper Wire	
		SWG	Diameter (mm.)
1.5	3	40	0.12
2.5	4	39	0.13
3.0	5	38	0.15
4.0	6	37	0.17
5.0	8	35	0.21
5.5	9	34	0.23
6.0	10	33	0.25
7.0	11	32	0.27
8.0	12	31	0.29
8.5	13	30	0.31
9.5	15	—	—
10.0	16	29	0.35
12.0	18	28	0.38
13.0	20	—	—
13.5	25	—	—
14.0	28	26	0.46
15.0	30	25	0.51
17.0	33	24	0.56
18.0	35	—	—
20.0	38	23	0.61
21.0	40	—	—
22.0	45	—	—
24.0	48	22	0.71
25.0	50	—	—
29.0	58	21	0.81
30.0	60	—	—
34.0	70	20	0.91
37.5	80	—	—
38.0	81	19	1.02
40.5	90	—	—
43.0	98	—	—
43.5	100	—	—
45.0	106	18	1.22
55.0	120	—	—
62.0	130	—	—
65.0	135	17	1.42
66.0	140	—	—
69.0	150	—	—
73.0	166	16	1.63
75.0	175	—	—
78.0	197	15	1.83
80.0	200	—	—
102.0	230	14	2.03
130.0	295	13	2.34

The above figures are only an approximate guide and the current at which the fuse will blow depends upon the type and construction of the fuse holder in which the wire is used.

Household Electrical Appliances

Equipment	Capacity	Normal hrs. in use per day	Units per Month
<b>1. General Lighting:</b>			
Lamps	40 W	5	6.0
Tube Lights/bulbs	100 W	5	15.0
<b>2. Ceiling Fans:</b>			
Medium size	60 W	12	21.6
Large size	75 W	12	27.0
<b>3. Heating Appliances:</b>			
Electric Iron	750 W	1	22.5
Immersion Heater	1000 W	1	30.0
Kitchen Range	3000 W	4	360.0
Water Heater/Cooker	1000 W	2	60.0
Water Heater	2000 W	3	180.0
<b>4. Cooling Appliances:</b>			
Refrigerator (165 Litres)	120 W	14	50.4
Window Air Conditioner (One Tonne)	1275 W	10	382.5
<b>5. Other Items:</b>			
Washing Machine	300 W	½	4.5
Vacuum Cleaner	300 W	½	4.5
Hair Drier	500 W	1	15.0
Radio	40 W	4	4.8
Television	100 W	5	15.0
Pump Motor	400 W	3	36.0
Battery/Inverter	250 W	—	60.0
	Output		
	400 W	—	96.0
	Output		

நம் நலத்திற்கே

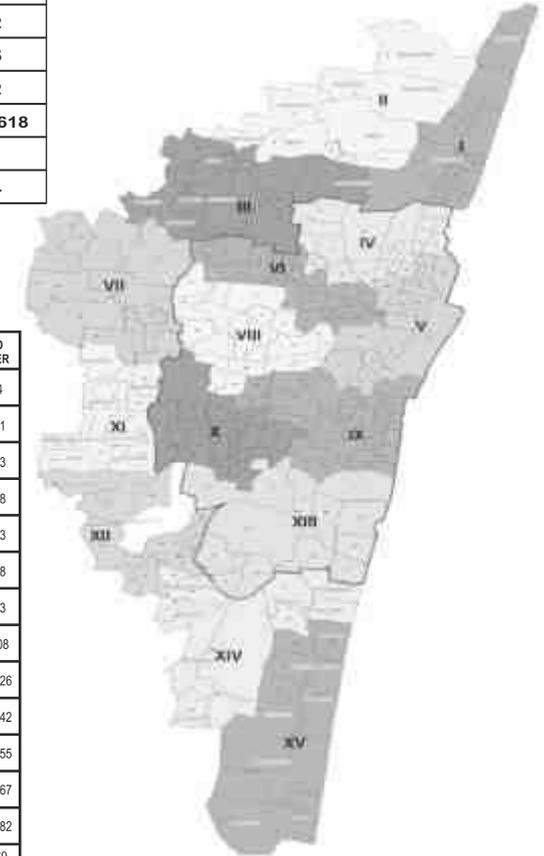
தலைக்கவசம் அணிவோம் - தடையின்றி பணி புரிவோம்! பாதுகாப்பு லெப்ட் அணிவோம் - பயமின்றி பணி புரிவோம்.  
கையுறை அணிந்து கட்டிடம் கட்டுவோம்! கவலையின்றி காலம் காலமாய் - பணி புரிவோம்.  
பாதுகாப்பு அணிகள் யாவும் நம் நன்மைக்கே! பயன்கள் யாவும் நம் குடும்பத்திற்கே.

ADMINISTRATIVE UNITS AT A GLANCE

Districts	32
Revenue Divisions	78
Taluks	220
Firkas	1,120
Revenue Villages	17,244
<b>MUNICIPAL CORPORATIONS</b>	<b>10</b>
Municipalities	152
Pachayat Unions (Blocks)	385
Town Panchayats	562
Village Panchayats	12,618
Lok Sabha Constituencies	39
Assembly Constituencies	234

EXPANSION OF CHENNAI - ZONE WISE

S.NO	WARD COMMITTEE	NAME OF THE ZONE	NO OF WARD	WARD NUMBER
1	I	Thiruvottiyur	14	1 to 14
2	II	Manali	7	15 to 21
3	III	Madhavaram	12	22 to 33
4	IV	Tondiarpet	15	34 to 48
5	V	Royapuram	15	49 to 63
6	VI	Thiru - Vi- Ka Nagar	15	64 to 78
7	VII	Ambattur	15	79 to 93
8	VIII	Anna Nagar	15	94 to 108
9	IX	Teynampet	18	109 to 126
10	X	Kodambakkam	16	127 to 142
11	XI	Valasaravakkam	13	143 to 155
12	XII	Alandur	12	156 to 167
13	XIII	Adyar	13	170 to 182
14	XIV	Perungudi	11	168, 169, 183 to 191
15	XV	Sholinganallur	9	192 to 200

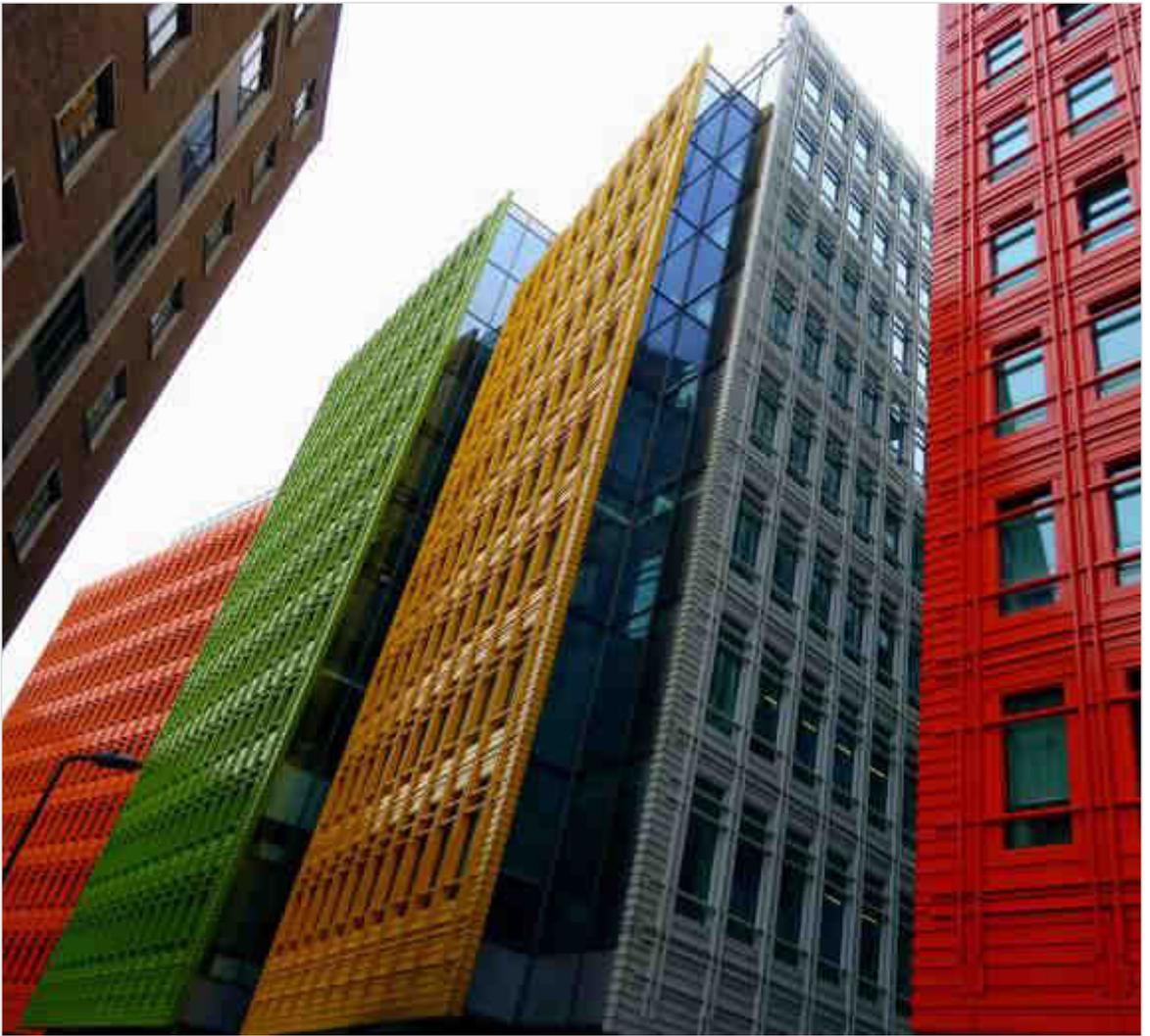












ESTD: 1950

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