



2012

year in review





INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS

The International Association of Plumbing and Mechanical Officials (IAPMO) was founded on May 17, 1926 with the mandate “to advance the latest and most improved methods of sanitation; to promote the welfare of and harmony between the owner, the builder, and the craftsman; to accomplish a uniformity in the application of the provisions of the ordinances; and to promulgate the mutual benefit of the members.” The IAPMO Group focuses its comprehensive capabilities in the technical aspects of the plumbing and mechanical industries through its extensive knowledge base, which includes regulators, professional contractors and manufacturers.

Comprised additionally of six different business units, The IAPMO Group is truly the one-stop shop for all plumbing and mechanical code and product compliance.



INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS – INDIA

IAPMO Plumbing Codes and Standards India Private Limited (known as IAPMO India) was founded in 2007 with offices at Bengaluru and Pune. IAPMO India and the Indian Plumbing Association (IPA) began, and continue to foster, a strong and essential partnership to better provide for the industry. It was with this partnership that they developed the latest and most comprehensive plumbing codes and training and education programs for code-based plumbing installations and maintenance for all of India. The Uniform Plumbing Code – India, based on IAPMO’s globally recognized flagship document, was released in 2008, and a subsequent version released in 2011. In addition, the team of IAPMO India and IPA have also developed and released the Uniform Solar Energy Code - India, the Green Plumbing Code Supplement - India, and the Uniform Swimming Pool and Spa Code - India. This team of experts have expanded their portfolio in 2011 by responding to the needs of the market and developing a water efficient ratings scheme, titled Water Efficient Products –India (WEPI) and have since published and implemented this scheme pan India to assist efforts in reducing water usage through efficient fixtures.

PLUMBING * MECHANICAL * CERTIFICATION

IAPMO India, responding to the enormous demand and growth of its services within the plumbing domain, has focused efforts to better serve the industry by incorporating two other verticals: Mechanical, and Certification. The combination of these three verticals together - Plumbing, Mechanical, and Certification – completes the circle for an all encompassing system combining state of the art codes and standards with a certification body developed to list products to those necessary performance standards.

Dedicated efforts from many experts within the Mechanical industry have assisted IAPMO India in the development of the Uniform Mechanical Code – India (UMC-I), and its publication in early 2012. THE UMC-I has been touted by leaders as what will quickly become ‘the bible of the industry.’

Code-based training and education programs for both Plumbing and Mechanical verticals are in place and readily available. Plumbing Education to Employment (PEEP) is currently being offered at over 25 universities and institutions across India. This state of the art curriculum was developed to define the industry and skill the workers to bring them on par with global best practices. The Mechanical Education to Employment Program (MEEP) has just recently been completed, and has already been committed by numerous Universities and Institutions.

In connection with these publications, IAPMO's globally recognized mark of conformity and certification program is now being offered as well. Designers, Engineers, Contractors and Government Officials are often encouraged to look for a product's listing mark of conformity from an ISO Guide 65 accredited, reputable third party listing agency to ensure that the product has undergone the necessary testing, evaluation, and engineering review for safe usage by society. In the great majority of countries around the world, nearly all major plumbing manufacturers list their products to a product performance standard. In just its first year of service, IAPMO India's Certification program has already become the trusted, and endorsed, Mark for plumbing and mechanical products within India.

In addition to the above services, IAPMO India also complements their programs with top notch engineers for certified audits and inspections, consultancy services for Energy and Water Auditing, and as expert resources in the Plumbing, Mechanical, and Certification domain.



THE INDIAN PLUMBING ASSOCIATION

The Indian Plumbing Association (IPA), established in 1993, is the apex body of plumbing professionals in the country. Set up with an objective to promote advancements in plumbing and the building service industry, IPA has successfully created a forum for exchange of ideas and dissemination of information amongst its members. As a member of the World Plumbing Council, it encourages its members to achieve and maintain high standards of workmanship.

IPA has presence pan India with more than 2,000 members and 12 chapters. IPA's membership includes architects, builders, plumbing consultants, plumbing contractors, plumbing product manufacturers, traders and planners. IPA also conducts conferences and exhibitions throughout India and publishes the monthly magazine Indian Plumbing Today. The idea is to make local plumbing professionals aware of issues, problems and prospects in the industry. IPA has succeeded in creating awareness about the need for safe plumbing, and is now ready to assist the Indian professionals with improving their skills and expertise.

Allen Inlow

Senior Director, IAPMO



A look back at an organization moving forward!

Did you ever look in the rear view mirror of a speeding car and think, “Wow, I know I’ve been there and the past looks familiar, but is disappearing so quickly”!

That is the same feeling I have when I think back to where IAPMO India has been and just how quickly the present is becoming the past. The plumbing industry has grown a strong voice and presence through IPA, and not just in the Construction sector but also in all of Indian industry and politics. IAPMO India has grown with it. What was just a dream only a few years ago, like reaching for the stars with your hand, has become achievable. In many instances a reality!

This Year In Review reminds me that the Uniform Plumbing Code – India started as just such a dream. Now, working with IPA, IAPMO India has achieved a full set of Uniform Codes that are equal to or better than any other codes in the World and are recognized not only by the industry but more and more political jurisdictions and entities throughout all of India and surrounding countries.

The quality of products coming into India and being sold were sometimes questionable. Now

there is a Product Certification process and mark that assures everyone that the Certified products are best and what they should purchase.

India has been a true example to the world in energy conservation and the green movement. IAPMO India working with IPA stepped up and improved the water and energy conservation embedded within the codes by more than 30 percent.

A look back can be rewarding. It can also show the way to the future. This Year In Review shows that amazing progress has been made and the future looks very bright indeed!

Sudhakaran Nair

President, Indian Plumbing Association



Since 2006, when the IPA-IAPMO Collaboration began in India, five codes, specially created for the Indian Plumbing Industry, have been published. This is indeed a first for any organization associated with the construction field in the country. An updated version of the flagship code – Uniform Plumbing Code-India (UPC-I) was released within just three years after publication of the first version in 2008 – again an unprecedented achievement.

2012 witnessed the establishment of testing and certification facilities for plumbing products for use in the Indian market through the IAPMO-Intertek partnership with IPA performing a supporting role. Twenty five Educational and Vocational Training Institutions have so far partnered with IAPMO and IPA on the Plumbing Education to Employment Programme (PEEP).

Mere statistics cannot adequately express the impact that this partnership has made in the Plumbing Profession in the country within a short period of six years! This would not have become a reality but for the sense of purpose and wholehearted commitment the two organizations have shared.

On behalf of all my colleagues at IPA and on my personal behalf, I sincerely thank my IAPMO-USA and IAPMO-India colleagues for joining hands with IPA in our pursuit to improve plumbing standards in India and to bring the recognition due to our profession. I look forward to many more years of our rewarding partnership.

Megan Lehtonen

Director, Business Development, IAPMO



A Focus on Water Safety

Since its inception in 2007, IAPMO Plumbing Codes and Standards India Private Limited has worked extensively to lay the groundwork necessary to become one of the most respected and reputable organizations in the industry. The relationships made through the development of codes and training for the plumbing and mechanical industry has driven IAPMO India into the perfect position to offer elite services for the better of the industry, and the better of India at large. As much as ever before, we take our hats off to the Indian Plumbing Association (IPA,) led by Sudhakaran Nair, for their unprecedented dedication and passion that continues to keep India at the forefront of the industry around the globe.

2013 is certain to be an epic year for IAPMO India – with major manufacturers coming forward to get their products tested and certified to ensure product conformance. What could be more important in products that deliver our world's most valuable resource? IAPMO India's Conformity Assessment business is ready to change the plumbing marketplace throughout the country by focusing on the health and safety of plumbing products. Plumbing and Mechanical manufacturers finally have third party testing available to ensure their products are tested and certified to international standards for the health and safety of all

throughout India.

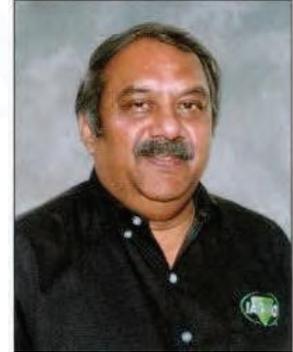
Water. We have to continue to fight to conserve, protect, and reuse water in every way possible for generations to come. We are dedicated to this mission, through comprehensive training and industry development through proper codes and standards. Water Efficient Products – INDIA (WEPI) is sure to make a major impact and will influence the purchasing decisions of consumers as they become more and more likely to buy plumbing products that have three stars for best efficiency. WEPI is an essential program to protect our most precious dwindling resource.

The accomplishments of this past year, and the new relationships formed, are a testament to our continuing dedication – and we now set our sights on 2013 and look forward to our most impactful footprint yet!

Kal ka vikas, humara avsar

Sree Kumar

Director General, IAPMO India



The aim and objective of our venture

to bring out the Year in Review 2011 was greatly achieved. The same had wide acceptance from the feedback I received from professionals within the domain. Thank you, one and all.

IAPMO India has taken great strides, since its inception in India particularly this year.

After the release of Revised Uniform Plumbing Code - India in November 2011, this year witnessed the release of Uniform Mechanical Code – India in February and Uniform Solar Energy Code – India in July.

I shall fail in my duties if I don't place on record, the tremendous dedication effort of Technical Committee of Indian Plumbing Association, under the leadership of Mr. Sudhakaran Nair, in the release of USEC – I. They are now concentrating on the revision of Green Plumbing Code Supplement India for release in 2013.

Also extreme thanks to dedicated and likeminded people in Mechanical domain, under the guidance of Mr. Pankaj Shah, who made the release of UMC I possible in short time.

How I wish these codes and standards of ours find the way to both, supply and demand audience, primarily for health and sanitation of people of our country. We are making great efforts to reach out to Central as well as State Governments to support the cause. A great encouragement to me is the acceptance, by the dignitaries in governance and executive of the same, during the IGBC Conference at Secunderabad. Under the leadership of Dr Jain, I am hopeful the strategy and actions will find a way to recognition.

Skill Development, to address the unorganized society of India, to train them to earn a livelihood is our dedicated venture. Let this benefit society and also the gap in skills in construction and infrastructure industry.

We continue our strive forward!

Charles Gross

Director of India Product Certification



IAPMO India Product Certification



As we look back at IAPMO India birth in 2007, we find IAPMO India establishing a successful partnership with the Indian Plumbing Association (IPA) to begin joint efforts in developing the first India plumbing code ever, namely the Uniform Plumbing Code - India (UPC-I), which subsequently yielded the first ever 2008 version, and which recently underwent update to its current version, namely, the 2011 Uniform Plumbing Code - India. Since then, IAPMO India and the IPA have continued to work together to not only develop other related and complementing industry codes (e.g., 2010 Green Plumbing Code Supplement - India (GPCS-I), 2012 Uniform Solar Energy Code - India (USEC-I), 2011 Uniform Swimming Pool Code - India (UPSC-I), but also continued to develop the water efficiency plumbing fixture rating specification, 2011 Water Efficient Products India (WEP-I).

IAPMO India and the IPA also jointly designed and helped initiate plumbing training and educational programs (now in session) throughout India for designers, contractors, students and engineers. Similarly, IAPMO India worked with Technical Committee Members, India Mechanical Industry Representatives and domain experts to develop the first ever 2012 Uniform Mechanical Code - India (UMC-I), primarily for heating and cooling products that are conventionally used within mechanical

systems. Please peruse IAPMO India's web site and its product-listing programs at <http://www.iapmoindia.org> for further details.

IAPMO India's codes, when coupled with industry standards (especially those standards cited in each respective code) allow all manufacturers to have their products tested at an IAPMO recognized laboratory, such as Intertek laboratory, for the subsequent IAPMO India listing of their products. During the last couple of months, two manufacturing companies Viega, GmbH & Co. KG, and Hindware (HSIL Limited) were successful in having their respective stainless steel and copper press type fittings, and vitreous china sanitary ware products UPC-I listed with IAPMO India within two weeks of compliant findings of all their required support data. In addition, Hindware became the first listee to list their water closets to the 2011 Water Efficient Products India (WEP-I) specification for water efficient plumbing fixtures. All four of these new listings can be viewed for their specific models on IAPMO India's product listing directory website at <http://www.iapmoindia.org/Pages/pld.aspx>. Beginning with Hindware's new Water Efficient Products India (WEP-I) listing, IAPMO India is working to help various Green product manufacturers list their water efficient products (i.e., clothes washers, various

faucet types, showerheads, urinals, etc.) to the 2011 Water Efficient Products India (WEP-I) specification to further implement the awareness, the installation, and the use of these Green products, as well as to help promote enhanced sustainable water conservation measures throughout India. In addition, plans are underway to update the 2011 Water Efficient Products India (WEP-I) specification to address possible water efficiency ratings to additional product categories (i.e., faucet aerators, faucet flow restrictors, high efficiency flushing devices for urinals, non-water urinals, weather based irrigation controllers, etc.) not yet acknowledged, but that appear to merit consideration of such address.

As a result of these current and future new listings, architects, consumers, contractors, engineers, plumbing instructors, plumbing designers, and inspectors alike now are, and will continue, to be assured that these listed products comply with every standard and code governing their use throughout India.

Currently, there are other manufacturers who have their products undergoing testing at Intertek India Laboratory for their subsequent

UPC-I listing, along with forthcoming new manufacturers who've indicated their intent to also UPC-I list their products, both of which should help to double our total IAPMO India product listings by the end of this year, as well as help grow our listings into the next 2013 new year.

There's never been a better time than today to join other manufacturers and to begin marketing your products within India's rapidly emerging market via IAPMO India's newly launched product listing program. Your IAPMO India-listed products help give all society a greater level of assurance and confidence that installing and using listed products helps protect the public's health, welfare, and safety, as compared to the general uncertainties that exist in the use of unlisted products.

Now that you see where we started and the progress we are making to our product listing services, we kindly ask for your trust and opportunity to serve your entire product listing needs, as we're continually thinking of new ways to further enhance our services even more, in an effort to serve you even better!

Subhash Deshpande

Director Plumbing, IAPMO India



Dear Partners,

The Water Efficient Products echoed all around the year 2012. The Water Efficient Products-India (WEP-I) was published jointly by IAPMO India and IPA

in 2011 and was topic of discussions at many seminars, conferences, exhibitions, magazines and publications on building, construction and plumbing. The WEP-I campaign created general awareness at varied groups. The developers and consultants are able to make informed choice of water saving fixtures. The manufacturers are aware of flow restrictions to earn the star rating much before such rating system is mandated by the government.

In this year we published the 2012 Uniform Solar Energy Code-India (USEC-I) jointly with IPA. It is the first time a comprehensive code on this topic is available to the industry for voluntary adoption. India is blessed with abundant solar energy. It is free and eco-friendly. The USEC-I was need of the hour, as Solar Thermal is made mandatory by many states in India. Where it is not mandatory, the local governments offer attractive incentives to popularize it.

The 2008 Uniform Plumbing Code-India was revised in stipulated time and IAPMO India and IPA published 2011 Uniform Plumbing Code-India (UPC-I). Its popularity continued to grow. The code based plumbing designs, installations and products is now a reality.

The code based plumbing education and

training is a reality too and growing at a steady pace. New partners joined the IPA-IAPMO India's Plumbing Education to Employment Program (PEEP). The old partners, who completed 3 successful years of the program, gladly renewed their MoUs. The instruction material is revised to incorporate the provisions of latest 2011 UPC-I.

Indian Plumbing Association as our diligent India partner, PEEP education and training partners all across India, hundreds of PEEP certified trainers, hundreds of Green Plumbers India Accredited Specialists and thousands of successful PEEP certified engineers, managers, supervisors and plumbers encourage us to continue our mission. These are the people who give us strength to continue our task of promoting good plumbing to protect health and safety through codes and education.

In this endeavor I seek your continued support.

Abdul Matheen

Director–Mechanical, IAPMO India

Indian Mechanical industry gets first ever revolutionary tool, built upon international standards for sustainable building and construction, significantly reducing carbon footprint known as 'Uniform Mechanical Code-India-2012'

With the industrial revolution witnessed since the last 2 centuries, we have taken away much more from our planet than in all the history of human race of several thousand years. Homes and offices contribute more than 3 billion tons of carbon dioxide to the atmosphere every year. Air conditioning alone, consumes nearly 25% to 30% of world's total energy and a major contribution can be made by this industry towards reducing global warming. The world today is talking about moving from green buildings to zero energy buildings or carbon neutral buildings. Even though India has set the tone for this second green revolution by introduction of mandatory EIA (Environmental Impact Assessment) studies for large projects initiatives by BEE (Bureau of Energy Efficiency) and IGBC (Indian Green Building Council), it is important to leverage the collective involvement of India's one billion strong population and lead the world in addressing the issue of Global Warming.

A good environmental sense has been one of the fundamental features of India's ancient philosophy. However, during the last few decades global circumstances have forced our country into a situation where it is becoming increasingly difficult to practice a life style that does not push this planet towards doom. During the last decade, there has been a gratifying resurgence of this good environmental sense in India. The most important aspect of this growing environmental consciousness in this

country is its permeation at the establishment as also the people's level. It is imperative that environmental consciousness becomes a pre-occupation with our people as no amount of government intervention can reverse ecological collapse. I see clear signs of that happening in India. Against this backdrop, we now have to have a system of environmental checks and balances fully in place. There is enough institutional, legislative and political strength to combine with a responsive citizenry to produce a practicable environmental culture. In Constitutional terms too, India has enough guarantees to protect its ecological systems. I am sure in time to come India will have highly professional codes and standards for mitigation of effect of Global warming, Climate Change, Carbon Emission, Water and Energy Conservation, to an extent that the global communities must follow Indian codes and standards.



Indian building industry today has a powerful and revolutionary new tool at its disposal with IAPMO India's Uniform Mechanical Code India [2012 UMC-I] launched.

The Uniform Mechanical Code-India™ (UMC-I™) provides required guidelines for the design, installation and maintenance of Heating, Mechanical Ventilation, Cooling, Refrigeration and miscellaneous building services and systems, while at the same time allowing latitude for innovation and new technologies. UMC-I is the most comprehensive document ever created in India to standardize sustainable residential, industrial and commercial mechanical systems.

Mechanical

The process of developing UMC-I brought together volunteers representing varied viewpoints and interests to achieve consensus on mechanical issues.

Widespread awareness and adaptation and of these codes could result in a combined effort by the entire construction and infrastructure sector towards a cleaner and greener environment, thereby greatly reducing the carbon footprint.

Role of UMC-I:

- Provides a uniform set of guidelines for various systems in the heating, ventilation and air-conditioning category, which was so far unavailable in India
- These guidelines draws up a set of best practices and processes that go towards ensuring environment friendly construction and efficient usage of power
- Integral part of framework for green architecture and green buildings that ensure minimum or no damage to the environment, minimum emissions and efficient power usage

IAPMO India's Mechanical activities in the pipeline:

- 2012 UMC – I, Illustrated Training Manual [UMC – I, ITM]
- Green Mechanical Code Supplement-India [GMCS-I]

Mechanical Education to Employment Programs:

- MSAP- Mechanical Supervisors Academic Program
- MTP- Mechanical Technicians Program
- MSD- Mechanical System Design
- GMTP - Green Mechanical Training Programs

PLUMBING EDUCATION to **EMPLOYMENT PROGRAM**

In cooperation with the established Education Institutions (EIs)/ Training Institutions (TIs), the IPA-IAPMO India Plumbing Education to Employment Programme will provide the following Academic Programmes.

Plumbing Systems Design (PSD) Programme

Plumbing systems are one of the most important and vital parts of an overall building design. Through this course of study, an individual will gain understanding of the principles and code requirements of plumbing system designs and develop the ability to design and review code-based plumbing systems.

Targeted students: graduates or students in the last year degree in civil, environmental or mechanical engineering and diploma courses

Plumbing Construction Management (PCM) Programme

Construction managers coordinate and supervise the work at construction sites. Through this course of study, an individual will gain an understanding of the principles and code requirements of plumbing systems and develop the ability to review plumbing systems and supervise code-based installations.

Targeted students: Contractors, Construction Managers, Supervisors, Architects and Interior Designers working at site or offices, having degree or diploma in their respective field with minimum 5 years of experience.

In cooperation with Indian Vocational Institutions, Industrial Training Institutes and polytechnics who meet the IPA-IAPMO quality standards; the IPA-IAPMO Plumbing Education to Employment Programme will provide the following Programme from the next academic year.

Plumbing Technology Programme (PTP)

The Plumbing Technology Programme is a comprehensive Programme designed to provide individuals with the skills to apply a broad range of plumbing principles. The Programme is divided in eight separate and distinct modules. After accomplishing each module, a certificate will be issued to the student. This will allow working plumbers to become more proficient at specified tasks as they progress through the entire Programme.

Trained Apprentice Plumbers (TAP): A course in plumbing technology for aspiring plumbers and fresh students who have passed 10th standard school exam successfully. After successful completion of each module, the students will receive a certificate of attendance. After completing all modules 1 to 4, students will receive a certificate: Trained Apprentice Plumber (TAP). This will establish the competency to install the plumbing systems as per Uniform Plumbing Code India (UPC-I), under supervision.

Trained Master Plumbers (TMP): Admission to this course is open to those who possess a TAP certificate. This part is divided in Modules 5 to 8. After successful completion of each module, the students will receive a certificate of attendance. After completing all modules 5 to 8, students will receive a certificate: Trained Master Plumber (TMP). This will establish the competency to supervise installation of the plumbing systems as per Uniform Plumbing Code India (UPC-I).

Plumbing Apprentice Programme (PAP)

The Plumbing Apprentice Programme (PAP) is a foundation programme in plumbing to provide individuals with the basic plumbing skills. Through this course of study, an individual will learn practical aspects of the installation, repair and maintenance of a variety of piping systems, plumbing fixtures and other equipment generally associated with water distribution and waste water disposal; and be introduced to some of the basic principles and code requirements of typical plumbing systems.

Certificate

After the trained certified trainer imparts training to your target audience we also issue a tripartite certification to the successful students after duly involved for the assessment. The certification is of International repute with IPA, IAPMO-I & Education Institutions (EIs)/ Training Institutions (TIs) as signatories.

IPA - IAPMO INDIA CERTIFICATION PROGRAMME

Introduction to Certification

Certification is separate and distinct from the Plumbing Education and Training Programmes. The IPA-IAPMO India's comprehensive certification program plays a critical role in assessing knowledge of the Uniform Plumbing Code-India as an indicator of proficiency in the use of the code and referenced standards.

Many Building/plumbing professionals of varying groups want to pursue the study of UPC-I to progress in their career. One way to test the knowledge and have a documented proof for the employers and clients is to possess a certificate of successfully passing of exam in plumbing conducted by a reputed certifying organization. IPA and IAPMO India now facilitate the certification in plumbing. Certification is autonomous from its formal academic programmes and is voluntary in nature.

Certifications

CPE: Certified Plumbing Engineer

Qualified degree/diploma engineers will use this certification to attest their knowledge of the code requirements for plumbing systems to demonstrate their ability to design and review code-based plumbing systems.

CPS: Certified Plumbing Supervisor

Contractors, construction managers, supervisors, architects and interior designers and will use this certification to demonstrate their knowledge of code requirements relating to installation supervision of code-based plumbing systems.

More information:

- Qualifications: For CPE minimum qualification is diploma or degree. For CPS the minimum qualification is diploma/ degree or minimum 5 years experience.
- Study material: Candidates will be encouraged to (purchase and) 'self-study' latest edition of the UPC-I and ITM. Once they have adequate code knowledge and practice; they can appear for the certification exam. Besides the codes, there is no other study material provided.
- Time Period: Time required for 'self-study' and practice depends on every individual. CPE/CPS students will need to study and apply the knowledge to one or two building sites, to be confident.
- Syllabus: The scope of certification syllabus will be all chapters of UPC-I and ITM including Appendices.
- Exam pattern: CPE and CPS Certification is a written examination of 100 marks. CPE will stress upon the design aspects while CPS will stress upon the installation standards. These exams are not available on-line. The exam is not objective type. It is also not an open-book exam. Students are required know the definitions by heart, need to draw sketches and are required to remember standard dimensions etc. The exam papers and answer sheets shall be provided to the students.

For all exams of 100 marks, you need to earn minimum 60 marks to pass.

All the above exams will be held at each IPA chapter all over India, under supervision of IPA members.

Certification exams will be held in the months of April, August and December every year.

- Fees: Students are required to register for the exam and pay the fees in advance. On-the-spot registration is not possible. Fee for each exam is Rs. 5,000. The total Fee towards the Certification will be:
 - Rs. 5,000 (Exam Fee)
 - Rs. 3,650 (2011 UPC-I, ITM and GPCs –I at concessional rates)
 - Rs. 350 (Courier charges)
 - 1000 (Certification Fee)Total Rs. 10,000/-
- Certificate: Certification is achieved by successful completion of an examination in a controlled, proctored setting.

After passing the required examination, the candidate will receive a certification document and a wallet identification card indicating the title and the date of expiration. The certification will be valid for the period of 3 years. Candidates will have to reappear for the exam after 3 years, confirm that he/she is in the same trade, has updated the knowledge based on the current UPC-I and pass the exam to extend the validity of certification.

- Advantages: The certification will bring advancement in your career by way of increments, promotions, transfers or new job opportunities. For self-employed, certification will give them distinct advantage over their competitors. The Certification exams are based on UPC-I. Since the parent document UPC is adopted by many countries like US, Canada, Australia, China, UAE etc; certification can offer opportunities abroad too.

For Application Form please Contact Swathi Saralaya, Manager - Technical & Training, IAPMO India, No. 22, 12th-B main, HAL 2nd stage, Indiranagar, Bengaluru 560008 , P: 91-80-30714504, Email: swathi.saralaya@iapmo.org

For more information please visit www.iapmoindia.org or www.indianplumbing.org

EXISTING AND FRESH



PEEP finds New Partner in Pipal Tree

A Memorandum of Understanding is signed on October 12, 2012 by and between the International Association of Plumbing and Mechanical Officials - India (IAPMO-I), Indian Plumbing Association (IPA) and the Training Institution Pipal Tree Ventures Pvt. Ltd. (PTVPL).

IAPMO-I and IPA has jointly designed and developed a comprehensive plumbing education curriculum to prepare multiple levels of professionals in India to understand, interpret, engage, and apply the provisions of the Uniform Plumbing Code – India (UPC-I), under its Plumbing Education to Employment Programme (PEEP).

This MoU will assist PTVPL to establish academic programme known as Plumbing Technology Programme (PTP) which can produce competent plumbing professionals.

The MoU was signed at Plumbing Classroom at College of Engineering Pune (COEP) by Anant Sapre & KRSL Narasimham of PTVPL, Nitish Phansalkar, Chairman, IPA Pune Chapter, and Sree Kumar & Subhash Deshpande of IAPMO India.

ABOUT PIPAL TREE

Pipal Tree ventures Private Ltd. (PTVPL) is in the field of providing vocational training for the skills in the construction industry to unemployed youths in the rural area. Its Mission includes:

- Vocational training for the skills in the construction industry to unemployed youths in the rural area.
- Livelihood to poor unemployed rural youth in India.
- Develop skilled resources.
- Performance guarantee for all employees provided by Pipal Tree.
- Staff Site Administration Services to improve productivity of staff.
- Training Consultancy Services to improve productivity of existing employees.

Pipal Tree Ventures, having its corporate office in Mumbai, is a private limited organization backed by institutional investors and well established corporate entities from construction industry. The organization has set up a training hub on a 35 acre land located at Ranga Reddy district near Hyderabad and training spokes at Lalganj and Rae Bareilly in Uttar Pradesh, Muzaffarpur in Bihar, Nashik Road in Maharashtra and Shahapura in Rajasthan, India. The organization plans to train 50,000 students in the next five years.



(L2R) Narasimham, Anant Sapre, Nitish Phansalkar, Sree Kumar and Subhash Deshpande

SRATI and IAPMO India extend Partnership



(L2R) Manickam IPA CC, Abdul Matheen, Director Mechanical IAOMO-I, Gopinath, Chairman, IPA CC, Sree Kumar, DG, IAPMO-I, Lakshminarayanawamy, Trustee, SNR Sons Charitable Trust, Rama Kumar, CEO, SNR Charitable trust and KR Prasad, Director SRATI.

Sri Ramakrishna Advanced Training Institute (SRATI) has successfully trained students from the year 2009 to 2012 adhering to the qualitative procedure developed by IAPMO India and IPA.

The plumbing code known as the Uniform Plumbing Code – India (UPC-I) is the essential source document for the PEEP. UPC-I being dynamic code is revised by IAPMOI and IPA every three years. Therefore SRATI volunteered to renew the MoU signed on March 16, 2009 and adopt the revised and updated Uniform Plumbing Code - India (UPC-I) 2008 to UPC-I 2011 and PEEP syllabus and course contents based on ever changing/advancing materials and technologies in plumbing.

The new Memorandum of Understanding was signed May 30, 2012 at Coimbatore

by Mr. D. Lakshminarayanawamy, Trustee, SNR Sons Charitable Trust, Coimbatore & Mr. K.R. Prasad, Director, SRATI, Mr. Sree Kumar, Director General & Mr. Abdul Matheen, Director Mechanical of IAPMO India and Mr. Sudhakaran Nair, President IPA & Mr. A Gopinath, Chairman, IPA Coimbatore Chapter.

Sri Ramakrishna Advanced Training Institute (SRATI) is a part of SNR Sons Charitable Trust which was established in 1970 and is imparting education in the field of Medical, Paramedical, Engineering, Polytechnic, Arts and Sciences and High schools for about 30,000 students. SNR Sons Charitable Trust has established SRATI to become the centre of excellence to provide advanced training in plumbing and welding.

IAPMO Strengthens Partnership with CII



Consequent to meeting with Mr. Sanjay Reddy, Chairman CII Southern Region at Chennai on 23 March, a luncheon meeting was held at Taj West End Bangalore on 11 May with Reddy, Mr. Sujith Haridas CII Senior Director, Mr. Ramesh Director CII Bangalore and Mr. Sree Kumar. This evolved the process on a converged partnership between IAPMO India and CII Southern Region.

The Partnership strives for the following benchmarks:

- Joint efforts for ratification of IAPMO codes and publications with Central and State governments and likeminded institutions such as BIS, BEE, BAI, and IGBC.
- Propagation and advocacy of IAPMO India cause, services and activities amongst various forums of Indian Industry and CII members.
- Propagation of India's concept of code based training and education within Indian construction Industry. Train the trainers in plumbing and mechanical domains at various centers of excellence and industry associates.
- Jointly work out strategy and plan for adopting GPI Programs within CII.
- CII will connect IAPMO India with Center of Excellence of CII located at Jaipur for participation in Water and Energy Report.
- Advocate importance of testing and certification services and capability of IAPMO India to industry members.

The signing ceremony for the MoU to ink the partnership is set for early 2013.

Sri Ramakrishna Advanced Training Institute (SRATI)



L-R: Mr. Abdul Matheen, Mr. Sree Kumar handing over certificate of appreciation to Mr. Lakshmi Narayana Swami, trustee SRATI



L-R Nitish Phansalkar, Subhash Deshpande and GS Dikondawar signing the MoU

MoU Renewal:

The existing MoU (2009-2012) between SRATI, IAPMO India and IPA for Plumbing System Design Programme (PSD) was renewed for another three years (2012-2015) at SNR Institution's Managing Trustee's Office at Sri Ramakrishna Hospital campus, on 30th May 2012. The MoU was signed by Mr D Lakshminarayanswamy, Trustee of SNR Sons Charitable Trust and Lt. Gen (R) Sree Kumar, Director General IAPMO India in the presence of Mr Gopinath, Chairman IPA Coimbatore Chapter. The event was followed by visit to SRATI Plumbing Lab, interaction with students and ceremonial handing over of the certificates to the successful candidates.

During the ceremony Mr. D Lakshmi Narayana Swami said, "This convergence and renewal of PEEP MoU with IAPMO India will strengthen and further our objectives of promoting best practices and quality education in Plumbing domain in India through code based education system which IPA and IAPMO India brings in through its global exposure and capability.

During the ensuing discussions, scope for enhancement of the training programme to PTP was addressed. SRATI who holds the record of first institution to sign an MOU with IAPMO India,

becomes the first to renew an MOU. Our sincere congratulations and solicit SRATI's continued support to the noble cause" remarked Sree Kumar.

MOU Supreme:

IAPMO India and IPA have signed the MoU with Supreme Industries Ltd. for Plumbing Apprentice Program (PAP) on July 5, 2012 in the presence of Mr. Subhash Deshpande, Director Plumbing, IAPMO India, Mr. G.S. Dikondawar, General Manager, Innovation & Technology, The Supreme Industries Ltd., Mr. Nitish Phansalkar, Chairman, IPA Pune Chapter, Mr. Pravin Bora, Vice Chairman IPA Pune Chapter and Mr. Deepak Daiya of IPA Mumbai Chapter. On this occasion, Mr. Subhash Deshpande said, "This is the first ever MoU signed by a manufacturer from the Indian Plumbing Industry for training of its Plumbers. We do hope that many more manufacturers will come forward for training the plumbers, technicians and sales personnel on the provisions of the Uniform Plumbing Code-India".

Supreme is a renowned leader of India's plastic industry manufacturing CPVC, uPVC, PE and PPR plumbing systems, uPVC Drainage system, special range of underground drainage system, with readymade inspection chambers and manholes.

Renewal of existing MoUs for PEEP

IAPMO India and IPA are proud of our existing PEEP partners and appreciate their contribution in propagating code based Plumbing Education and Training to society for Global Health and Nation Building.

IAPMO India and IPA strive to provide the best and latest of plumbing codes and code based plumbing education and training in India. After signing the MoU under PEEP many organizations are benefitted with developing trained manpower in the plumbing sector, providing better plumbing for better living and improved reputation.

Sr. No.	Date	Name of the Institute/organization	Program
1	16.03.2009	Sri Ramakrishna Advanced Training Institute (SRATI), Coimbatore	PSD
2	15.05.2009	Hiranandani Constructions Pvt. Ltd., Mumbai	PCM (PIT)
3	18.05.2009	College of Engineering Pune (COEP), Pune	PCM & PSD
4	04.06.2009	Miraj Constructions, Mumbai	PCM (PIT)
5	03.07.2009	Central Public Works Department (CPWD), New Delhi	PSD & PCM
6	14.07.2009	Kings Academy & Technical Solutions (KATS), Bengaluru	PCM
7	08.10.2009	A.N. Prakash CPMC Pvt. Ltd., Bengaluru	PCM
8	26.10.2009	Bhaskar Foundation, New Delhi	PAP (SGSY)
9	20.11.2009	Oberoi Realty Ltd., Mumbai	PCM (PIT)
10	30.11.2009	Kalpataru Ltd., Mumbai	PCM (PIT)
11	14.12.2009	Maharashtra State Board of Technical Education (MSBTE), Mumbai	Plumbing Elective
12	03.02.2010	School of Planning & Architecture (SPA), New Delhi	PCM
13	27.03.2010	Sobha Developers Ltd. Bengaluru	PSD

IAPMO India and IPA has now [published the newer version of 2008 UPC-I, namely 2011 UPC-I.] Based on the latest codes, we have revised our training resources to reflect new systems, products, and technologies. Our existing PEEP partners are now in the process of renewing the MoU and get the benefits such as:

1. Enjoy discount of Rs. 50,000 in the license fees,
2. Obtain copies of latest 2011 UPC-I,
3. Obtain latest versions of training resources,
4. Train new trainers and/or refresh existing trainers and
5. Continue Training under the renewed license for next 3 years.

Silver Jubilee

The MoU with Pipal Tree is the 25th MoU signed by IAPMO India and IPA under PEEP. The MoUs signed so far are listed below.

14	16.08.2010	International Institute for Energy Conservation-India (IIEC-I), Pune	JV
15	04.09.2010	Jnanada Pratishthan (IIEDR), Pune (Wagholi)	PTP
16	21.10.2010	Builders' Association of India (BAI), Mumbai	JV
17	25.06.2011	Dhanush EnggServices India Pvt. Ltd., Hyderabad	PCM
18	05.07.2011	IMC at ITI Velhe, Pune	PTP
19	09.07.2011	BG Shirke Construction Tech Pvt. Ltd., Pune	PCM (PIT)
20	21.07.2011	Sterling & Wilson Limited, Mumbai	PCM (PIT)
21	21.10.2011	Indian Green Building Council (IGBC), Hyderabad	JV
22	18.11.2011	The Energy and Resources Institute (TERI), New Delhi	JV
23	30.05.2012	Sri Ramakrishna Advanced Training Institute (SRATI), Coimbatore	PSD renewal
24	05.07.2012	The Supreme Industries Ltd., Mumbai (Jalgaon)	PTP
25	12.10.2012	Pipal Tree Ventures Pvt. Ltd. (PTVPL), Mumbai (Hyderabad)	PTP

Defining An Industry

PLUMBING LAB AT COLLEGE OF ENGINEERING PUNE

Background:

Until year 2000 plumbing was not taught in engineering or architectural colleges. As a result, plumbing was left in the hands of untrained, non-qualified people. It resulted in excessive pressure, inadequate pressure, non-performance of plumbing fixtures and leakages, to name a few.

The building structures became more complex, basements extend beyond the building line, multiple basements became common, high-rise buildings were no more wonders of India, modern technologies such as post tension slabs made the construction much faster. Good plumbing and nice bathroom groups was no longer a luxury in the new lifestyle. There was more awareness in water and energy conservation. Slowly, plumbing received the attention it deserved. All this called for more professional approach towards designs and installations of plumbing of international level.

A good plumbing ensures good health and safety of people. It was therefore essential to demonstrate good (and bad) plumbing practices, materials and methods to the professionals, practitioner and academicians. With the beginning of formal training courses in plumbing, the plumbing lab has become a very important tool to understand the subject in a short time under one roof. Reading codes and textbooks is sometime cumbersome, difficult and boring. The code language is generally difficult to understand. This lab serves a purpose of educating the masses on the need of good plumbing and the way to install it, in the easiest way.

The beginning:

The concept and design of such lab was conceived by Mr. Subhash Deshpande, a practicing plumbing consultant and Chairman of Pune Chapter of Indian Plumbing Association (IPA). The concept was appreciated by the IPA and initial budget was approved. Mr. Deshpande is past student of the College of Engineering Pune (CoEP) and active alumni. He therefore wished to develop the plumbing lab of his dream at his alma mater and CoEP gladly accepted the proposal.

On December 14, 2006 a historical MoU was signed between the Indian Institute of Plumbing (IIP) and CoEP to develop the plumbing lab. This MoU was endorsed by the IPA. CoEP offered 2,000 Sq feet of space with 9 m height, at the prime location in CoEP campus.



(L2R) Mr. Sudhakaran Nair, Present President, IPA, Dr. Anil Sahasrabudhe, Director CoEP, Subhash Deshpande, Chairman IPA Pune Chapter, SG Deolalikar, President IPA and Prof. Rawal, CoEP.

Defining An Industry

Developing the lab:

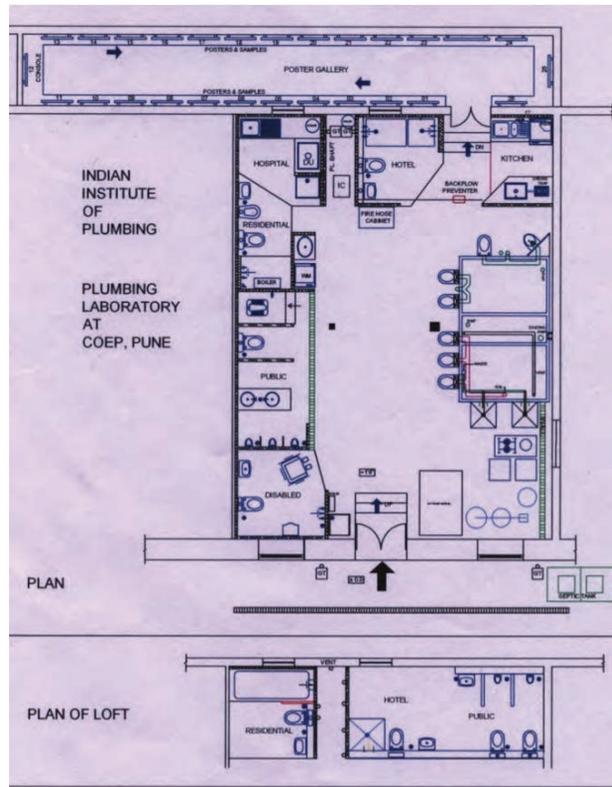
The plumbing lab at CoEP is the joint venture of CoEP, IIP and IPA.



*Left: Pravin Bora, Nitish Phansalkar and Subhash Deshpande
Right: Visit of IPA's technical experts*

The National Executive Committee (NEC) members of IPA contributed Rs. 100,000 each towards the labs. Many manufacturers came forward to sponsor the materials and installations. Mr. Subhash Deshpande was authorized to supervise the work and complete the same in time. He was joined by his friends Mr. Pravin Bora and M. Nitish Phansalkar in this endeavor.

CoEP is a heritage building. Thus, no change of façade was permitted. Further, no excavation was allowed to lay underground drainage pipes. The entire area had to be raised by 450 mm for the same. Development was taken up on fast track basis using pre-cast concrete walls and MS fabricated structure. Along with the civil works, tiling, fabrication, carpentry, painting, electrification started concurrently. Follow up with the manufactures to donate plumbing material was on. Imported materials took longer time to deliver.



During frequent visits to Pune, Mr. S.G. Deolalikar - pioneer in Plumbing in India, offered personal guidance and supervision. Many members of IPA's NEC visited Pune several times to ensure that the designs were right and the work was progressing well. Dr. Anil Sahasrabudhe, Director, CoEP made many visits during development, even at late nights, to encourage the dedicated team. The staff of CoEP also offered full cooperation in timely completion.

It took 15 months, working mainly at late nights, so as not to disturb the classes. The total cost including contributions by manufactures is Rs. 1.2 crores (Rs. 12 Million). Mr. Pravin Bora and Mr. Nitish Phansalkar worked hand-in-gloves with Mr. Subhash Deshpande during execution, working day and night, surviving on 'wada-pav'.

Some of the major sponsors for the plumbing material used in this lab are Finolex, Geberit, Hindware, Rajco copper, Viega, ACO, Supreme Industries, Astral Flowguard, Kitek, DP pumps, Grundfos pumps, Commander, Gems sanitary, Roca, Neco, Acquabath, GMGR etc.

Defining An Industry



Inauguration of Plumbing Lab



Handing over of Lab to CoEP

Launching:

The lab was inaugurated on February 14, 2008 at the hands of Mr. George Bliss III, Chairman of World Plumbing Council (WPC), in the presence of Dr. Anil Sahasrabudhe, Mr. SG Deolalikar, Subhash Deshpande and Sudhakaran Nair, present President, IPA. Many officials from WPC, IAPMO, IIP, IPA, CoEP, other local associations and press were present.

After completing the few finishing touches, the lab is handed over to CoEP at the hands of Mr. Deolalikar on April 26, 2008.

About the Plumbing Lab

It is the demonstrative lab, live with flowing water. It shows various types of toilets based on the utilities such as toilets for disable persons, public toilet, residential toilet, hotel toilet, plumbing in kitchen, toilet with sunken floor and toilet with sealing hung pipes.

The entire set up demonstrates good plumbing

conforming to the Uniform Plumbing Code of India (UPC-I). Common mistakes at sites are also highlighted so that people can avoid them during execution. Each toilet demonstrates appropriate plumbing fixtures, a unique plumbing layout of water supply pipes, accessories and appliances and overall ambience. The lab also shows the latest plumbing materials, methods, design, and technology such as a dry wall system, corner fittings, RO system, central solar water, hydro-pneumatic systems, symphonic roof drainage etc. Various water supply pipes such as copper, stainless steel, CPVC, PPR, Multilayer (composite), PEX, GI are seen. In drainage section, pipes such as uPVC, PP, Cast Iron Hubless, HDPE can be seen. The lab also demonstrates various types of valves, traps, regulators, gauges, thermostatic mixtures, back water valve etc.

There is independent section of a pump room, where we can see submersible pump, monobloc pumps, hydro-pneumatic systems using vertical in-line pumps and variable frequency drive pumps and air vessels, with accessories such as strainers, foot valve, float, isolation valves, headers, water level controllers, vibration eliminators etc.

The 9 m tall demonstrative tower is the central attraction of the lab. It demonstrates various drainage systems using transparent pipes. A two pipe system with soil and waste pipe – commonly practiced in India is illustrated. The tower also depicts a one pipe fully vented system and demonstrates how few fixtures can damage the trap seal in absence of proper venting.

The modern techniques can avoid venting of plumbing fixtures and stacks by installing sovent fittings at each floor that allows undisturbed air core in the stack. Use of transparent pipe also allows us to see the phenomenon of hydraulic jump, turbulence in WYE fitting and effects of Tee vs WYE joints.

Defining An Industry



Plumbing Classroom:

The plumbing lab is supplemented by a dedicated plumbing class room of the capacity of 20 students which also has a library of plumbing codes, textbooks, technical papers, journals and manufacturers catalog. It was inaugurated on April 19, 2007 at the hands of Dr. Anil Sahasrabudhe and Mr. SG Deoldikar. The classroom is utilized mainly for training in plumbing.

The first Professional Development Course (PDC) was conducted by IIP between July 30, 2007 and November 3, 2007, at plumbing class room. The certificates to successful students were awarded on November 23, 2007 at the hands of Mr. CS Gupta, Gurmit Singh and Dr. Anil Sahasrabudhe.

Plumbing Lab - One of its kind in the world:

There are many labs developed by reputed manufacturers all over the world for testing and displaying their products, but a lab of such comprehensive nature developed exclusively for the academic purpose is the only one. The efforts of Mr. Subhash Deshpande in developing this lab will always be remembered in the Indian Plumbing history.

This lab is appreciated by all those who visited it, including politicians, administrator, municipal officers, building and plumbing professionals, consultants, contractors, manufacturers, academic faculty and students of engineering, architecture and interior design and lastly but not the least – even Nobel Laureates. It has become a useful tool demonstrating good plumbing practices in order to ensure public health and safety.

Every year thousands of people are visiting this lab and getting the benefits of updated knowledge on plumbing which is vital to global health. The lab is open on all working days of the college of and is free for all.



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Plumbex 2012

This year Plumbex was held with all its fame and glory at Bombay Exhibition Center from 16th to 18th of March.

True to its legacy, IAPMO India participated with 100 other plumbing fraternity. During Plumbex, IAPMO India staff interacted with many manufacturers propagating testing and certification services of IAPMO for plumbing products.

The event included a presentation by Megan Lehtonen on Relevance of a Green Plumbing Code and Water Auditing which was well received by one and all.

Inauguration of PlumbexIndia'12 at the worthy hands of Mr. Sudhakaran Nair, in presence of dignitaries such as (L to R) Lt. Gen. (Retd.) Sree Kumar, Mr. Lukas Kaisler, Mr. Deepak Daiya, Mr. Subhash Deshpande, Mr. M K Gupta, Ms Megan Lehtonen, Mr. Kamal Khokhani, Mr. Gurmit Singh Arora, Dr. P C Jain, Mr. R K Somany, Mr. Nitish Phansalkar Mr. C S Gupta, Mr. B S A Narayan, Mr. Sharat Rao, Mr. H R Ranganath and Mr. Vinay Gupta.



16th IPA conference

16th Indian Plumbing Conference and National Convention on Plumbing was held in God's own country, Gokulam Convention Centre, Kochi from 12 to 13 July. The theme was Water Sustainability: Code- Education-Implementation-Monitoring. Event jointly organised by IPA and Akar Info Media Pvt. Ltd was a great success with almost 400 to 600 dignitaries participating.

IAPMO India team attended the conference in full strength with Megan and Charles from US. Megan addressed the gathering on Relevance of a Green Plumbing Code and Water Auditing the 16th Indian Plumbing Conference was inaugurated jointly by Prof V N Rajsekharan Pillai, Principal Secretary to Government of Kerala and Mr Sudhakaran Nair.

IAPMO India stall was significantly present amongst 100 plus stalls in the exhibition and was patronized by one and all.

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L-R: Mr. Kamal Khokhani, Mr. CS Gupta, Mr. Sudhakaran Nair, Prof. V. N. Rajsekharan Pillai, Dr. A. Ramakrishna and Mr. P. Ramachandran.



L-R: Mr. Abdul Matheen, Mr. Subhash Deshpande, Ms. Megan Lehtonen, Mr. Sree Kumar and Mr. Charles Gross.

1ST QUARTER

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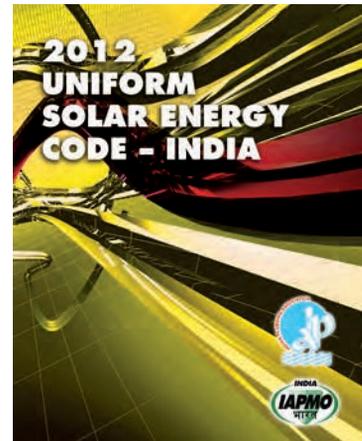
4TH QUARTER

Release Of The Uniform Solar Energy Code – India 2012 (USEC-I)

“Solar power generation has emerged as one of the most rapidly growing renewable sources for thermal energy, photovoltaic power and concentrating power”.

Uniform Solar Energy Code-India (USEC-I) is the first ever solar code developed and introduced in India jointly by Indian Plumbing Association (IPA) and International Association of Plumbing and Mechanical Officials-India (IAPMO-India). USEC-I is prepared to incorporate and implement the latest technology and systems in solar energy. The code is derived from Uniform Solar Energy Code-USA, this modified code has kept all the basic principles of the original code but has been made to suit to Indian laws, and good engineering practices. USEC-I is designed to provide lucid and comprehensive technical guidelines and reference to solar energy professionals to serve the citizens of India, apart from providing an opportunity for adopting innovative practices. This code is designed scientifically as a model code that supports renewable-energy sources through passive and active solar energy as potential alternatives to fossil fuels through performance standards, while, at the same time, allowing latitude for innovation and new technologies.

USEC-I 2012 was released in the hands of IPA President Mr. Sudhakaran Nair, during 16th Indian Plumbing Conference held at “God’s Own Country” Kerala, Kochi on July 12, 2012. Also present during the release ceremony are Mr. Charles Gross, Ms. Megan Lehtonen, Mr. Sree Kumar Mr. B.S.A Narayan, Prof. V. N. Rajasekharan Pillai, Dr. A. Ramakrishna, Mr. P. Ramachandran, Mr. C.S Gupta.



L-R: Charles Gross, Megan Lehtonen, Lt. Gen S P Sree Kumar, BSA Narayan, Sudhakaran Nair, Prof. V. N. Rajasekharan Pillai, Dr. A. Ramakrishna, Mr. P. Ramachandran, and Mr. C.S Gupta.

Charles Gross's & IAPMO India team extensive tour for propagation of R&T activities in India

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Indian Mechanical Manufacturers for a discussion on introduction of R&T facilities to mechanical HVAC-R products in India, seen in the picture L-R are: Mr. Srikanth N, Assist Manager Maintenance BOSCH Bangalore, Charles Gross, Sree Kumar, Mr. Subbarao, Managing Director RINAC, Mr. J Ramamurthy, Consultant HVAC, Mr. Reddy Manufacturer Heat pumps, and Mr. Nagaiah T, Consultant HVAC & MEP Services.



Visit to HMX Evaporative cooling systems manufacturing plant at Peeniya Industrial city-Bangalore.



Meeting with Geberit India Managing Director Mr. Michael Allenspach, Head Technical Services, Geberit



Meeting with Mr. Shashikanth V Pobbatti, Managing Director KITEC Industries India Ltd. L-R: Matheen, Swathi, Shashikanth and Mr. Charles Gross.

Events of the Year

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Pre-Listing Plant Audit at HSIL Delhi



Abdul Matheen along with Mr. Lalit M Trivedi, General Manager ASTRAL-Baddi Plant, during pre-listing plant audit

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Launch of Mechanical R&T in India

Charles Gross visits India to understand the need of R&T in India followed by Interaction with Mechanical Industry for Product Testing and Certification

Meeting with National President ISHRAE (2010-2011)



L-R: Charles Gross, Pankaj Shah and Abdul Matheen

Launch of Mechanical R&T activities has begun with first meeting and discussion with Past President of ISHRAE Mr. Pankaj Shah who has been instrumental in IAPMO India alliance with ISHRAE in India, Chairman of Mechanical Technical Committee involved in all aspects of development of mechanical publications, education and training programs, his purposeful vision determined to have sustainable development in the field of Mechanical-HVAC & R in India.

In times of competitive market which is mixture of regulated and unorganized, it is difficult to prove the quality and efficiency of building products specially both conventional and non-conventional energy efficient mechanical HVAC & R products. Hence acquiring the world-class, well-organized, tested and proven certification programs becomes necessary and indeed the need of the hour-said Mr. Shah.

Events of the Year

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Meeting with HMX Sumaiya Group of ECS manufacturers and visit to the production Unit



1. L-R Abdul Matheen, Mr. Indushekar, Vice President HMX-Group and Mr. Charles Gross with group of Production unit staff.

2. Charles Gross interaction with Mr. Indushekar, Vice President HMX Group.



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Meeting with INTERTEK Bangalore team with visit to the Lab



L-R: Engineers from Electrical division, Mr. Raghunath, Mr. Charles Gross and Mr. Abdul Matheen

Interactive session with members of Mechanical Industry on Mechanical Products Testing & Certification Program



L-R: Abdul Matheen, Mr. Srikanth N -Asst. Manager BOSCH, Mr. Charles Gross, Sree Kumar, Mr. P V Balasubramanian -Managing Director RINAC India Ltd., Mr. J Ramamurthy, Mr. Reddy and Mr. T Nagiah

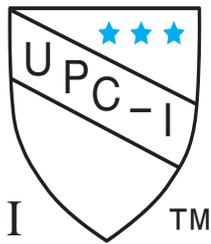
Events of the Year

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International Conference on Green Building (IGBC)

10th Edition International Conference and on Green Buildings was held in Hyderabad International Convention Centre (HICC), Hyderabad from 30th October, 31st October and 1st November 2012.

IAPMO India team attended the conference in full strength.

Chairman of IGBC, Dr. Prem Jain touted the advancement of the WEPI program as essential for Indian Industry. Ms. Lehtonen was able to emphasize in her speech the importance of a safety standard, coupled with efficiency – and announced Hindware as the first to receive the Mark!



Megan addressed the gathering on Water Efficient Products – India (WEP-I) at IGBC 30th, 31st October and 1st November, 2012

IPC

17th Indian Plumbing Conference was held at Ahmedabad, Gujarat.

The central theme of this convention was aptly chosen as — Dos and Don'ts for Efficient Plumbing.



IAPMO India team, Megan Lehtonen and Charles Gross attended the event.

Subhash Deshpande, Director Plumbing receives congratulations for participating as speaker in the 17th annual Indian Plumbing Conference at Ahmedabad



Progressive Partnership with KWA

IAPMO India, IPA, and Kerala Water Authority Join Together in Historic Partnership to Focus on Delivery of Safe Water Through Implementation of Globally Recognized Training and Codes

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The MoU between Kerala Water Authority (KWA), IAPMO India and IPA was signed on 17 December 2012 in a solemn ceremony in the office of the Managing Director of KWA. It was signed by Mr. Surendra Singh (MD of KWA) and Sree Kumar (D.G IAPMO India) in the presence of Mr. Justanian and Mr. Haris. The MoU is one of convergence and understanding with the following activities to follow:

1. The Kerala Water Authority will identify staff to prepare them to be trained for IAPMO India Train the Trainers Programme. They should be adequately qualified with minimum a diploma in civil, environment or mechanical engineering.
2. These trained trainers will be provided with adequate infrastructure, classroom, tools, equipment and materials needed for demonstrations, visual support equipment such as LCD projectors and plumbing workshop facility for hands-on training for training of a target audience identified by the state.
3. KWA will take steps for promotion of the Programme in seeking recognition and acceptance of the programme from major organizations or Education/ Vocational Training institutions, specifically own and also others in state.
4. Promote programmes to recruit eligible trainers/students to participate in the programme and employ the trained instructors to conduct programme in English/Malayalam.
5. Conduct GPI and UPC training for engineers and employees of KWA.
6. Conduct and propagate Skill Development for Plumbers.
7. Utilize UPC-I and other relevant codes as base documents.
8. Associate jointly with IAPMO-I and IPA for the tripartite Training certification to successful and eligible students.

This historic partnership is intended to build a strong, educated foundation of skilled workers throughout Kerala to enhance the State's progressive system. The State of Kerala has recognized this partnership and begun to implement same strategies at the state level.



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Urjavarun Dehradun "For Green Tomorrow"



Abdul Matheen receiving memento after Technical Presentation @ Urjavarun-Dehradun-2012

Challenges and Opportunities for Low-Carbon Building

Technical paper presented at URJAVARAN-Dehradun- November 3, 2012 By; Abdul Matheen, Director Mechanical, IAPMO India

Abstract

Buildings alone are responsible for 38% of all human green House Gas emissions GHG emissions, 21% residential, 18% commercial). It is the industrial sector which contributes the most to the Climate Change. Low-carbon buildings are buildings designed and constructed to release very little or no carbon at all during their lifetime. Low-carbon buildings

(LCB) are buildings which are specifically engineered with GHG reduction in mind. So by definition, a LCB is a building which emits significantly less GHG than regular buildings.

There is presently no emissions threshold under which a building would qualify as a LCB. But to be genuinely "Climate Change Neutral", a LCB would have to achieve at least 80% GHG reduction compared to traditional buildings. According to the review on the Economics of Climate Change, our emissions would have to be reduced by 80% compared to current levels in order not to exceed the Earth's natural capacity to remove GHG from the atmosphere. By comparison, a regular building releases about 5,000 kgCO₂e/m²

during its entire lifetime (though it varies a lot, depending on the project type and where it is located).

Key Challenges Facing the Engineering of Low Carbon Buildings

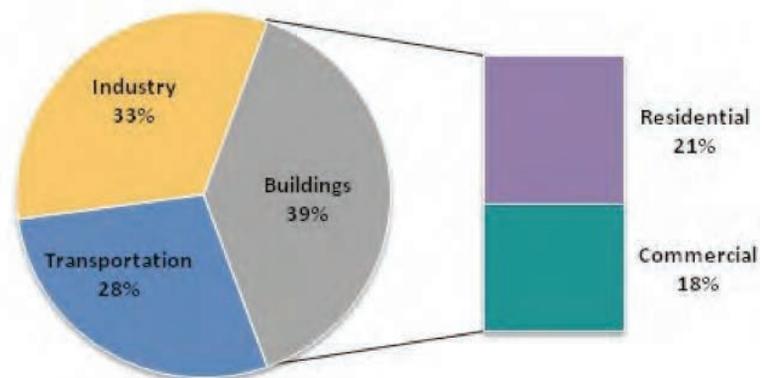
Though buildings have major environmental impacts due to water use, raw material consumption, and other natural resource depletion, it is useful to focus on greenhouse gas emissions due to the central role of buildings in mitigating climate change. In particular, carbon dioxide equivalent (CO₂e) provides a simple metric for building environmental performance. As the largest source of carbon emissions in the United States, buildings also represent a significant opportunity (Figure 1). The Intergovernmental Panel on Climate Change (IPCC) has identified buildings as the sector offering the greatest potential for carbon reductions (IPCC, 2007). Similarly, the World Business Council for Sustainable Development (WBCSD) has demonstrated that global energy use of buildings could be reduced 60% by 2050 using existing technologies (WBCSD, 2009). In short, there are a range of strategies in the building sector to save both money and carbon emissions. Clearly engineers have a major role to play in helping to reduce the carbon emissions of existing and new buildings, though a number of challenges exist.

Several current initiatives in India and USA provide targets for improved carbon performance of buildings. The 2030 Challenge establishes targets for carbon reductions of new buildings, with increasing standards in the coming two decades

(Architecture2030, 2011). The current aim is to design buildings to use 60% less energy than average for the building type. The reduction target increases by 10% every five years (e.g., lowering to 70% reductions by 2015), until carbon-neutral buildings are the target in the year 2030. These design goals are to be met through three primary approaches: (1) improved design strategies, (2) more efficient technologies and systems, and (3) off-site renewables (up to a maximum of 20%).

A number of architecture firms are now tracking the energy consumption of their new buildings in relation to the 2030 Challenge goals. Other countries in the world have binding legal requirements to achieve dramatic carbon reductions in new buildings in the coming decade, though the closest legal target in the United States is California's Assembly Bill 32, which mandates reductions to 1990 emissions levels by 2020 (Assembly Bill 32, 2011). Such policies, as well as more stringent building codes, can serve as important motivators for engineers and architects.

For the Full Report, or more information, please contact Abdul.Matheen@iapmo.org



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CII WEBINAR, 2012

Confederation of Indian Industry (CII) invited IAPMO India Director General S P Sree Kumar for a webinar of PEEP to explain the training program in full detail. CII understands the need to skill the trades, and the hole that PEEP intends to fill through training in construction related fields pan India.

Confederation of Indian Industry (CII) is a non-government, not-for-profit, industry-led and industry-managed organisation, seeking to play a proactive role in India's development process. The organisation works to create and sustain an environment conducive to the growth of industry in India, partnering industry and government alike through advisory and consultative processes. The confederation is headquartered in New Delhi. Adi Godrej is the President and Chandrajit Banerjee is the Director General of the confederation.

CII ushers change by working closely with government on policy issues, enhancing efficiency, competitiveness and expanding business opportunities for industry through a range of specialised services and global linkages. It also provides a platform for sectoral consensus building and networking. Major emphasis is laid on projecting a positive image of business, assisting industry identify and execute corporate citizenship programmes. CII undertakes research, interacts with key government officials and disseminates information through publications, seminars and events. Essentially they lobby for Industry and Corporates to the Government, and help in awarding license permits, as a main source of income.

With 64 offices in India, 9 overseas in Australia, Austria, China, France, Germany, Japan, Singapore, UK, USA and institutional partnerships with 223 counterpart organisations in 100 countries, CII claims to serve as a reference point for Indian industry and the international business community.



Abdul Matheen, Lt. Gen. Sree Kumar, Swathi Saralaya during webinar on Plumbing education to Employment Program for the members of CII- southern Region.

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3RD QUARTER

4TH QUARTER

World Aqua Congress, 28th, 29th and 30th November



L-R: Subhash Deshpande, Gen. S P Sree Kumar and Abdul Matheen during World Aqua Conference at Delhi

Plumbing Education to Employment Programme (PEEP)

Subhash Deshpande

TRAIN THE TRAINERS

Under the IAPMO India-IPA's Plumbing Education to Employment Program (PEEP), Train the Trainer (TTT) program was conducted at Pune during October 12-16, 2012. Total 3 Education and Training Institutions participated in the training held at Plumbing classroom at COEP, Pune.



Training by Subhash Deshpande in progress

SRATI's trainers from Coimbatore attended the training for PSD course. Trainers of Pipal Tree from Hyderabad attended training for PTP course. Mr. Anant Sapre personally attended full course. IIEDR's trainers attended the last day for training on TMP course. Also Sree Kumar and Swathi Saralaya of IAPMO India attended full training. Mr. Subhash Inamdar attended the first day and witnessed the MoU signing ceremony. It was thus a very interesting group with varied qualifications, experience levels and interests.



The training was conducted by Subhash Deshpande, Head Trainer of IAPMO India. The objective of the TTT workshop was to prepare the faculty of PEEP participating Educational/Training Institutions to deliver the program. It was a very interactive session and the trainers found it very interesting and useful.

IIEDR, PUNE

In Maharashtra, work culture and technical education is not taught in the school. Therefore paradoxical situation in most of the villages prevails i.e. on one hand there is unemployment in the state and 80% students of 10th and 12th standard fail and alienated from main stream of education. That number is 1.5 crores in the state of Maharashtra. Jnanada Pratishthan's IIEDR is trying to bridge the gap by providing structured vocation / skill development training with support of IPA and IAPMO.

However, due to high cost and challenges of migration, it is very difficult to find students Below Poverty Line to attend 60 days' residential course at the training centre. Answer is the flexibility. With the support of local education institute for getting the students, first of the TMP course is provided to students at their own village. Daily two sessions by trained visiting staff are conducted for the first 20 days.

After completion of first initial training students are deputed on site for the next 20 days for practical work under supervision. The last 20 days, they are trained at the Wagholi training centre.



Mr. Subhash Deshpande engaged in informal discussions with the plumbing students at Pargaon Khandala; along with Messrs Nawathe, Subhash Inamdar et al.

The methodology of conducting the training in three parts provides flexibility and affordability for the students and at the same time covers complete syllabus and practical contents. The first batch under this method was inaugurated at a small village Pargaon Khandala, at the hands of Mr. Subhash Deshpande, Director Plumbing, IAPMO India on October 8, 2012 in the presence of Mr. Subhash Inamdar and his team.

CONTACT:



(L2R) Subhash Deshpande, Swathi Saralaya and Sree Kumar

Swathi Saralaya has joined IAPMO India as Manager - Technical & Training. She works from IAPMO India's office at Bengaluru under the directions of Sree Kumar and Subhash Deshpande. Please contact her at swathi.saralaya@iapmo.org for any queries regarding codes, seminars, certification, education and training under Plumbing Education to Employment Program (PEEP) and Green Plumbers India (GPI).



Mr. Subhash Deshpande is Director Plumbing, IAPMO-India. He is past Chairman, IPA Pune Chapter and past Trustee, Indian Institute of Plumbing (IIP). Since joining IAPMO, he has been instrumental in developing and implementing various plumbing education and training courses in India. Considering his passion, devotion and the training experience in India and abroad, Subhash Deshpande is popularly known as 'Plumb-Acharya'. He can be contacted at: [**subhash.deshpande@iapmo.org**](mailto:subhash.deshpande@iapmo.org)

MECHANICAL EDUCATION TO EMPLOYMENT PROGRAM

IAPMO India's contribution to meet "Demand-Supply-Challenges of Skilled Workforce" in India!!

Abdul Matheen, *Director of Mechanical, IAPMO India*



Skills and knowledge are the engines of economic growth social development in any country. Countries with higher and better levels of skills adjust more effectively to the challenges and opportunities of globalization. There is a growing sense that the past strategies of skills development have been inadequate in addressing the new challenges that India faces. The need for establishment of skill development programs and continuing education system will provide an institutional mechanism to facilitate greater and active participation of the industry, and to better link skill development with the country's employment demands.

The shortage of skilled workforce across many industries is emerging as a significant and complex challenge to India's growth and future. According to a survey more than two millions of mechanical professional in HVACR domain required to meet construction-industry demand by 2015. Hence, what we have today is a growing skills gap reflecting the slim availability of high quality professional in India and the galloping pace of the country's construction and allied service driven economy, which is growing faster than most countries in the world. As businesses propose to double and treble their workforces and India Inc. strives to maintain its position in the global marketplace, it has become imperative to prepare and plan for a world-class, competent, talented and innovative workforce.

Given the current high paced growth and dynamic investment climate in India, the demand for knowledge workers with high levels of technical and soft skills will only increase. With expansion taking place across the building sector, specifically plumbing and Mechanical design, construction, installation, manufacturing and consultancy service providers, etc there already exists a large need for code based trained professional.

In this demand supply gap scenario, a look at the Indian education system will reveal that the number of technical schools in India, including engineering colleges, has actually more than trebled in the last decade, according to the All India Council of Technical Education. Ironically, it is becoming even harder to create a robust and continuous pipeline of talent. The university systems of few countries would be able to keep up with such demand, and India is certainly struggling to come out of this situation.

Further, universities and educational institutions have been unable to update their syllabi in tune with the high speed changes taking place in the world of technology. Hence, the students churned out are not equipped to meet the current industry requirements and often companies have to incur additional expenses (time and monetary) to train new hires. Besides the technology aspect industries also evaluate competencies ranging soft skills, team building, overall attitude, and values.

In response to these challenges IAPMO India has a great role to play in nation building, the best and most selective way is to introduce the cutting-edge concept of PEEP and MEEP training at the university youths at the entry level industry in order to tackle the impeding shortage of knowledge workers. This strategy will provide out-going graduates or Diploma Holders to have dual-certificate "SKILL-ACCADEMIA". This will mitigate the existing shortfall of trained professionals at entry level for which, companies today have spent a lot. IAPMO India in association with IPA has achieved wonders in plumbing education system and is now ready to offer Mechanical education systems to Indian citizens as follows:

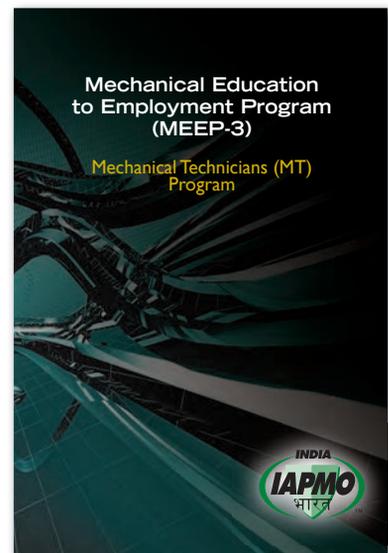
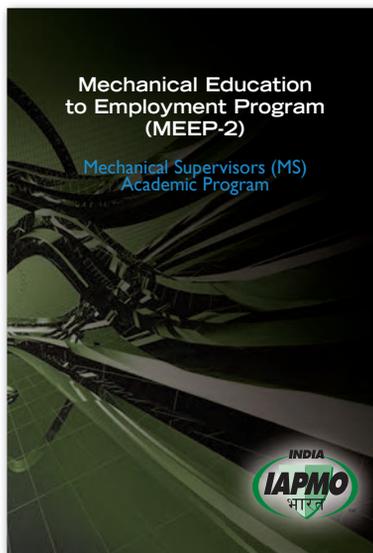
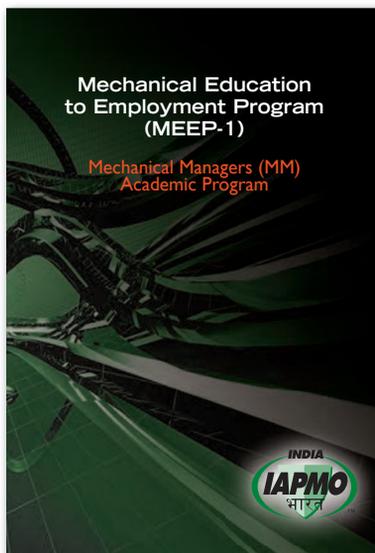
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2. **A Course in Mechanical Technicians program** for: "HVAC-R Installers, Repairers, ITI Technicians, 10 pass, Practicing Technicians, Job-Oriented Diploma Holders, HVAC-R Servicing Professionals and Technicians."

Education to Employment

3. **Many more programs in mechanical-HVAC-R** domain on design and Installation to come...With this article we at IAPMO India take the privilege to invite institutions, universities, Training Centers pan India, to franchise with IAPMO India for propagation of Code based Mechanical Education Programs in India.

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WATER EFFICIENT PRODUCTS - INDIA

(WEP-I) 

WEPI is a rating system for Sustainable Plumbing in India. WEP-I is a set of recommendations to all involved in the design, engineering, manufacturing, selection, installation and maintenance of water efficient plumbing products for domestic and commercial applications in India. The use of WEP-I is intended to encourage use of water efficient products with uniformity in the performance of products.



Quick Guide to “Water Efficient Products India” (WEP-I) Star Rating Specifications

Star Rating by Water Consumption			
FIXTURE TYPE			
Clothes Washers	< 650 L/m ³	< 550 L/m ³	TBD*
Dishwashers	22 L/Full Load	< 22 L/Full Load	TBD*
Faucets - Hand Ablution Spray	8 Lpm	5.7 Lpm	TBD*
Faucets (non-metered) - Private	8 Lpm	5.7 Lpm	< 5.7 Lpm
Faucets (non-metered) - Public	8 Lpm	2 Lpm	TBD*
Faucets (metered) - Public	–	1 L/cycle	TBD*
Faucets - Sink	8 Lpm	5.7 Lpm	TBD*
Shower Heads / Hand-held Showers	9.5 Lpm	7.5 Lpm	5.7 Lpm
Urinals	3.8 Lpf	2 Lpf	1 Lpf
Water Closets:			
Asian/India (Squatting pan)	6 Lpf	6 Lpf/3 Lpf	TBD*
European	6 Lpf	6 Lpf/3 Lpf	TBD*
European (High-efficiency)	–	4.8 Lpf	< 4.8 Lpf

* To Be Determined

The above marks can only be issued by IAPMO India, and IAPMO, the Global leader and the industry’s premier choice for plumbing certification for over 45 years.

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1 Star  fixture is efficient

2 Stars  fixture is very efficient

3 Stars  fixture is ultra efficient

**Congratulations to Hindware's First ever 3 Star rated WEP-I listing
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SAVE EVERY DROP

By Subhash Deshpande



If I make a general statement - 'Save Every Drop', nobody will mind. But if I add - 'it is mandatory', most will ask: Why? Some wise persons may ask: How? If I further add - 'you will be rewarded for that', most will be willing to consider. Hmm!

There are several articles published on why we need to save water and it's easy to throw some great figures, statistics and charts to impress. We will skip all this and look at how by simple means we can save water. Saving water using alternate water sources is one way to save potable water. In doing so people tend to completely underestimate, if not overlook, the health hazards associated with it. I would rather use less water and be happy with it rather than use water reclaimed from a sewage treatment plant and fall sick.

But how do I use less water? By not keeping the tap running while brushing? By taking bucket bath instead of shower? By using a paper napkin instead of washing hands after meal? By washing the car using bucket instead of a hose? Changing habits is very difficult. Asking to change good habits is crime.

What if the quantity of water supplied is reduced? What if only 90 litres are supplied instead of a standard figure of 135 litres per day per person? Or, what if water is supplied in your house at low pressure? Will these instances save water and also keep you happy and satisfied?

QUESTIONS, QUESTIONS!

SOLUTION

The global and Indian plumbing industry has done research over years in developing water conserving plumbing fixtures. By way of improved and high efficient designs these fixtures save water and also perform well. The end users hardly notice the reduced water consumption. Such products need to be recognized, acknowledged and rewarded. People should have an informed choice in selecting the water conserving plumbing fixtures.

Few years back, Bureau of Energy Efficiency has set path in labeling of energy efficient product. The energy consuming products were tested for energy consumption and conservation, certified and labeled. A rating system for the energy conserving products was established. Huge campaigns on TV and newspapers, road hoardings, national level seminars etc. were some means to create awareness. More the red stars, more energy saving the appliance. It was simple for common man to understand and soon became very popular.



WEPI Case Study

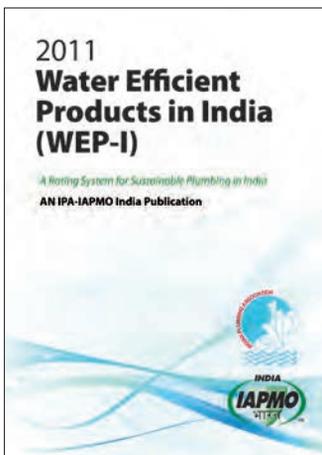


It's time now to popularize the blue stars! More the blue stars, more the water conservation! In order to make Indian plumbing practice responsible, benchmarking strategy is adopted. Water efficient labeling system for plumbing fixtures and fittings is one such approach recognized universally to achieve the objective of water conservation in urban areas.

WATER EFFICIENT PRODUCTS-INDIA

Water Efficient Products-India (WEPI) is a Rating System for Sustainable Plumbing in India. WEPI is a set of recommendations to all those who are involved in the design, engineering, manufacturing, testing and certification of plumbing fixtures, fittings and materials for water efficient plumbing products for domestic and commercial applications in India.

Water Efficient Products-India (WEPI) is published in 2011 jointly by the Indian Plumbing Association (IPA) and the International Association of Plumbing & Mechanical Officials India (IAPMO-India). WEPI is intended to encourage use of water efficient products, to incorporate and implement the latest technology and systems and provide uniformity in the performance of products while ensuring public health and safety.



The Uniform Plumbing Code-India (UPC-I) is a product of the joint effort of the Indian Plumbing Association (IPA) and International Association of Plumbing & Mechanical Officials India (IAPMO-I), with world headquarters in USA. It was first published in the year 2008. The revised 2011 UPC-I is now available. The 2010 Green Plumbing Code Supplement-India (GPCS-I) is a supplement to UPC-I. It is the most comprehensive document on sustainable plumbing systems in maintaining the high standards for protecting public health and safety. This document is a model code for jurisdictions implementing green guidelines. WEPI is based on UPC-I and GPCS-I.

The all India pattern of domestic water consumption is as below.

Utility	lpcd
Drinking	5
Cooking	5
Bathing	45
Clothes Washing	20
Utensil Washing	8
House Washing	7
Flushing	45
Total	135

There are two main areas consuming maximum water are flushing and bathing. We will therefore discuss these two areas.

FLUSHING

A look at plumbing history tells us that prior to the year 1977, there was no limit on the quantity of water used for flushing. But soon after, manufacturers started reducing the flush flows from 20 litres per flush (lpcd) to 13 lpcd. By 1970, 10 lpcd Ultra Low Flow (ULF) Toilets were introduced. The engineering was not done well to make the hydraulics of the flush work well. Though they were called 'water savers', flushing more than once was common. By 1982 most flushing problems had been resolved and flush volumes brought down to 10 lpcd. But poor-performing products still did not meet customer expectations. But new High Efficient Toilets (HETs) using 6 lpcd perform better than the old 13 lpcd fixtures.



In the mid 1980, a 6 lpcd low-flush closets began to be installed in India. The dual flush closets using 3 liters for half flush and 6 liters for full flush are voluntarily (and sometimes due to mandates) adapted widely. It is estimated that a closet is flushed full once, followed by two half flushes. That brings the water consumption to 4 lpcd. Currently the 3-6 dual flush has approximately 60 to 70% market penetration.

New fixtures available in the market use 4.8-4.5 lpcd coupled with 3 lpcd half flush. The rating system takes into consideration what is available in the market, meets the performance requirements as per codes and conforms to the established standards. The rating system for water closets is based on the volume water used for each effective flush. Any water closet consuming more than 6 lpcd do not qualify.

Water closets commonly used in India are of three different types: European Water Closet (EWC), Combination Water Closet (CWC), and Asian/Indian Water Closet or the Squatting Pans (AWC).

The flushing devices to be used in combination with the above fixtures could either be a flush tank/cistern (coupled or separate) or a flushometer, commonly known as flush valve in India. As a preventive measure, a well designed flushing device shall have an atmospheric vacuum breaker at the outlet to qualify for rating. A push cock is no more than an in-line stop cock and therefore is not accepted as flushing device.

It is preferred that the flushing devices used with the EWC are matched with the same manufacturer or model. In the event, combination products of different manufacturers are to be used, the joint performance of the EWC and flush may vary.

In the case of EWC, the bowls are designed with a coupled cistern and integral trap to achieve effective flush, using reduced volume of water per flush. However, in the case of AWC, water reduction is presently dependent on use of flushing mechanism. The pan and the trap need to be designed appropriately with further research to ensure efficient functioning with reduced water volumes per flush.

BATHING

Any shower head that provides the flow of more than 9.5 liters per minute (lpm) do not qualify for rating.

Multiple showerheads / Multi-jet showers serving a single user shall not have a cumulative total flow exceeding the above flow-rates. (Multi-jet shower units cumulatively consuming a volume of water exceeding the limit are not considered as water conserving installations). Flow rate of "rain showers" or "massage showers" shall be as specified for normal showerheads and therefore no separate rating system is called for.

Also, there cannot any rating for a bucket bath since the total quantity consumed per bath is not predictable. Bath tubs and whirlpools consume large volume of water per usage and therefore are not considered recommended fixtures in water conserving installations. Similarly the flow rate of the bathtub filler is irrelevant since the time required to fill the tub will depend on the size of the bath tub with no relevance to low-flow filler faucet.



OTHER CONSIDERATIONS:

Use of low-flow faucets and aerator fittings effectively reduce the water consumption at washbasins and kitchen sinks. Prohibited fittings such as automatic flushing cisterns for urinals or urinals without integral trap are not considered for rating. A rating system for non-water (waterless) urinals is not included due to the apprehensions among plumbing professionals on the possible adverse effects.



In case of dish washers and clothes washers more study is required with respect to variables such as quality of water (hardness), quantity of water used for full/half load, temperature of water supplied, dishes with or without pre-rinsing, types/quality of clothes being washed and type of detergent used. It is known fact, sometimes shocking to housewives, that a dish washer and front loading clothes washer saves water than manual washing.

Flow rates of various fixtures indicated above are at a working pressure of 5.5 bar. The maximum and minimum working pressures recommended by the UPC-I are 5.5 bar and 0.5 bar (installations with flushing cisterns) and 1.0 bar (installations with flush valves) respectively.

The water closets and showers account for more than 60% of domestic water consumption and therefore are covered here in detail. Habits, culture, modern technology, efficiency and performance to customer satisfaction are important in selecting the plumbing fixtures for rating system.



SAVE EVERY DROP

Saving water is the need of the hour. Saving water also saves energy to pump, treat and convey the water. It will thus reduce green house gases and save planet Earth from global warming.

WEPI provides credible information on water-efficient products and practices, raise awareness about the importance of water efficiency and recommend water-efficient products and help consumers to make an informed choice of products that conserve water.

The rating system prescribed in 2011 WEPI has provided insight to the plumbing and green building professionals in selecting, installing and manufacturing water efficient plumbing fixtures. IPA's partner – IAPMO India, is recognized worldwide as an approved agency for testing and certification of plumbing products that conform to UPC-I and WEPI. The plumbing industry will thus be ready when the government mandate for water efficient plumbing fixtures is established.

Today, this scheme 'WEPI' shall be voluntarily adopted by all stakeholders such as manufacturers, retailers, developers, builders, owners, consultants, contractors, even a common man!

When the government enforces the scheme, the tested and certified fixtures with blue stars will be popular like red stars, attracting financial subsidy and incentives for manufacturers and/or purchasers on WEPI products and water bills.

It is my hope!

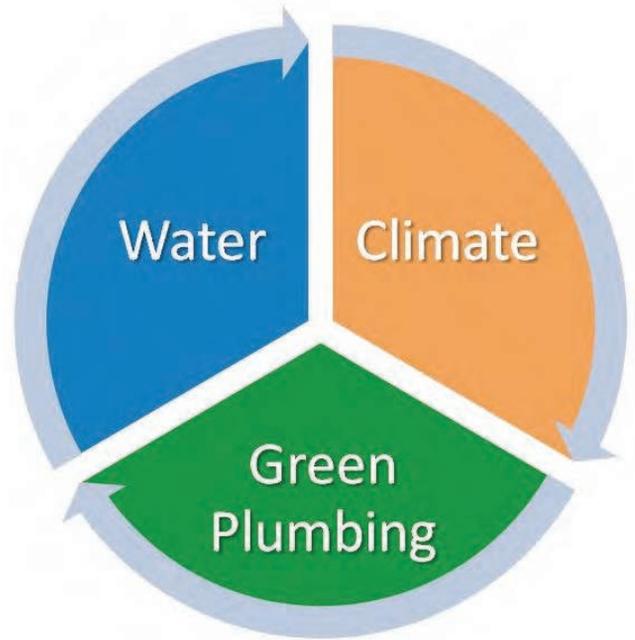


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Green Plumbers

GreenPlumbers India training and accreditation workshops are designed to assist plumbing professionals in understanding their role in relation to Environmental & Public Health issues and to provide their customers with up –to-date information and advice on:

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- Environmental impacts of plumbing services, appliances and household practices.
- Energy/water/cost savings.



WHO CAN ATTEND?

All individuals, students, professionals, manufacturers, plumbers, contractors, project managers, engineers, architects, developers, municipal and government authorities, academicians anyone having passion towards plumbing and environment and willingness to contribute towards sustainable development through Green Plumbing can attend this workshop.

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Contact your local IPA chapter or write to us at greenplumbersindia@iapmo.org





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