Government of India
Ministry of Chemicals & Fertilizers
Department of Chemicals & Petrochemicals

National Awards for

TECHNOLOGY INNOVATION

in

Petrochemicals & Downstream Plastics Processing Industry 2010-11

Monday, 28th November 2011

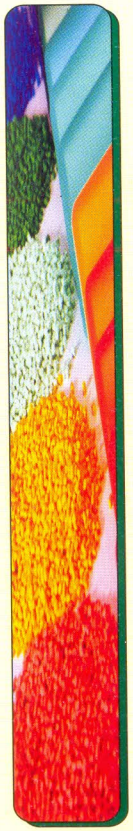
Vigyan Bhawan, New Delhi

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

Mr. M.K. Alagiri

Shri M.K.Alagiri
Hon'ble Union Minister for Chemicals & Fertilizers
Ministry of Chemicals & Fertilizers
Shastri Bhavan
New Delhi – 110 115

सत्यमेव जयते



MESSAGE

Government of India announced the National Policy on Petrochemicals in 2007. Petrochemicals are derived from Hydro Carbon and are a valuable resource that provide vital raw materials to the industry. They cater to the needs of textiles and clothing, agriculture, packaging, infrastructure, health care, information technology, telecommunications etc. They have very ably substituted some of the scarce natural resources like metals and contribute to maintaining the environmental balance. With a view to promoting this industry, Department of Chemicals and Petrochemicals have come up with several initiatives and the National Awards for Technology Innovation are a step in that direction.

I am very happy to note that the department is holding a Function to felicitate the awardees of the very first National Awards 2010-11 on 28th November 2011 to whom I offer my best wishes. I congratulate the Department of Chemicals and Petrochemicals and the Central Institute of Plastics Engineering and Technology (CIPET) for having provided the necessary leadership for this exercise.

I also take this opportunity to congratulate the Expert Committee members who contributed significantly in this process of selection. I hope that this National Award will continue in its Endeavour to reward those in pursuit of excellence in the field of petrochemicals.

(M.K. Alagiri)

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NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

Shri Shrikant Kumar Jena
Hon'ble Minister of State for Chemicals & Fertilizers
Ministry of Chemicals & Fertilizers
Shastri Bhavan
New Delhi – 110 115.

Mr. Shrikant Kumar Jena

MESSAGE

The National Policy on Petrochemicals, announced in April, 2007 by the Government of India envisioned development of value added, quality petrochemical products at globally competitive prices, using Eco-friendly processes and Technologies. It also sought to promote innovation of new applications and products, with focus on sustainable development.

Department of Chemicals & Petrochemicals in my Ministry has taken tangible steps to achieve the vision set out in the National Policy on Petrochemicals. One of the ways identified for furtherance of this objective of promoting Research & Development and Human Resource Planning & Development was to recognize innovation. Accordingly, the National Awards for Technology Innovation were set up in various fields of Petrochemicals and downstream plastic processing industry.

I take this opportunity to congratulate the awardees of the First National Award and wish that they will continue their quest for innovation in future and inspire others in the industry to follow suit. I also wish to complement the Department of Chemicals and Petrochemicals for timely completion of the selection of 2010-11 awardees. I wish that this initiative of my Ministry will not only be sustained but also taken forward in future years.

(Srikant Kumar Jena)

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

Shri ,K. Jose Cyriac I.A.S.
Secretary to the Govt. of India
Department of Chemicals & Petrochemicals
Ministry of Chemicals & Fertilizers
Shastri Bhavan
New Delhi – 110 115

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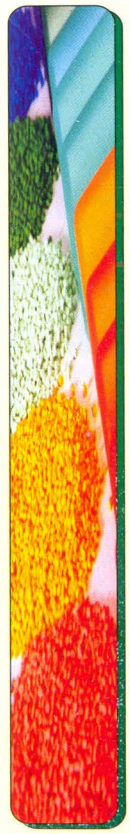
Mr. K. Jose Cyriac

MESSAGE

India has a highly trained, scientifically qualified manpower base. However, the expenditure on Research & Development is less than 1% of the industry turnover. Ultimately, the Government, industry and academia need to work in close partnership to foster the culture of Research & Development. The National Awards for Technology Innovation in Petrochemicals have been designed with a view to motivate the stake holders of this industry to constantly innovate and move with the times to meet the fast changing requirements of a growing population. For example, Plastics (Polymers) offer immense opportunities for innovation in application, material development, process development, design development, etc. which, should be taken forward to meet both domestic and global challenges.

This is the first year for National Award for Technology Innovation under National Policy on Petrochemicals approved by Government in April, 2007. I wish to congratulate the awardees for their innovative work. I also take this opportunity to commend the expert members of the Awards Selection Committee, Central Institute of Plastics Engineering & Technology (CIPET) and my colleagues in the Department for institutionalizing this initiative of the Department and taking the National Policy on Petrochemicals forward.

(K. Jose Cyriac)



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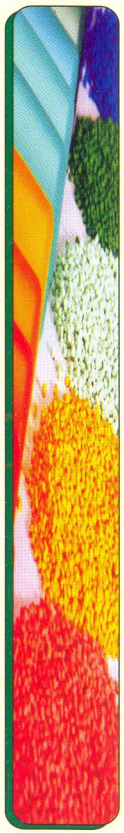
NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11



Smt. Neelkamal Darbari, I.A.S.
Joint Secretary (Petrochemicals)
Department of Chemicals & Petrochemicals
Ministry of Chemicals & Fertilizers
Shastri Bhavan
New Delhi – 110 115.

Smt. Neelkamal Darbari

MESSAGE

In approving the National Policy on Petrochemicals in April 2007 Government of India essentially articulated the role played by polymeric materials in our lives. It set out to promote Innovation and Research and Development as Important concomitants for increasing the competitiveness and growth of Petrochemical Industry.

One of the initiatives taken by the Department of Chemicals & Petrochemicals was to set up the National Awards for Technology Innovation in Petrochemicals. The process of selection of awardees in the very first year i.e. 2010-11 has been completed in close collaboration with Industry, Academia and CIPET, which played a pivotal role in giving shape to this exercise. I hope that this initiative of the Department of Chemicals & Petrochemicals will go a long way in encouraging entrepreneurs, individuals and institutions to inculcate & nurture the spirit of Innovation, so as to realize the full potential of the industry.

I wish to convey the gratitude of the Department to the members of the Expert Committee who worked tirelessly during the process of selection. I also congratulate Central Institute of Plastics Engineering & Technology, for their efforts in this direction.

(Neelkamal Darbari)

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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AWARDEES

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NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

M/s. Everlast Composites Pvt. Ltd,
Unit Plot No. 11/12, Khokhani Estate,
Sativali, Vasai (E), Dist. Thane, Thane- 401 202.
Phone: 022-26120579/679; Mobile: 09323657415
E-mail: info@everlastcomposites.com

EVERLAST
Composites Pvt. Ltd

Mr. Amrit Sanghai
Director

Everlast Composites Pvt. Ltd. is an ISO 9001:2008 Certified Company and it was formed in the year 2009 and currently is a leading manufacturer of fiber glass (FRP/GRP) composite products in India specializing in FRP manhole covers & frames, moulded and pultruded gratings, pultruded profiles, fencing, cabins, toilets and other composite products.

Their products have been approved by Municipal Corporation of Greater Mumbai, Navi Mumbai Municipal Corporation, Military Engineering Services, Bhabha Atomic Research Centre, Mahanagar Telephone Nigam Ltd., Mumbai Metropolitan Regional Development Authority, City and Industrial Development Corporation of Maharashtra & other reputed institutions.

The Directors of this company bring in more than 50 years of combined experience working with fiberglass technology. The Directors of the company are Mr. Dilip Dedhia, who is a Science graduate specializing in Chemistry; Mr. Amrit Sanghai is an Engineering graduate with specialization in Mechanical Engineering; Mr. Paras Shah is a Management graduate with specialization in Marketing and Ms. Payal Shah is a Management graduate with specialization in Finance.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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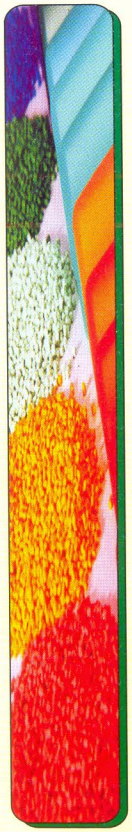
INNOVATION IN PRODUCTS

FRP/GRP MANHOLE COVERS AND FRAMES

M/s Everlast Composites Pvt. ltd



Glass fiber reinforced plastic (GRP/FRP) technology is a next generation technology which is fast replacing use of its traditional materials like CI, DI, Concrete, PVC, MS, etc. due to its far superior properties.

Everlast Composites Pvt. Ltd have indigenously designed and developed high strength, light weight, abrasion resistant, UV stabilized, corrosion, anti slip / anti skid, zero scrap value, less expandable, weatherproof fibre reinforced plastic manhole cover with frame for both local & international markets.

They have introduced a 60 tonnes point load capacity FRP/GRP manhole cover for the first time in India and probably the world. They manufacture manhole covers ranging from 1.5 tonnes to 60 tonnes point load capacity in various sizes to suit different industrial applications. They have successfully demonstrated this technology to many companies across the globe.

By their constant endeavour towards improvement of this technology by ongoing research and development work which they have undertaken they intend to become world leaders in FRP/GRP manhole covers technology with mass scale production capacity with top most quality standards.

Everlast Composites Pvt. Ltd is the winner of National Awards 2010-11 under the Industry Category of **"Innovation in Products"**

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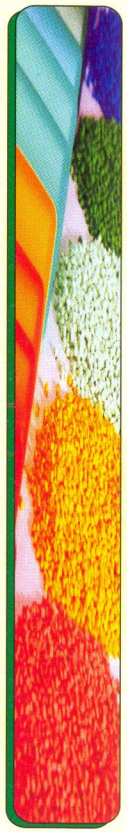
NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11



M/s Formulated Polymers Ltd,
No. 59-60 SIDCO Industrial Estate,
Thirumazhisai, Chennai- 600 124;
Tel: 044-26811236, 044-26811275;
Mob: 09840048334; E-Mail: formpoly@vsnl.com
Web: www.formulatedpolymers.com

Mr. V. Sekar
Director

FORMULATED POLYMERS LIMITED (FPL) started in the year 1993 at Chennai, India with the objective to design and manufacture high end Engineering Plastics Compounds. FPL is a certified ISO 9001:2008; ISO/ TS 16949:2009 and ISO 14001:2004 company.

FPL has state-of-art fully automated Engineering Plastics Raw Material manufacturing facility with a total capacity of over 12000 MT. FPL has complete in-house R&D Centre with FORMPOLY® Application Development Centre, which has the credit of designing and manufacturing over 400 products and 10 Engineering polymers for Automobile, Electrical and Textile Machinery industries.

FORMPOLY® products are offered with high quality consistency using SCADA process controls. All products are over CP_k of 1.85. FPL has elaborate and extensive systems to deliver quality products. Systems like APQP, PPAP, DFMEA, PFMEA, MSA, SPC, 5S, QC tools etc., are extensively followed and practiced. FPL has dedicated skilled man power with technical knowledge. Over the 18 years of its operations it has developed intellectual capital for high end technology products.

FPL has a long tradition of excellence. They have received the National Award 2009 for Best Entrepreneurship from MSME, Govt of India; PLASTICON Excellence Award 2009 for its leadership in R&D, Quality and Product Development from Plastindia Foundation; ISQA 2010 – IEEMA SME Quality Award for significant achievements in quality systems and practices from Indian Electrical & Electronics Manufacturers Association; 1st Prize for Best '5S' Practices from 9th ABK-AOTS CUMI 5S Competition and 10th MMA Managerial Excellence Award 2011 from MMA.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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INNOVATION IN PLASTIC RAW MATERIALS

FORMPOLY® NYLON-12 COMPOUNDS

M/s Formulated Polymers Ltd.

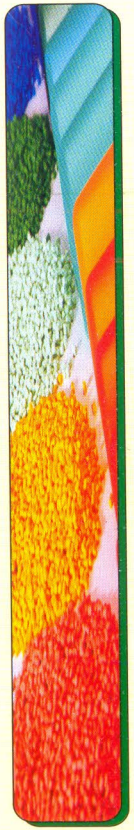
Nylon 12 (Polyamide 12) is a **specialized plastic raw material,** which finds use in special applications like **Optical Fibre Cable (OFC)** jacketing due to its high UV resistance with low moisture absorption and in applications like Automobile Fuel Tubes / Air Break Hoses due to its high flexibility and bursting strength.

In India BSNL had taken up a large project to lay OFC cables across the country to digitally connect the country. One of the major raw materials for providing protective coating to the optical fibre is Nylon 12, which was being imported by BSNL vendors. There were only 4 manufacturers of this product worldwide and it is a **closely held technology**. Thus availability of the raw material was a big issue.

In a span of about 14 months, FPL **offered commercially viable product** for jacketing of OFC **with CACT / BSNL approval** of the product. FPL carried out **Design of formulation of the product** using tools under ISO / TS 16949 quality systems such as APQP, DFMEA, PFMEA, MSA, SPC, Bench Marking etc., With this FPL indigenised a product which was being imported for long and is **FIRST in INDIA** to offer this product.

FPL also worked further to extend the **FORMPOLY®** Nylon 12 to other applications like **Fuel Tubing / Break Tubing**. FPL is **FIRST in ASIA** to have automated gravimetric liquid injection system to make this product.

Formulated Polymers Ltd is the winner of National Awards 2010-11 under the Industry Category of **Innovation in Raw Materials.**



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NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

INNOVATION IN TECHNOLOGY MANAGEMENT

DESIGN AND MANUFACTURE OF HIGH-END ENGINEERING POLYMER COMPOUNDS

M/s Formulated Polymers Ltd.

Formulated Polymers Limited (FPL) specializes in design and manufacture of a comprehensive range of high end engineering plastics compounds under the brand name of FORMPOLY®.

Over the years, FPL has established over 400 grades in 10 engineering polymers specializing in niche compounds. FPL, with its in-house R & D Centre has developed products involving closely held technology. The technology and its management have been proved with FORMPOLY® products being accepted worldwide. FPL has achieved a CGPA of 35% growth. FORMPOLY® – an Indian Brand has been established against international MNC brands both in India and abroad.

FPL has also established many new polymers and its compound manufacturing technology. Some of the examples are modified Poly Phenylene Ether (m-PPO), Polyamide 12, Polyamide 46, Poly Phenylene Sulphide (PPS), Electrically Conductive Compounds, Potable Water Grades etc., to name a few. In many products FORMPOLY ranges are the first in Asia to be offered.

FPL has established the technology of manufacture including the processing of these high end polymers with consistent product quality matching surpassing the best international brands. Such innovations have improved the efficiency of manufacture by energy conservation etc., and enable the company to remain commercially competitive even while adhering to environmental and statuatory requirements, meeting pollution and other control requirements.

Formulated Polymers Ltd is the winner of National Awards 2010-11 under the Industry Category of **Innovation in Technology Management.**

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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SAY YES TO PLASTICS

सत्यमेव जयते

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

M/s Emami Limited,
687 Anandapur, E.M. Bypass, Kolkata – 700107
Ph: 033 66136504, Fax: 033 66136500;
Mob: 09830024116
E-mail: rksurana@emamigroup.com

Mr. R.S. Agarwal and Mr. R.S. Goenka
Joint Chairman

The inception of Emami Group took place way back in 1974 when two childhood friends, Mr. R.S. Agarwal and Mr. R.S. Goenka left their high profile jobs with the Birla Group to set up Kemco Chemicals, an Ayurvedic medicine and cosmetic manufacturing unit in Kolkata.

With dream of reaching out to the Indian middle class, the company started manufacturing cosmetic products as well as Ayurvedic medicines under the brand name of Emami from a small factory in Kolkata. In 1995, Kemco Chemicals, the partnership firm was converted into a Public Limited Company under the name and style of Emami Ltd. In 1998, Emami Ltd. was merged with Himani Ltd.

In 2005, Emami created a marketing history in India by launching Fair and Handsome, the first fairness cream for men. Today, Emami Limited is led by Mr. R S Agarwal and Mr. R S Goenka with the help of the second generation Promoter Directors from the two families. Qualified and dedicated set of professionals run the day to day operations of the company.

Emami Ltd. has been the recipient of many prestigious awards. Brand Equity. Most Trusted Brand 2011 have ranked Emami power brands Zandu Balm, Fair and Handsome, Boroplus and Navratna among the top brands in the country. Emami's four packs have been awarded Indiastar 2010 for excellence development in packaging while two packs have been awarded Worldstar 2010 Award.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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EMERGING PACKAGING TECHNOLOGIES INCLUDING CREATIVE DESIGN

VERY LOW WEIGHT COMPONENT (0.96GMS) WITH HELP OF "BI-COLOUR INJECTION MOULDING" AND "TURNING CUBE STACK MOULD TECHNOLOGY"

M/S EMAMI LTD.

Menthoplus Balm, a leading pain relief Brand in India was re-launched with innovative small pack to protect from counterfeiting and increase its brand appeal. This innovative design has been developed jointly with M/s Alpla, India. The plastic component is a single piece but with fine registered two colour decorations in such a manner that even a visually challenged person can feel and identify the brand name easily. This has been achieved on a product weighing as low as 0.95 gms. This innovation was developed with the help of the state-of-the art "Turning-Cube Stack Mold Technology" and Bi-colour injection process. The components are being produced in FM K-Tec 200 turning cube Stack machine with production capacity of 4 lac pieces per day. The pack is developed to run on high speed filling and packing line of capacity 400 UPM.

Emami Limited is the winner of National Awards 2010-11 under the Industry Category of **Emerging Packaging Technologies Including Creative Design.**

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NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

M/s. HEM TECHSYS Pvt. Ltd.,
303, Helix, Sayajigunj,
Vadodara-390 005, Gujarat, India.
Mob:09327726270;
Email: pratik@hemtech.in;
Web: www.hemtech.in

Mr. Pratik Bankar
Director

hemtech®
Systemised Solutions 4 Testing

Mr. Pratik Bankar did Electronics Engineering with Instrumentation as specialisation from Faculty of Technology & Engineering, M. S. University of Vadodara in 1988.

He has worked with a renowned company in the field of Testing Instruments for about 7 years and was in the field of materials testing Instruments. He turned entrepreneur in 1995. Over the years he gained expertise in various applications for different segments of Industries. Presently he is the Director of M/s HEM TECHSYS Pvt. Ltd.

He has worked very closely with Industries, Research and Educational Institutions.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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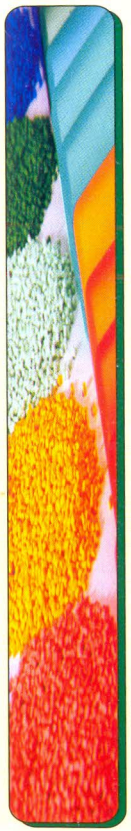
INNOVATION IN MACHINERY AND EQUIPMENT

AUTOMATED BEAD STRENGTH TESTER

Mr. Pratik Bankar



An accurate, reliable and repeatable testing of compressive strength of ION EXCHANGE BEADS (polymer resins) used for water purification is essential. The sample size of the beads, ranging in diameter from 0.5 mm to 1.0 mm, is very small and critical factor in the analysis.

Shri Pratik Bhankar took the challenge and developed a system for testing of compressive strength of ion-exchange beads (0.5mm to 1.0mm) with in-house Mechanics design, Electronics & Microcontroller development as well as Software development. The system used accurate load cell based Force measurement (16 bits resolution) and precise micro-stepping drive, which gives 16 times more control over movement and resolution. There were two such drives used for controlling arm as well as Turn table. This was a great success and has been recognized in terms of customer satisfaction.

Shri Pratik Bankar is winner of National Awards 2010-11 under the Individual Category of **Innovation in Machinery and Equipments.**

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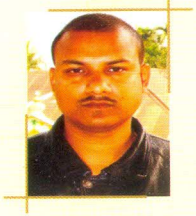
NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

Mr. Dipak Bharali,
P.O & Vill: Sualkuchi,
Nasatra, Kamrup, Assam – 781103
Mob: 09864294480; Email:
bharalidipak@rediffmail.com



Mr. Dipak Bharali

Shri Dipak Bharali hails from Napara in Sualkuchi in Kamrup District of Assam. The village, also locally known as the "Manchester of the East", is situated at a distance of 35 kms from Guwahati along the banks of the river Brahmaputra. The economy of the area is mainly dependent on weaving of muga silk using traditional looms.

Dipak is the seventh child of his parents. His family hails from Sualkuchi and has been engaged in production and trading of silk goods. His father, Late Haren Bharali, was a distributor of silk items. After graduation he has continued the family business. He makes muga silk using his looms.

He started with his first loom in 1998, for weaving plain cloth shorn of any design or ornamentation. Using the looms himself, he wove the cloth and learnt about various aspects of production. After nine months, he installed his second loom and diversified into producing silk with designs. Shri Bharali has overcome the slow speed and limitations of the traditional silk producing methods by innovating and developing a new accessory for the Jacquard loom which ensures a nine fold reduction in time, simplifies work and leads to better utilization of looms per day.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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INNOVATION IN PROCESSES AND TECHNOLOGY

EXTRA WEFT INSERTION DEVICE

Mr. Dipak Bharali

Conventionally the task of the insertion of extra weft threads is to make a variety of designs done manually by tying knots. It is tedious, cumbersome and time consuming. The thread is also wasted in the connection between one motif and another. Shri Deepak Bharali has come up with a device named "Extra Weft Insertion Device" consisting of three components; base frame, magnet-bearing shaft and specially designed bobbin. These components can be fitted to any handloom Jacquard machine. The innovation reduces the time required for making designs to $^{1}/_{3}^{rd}$ of what is required in the traditional way of doing it.

The uniqueness lies in using the magnetic clamping systems and specially designed bobbin to achieve its efficiency. The magnet fitted shaft is fitted into the base frame. The number of magnets will vary upon the number of designs that one has in each line. The bobbins are placed on the lower surface of the base frame, just on top of the corresponding magnets fixed on the shaft. Once the magnet sensitive bobbins are glued to the surface, the frame is placed on top of the warp threads. As the Jacquard machine selects and lifts the warp threads, the device is placed in such a way that the bobbins attached surface faces downwards and each bobbin falls in between two sets of lifted warp threads.

As the magnet fitted shaft moves from one side to the other, it also drags along the bobbins attached to it from one side to other. In the process, the simultaneous crossing of all weft threads for design making takes place. Once the weft-thread bobbins are crossed, the whole device is lifted to continue with the normal loom weaving process. The same process is continued for all the weft thread configurations till the design making is completed.

This attachment consists of 2 extruded and 4 moulded products of PVC and Delrin material to the Jacquard loom which boosts productivity by 60% while eliminating drudgery, allows unskilled workers to enter the industry and produce elaborately designed fabrics.

Shri Dipak Bharali is the winner of National Awards 2010-11 under the Individual Category of **Innovation in Processes and Technology.**

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NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

M/s Dollplast Machinery Inc.,
No. 496, Bhagyalaxmi Indl.Estate,
Sola-Science City-Santej Road,
Ahmedabad, Rakanpur- 382 721
Ph: 91-2764-268177, Fax: 91-2764-268179,
Mob: 09825229064;
EMail: dollplast@dollplast.com

Mr.Anup Kumar Patel
Proprietor

Dollplast

Shri Amrut Patel established a small scale unit viz. M/s Dolly Plastic Industries in 1983 for the manufacture of Plastic Granules from Plastic Waste at Ankleshwar, Gujarat. Shri Anup Patel s/o Shri Amrut Patel joined hands with him and established M/S Dollplast Engineering Pvt. Ltd. in 1995 at Gota Ahmedabad. Looking to the demand and environmental problems, Shri Anup Patel expanded the activities and established M/S Dollplast Machinery Inc in 2005 at Rakanpur, Ahmedabad. Since then, Shri Amrut Patel and Shri Anup Patel focused on Development of Recycling Machinery as there was huge demand for Recycling Plants. Today, they are not only catering to the needs of local market but also meeting the demands from abroad.

The unit has also participated in number of National and International Exhibitions to popularize Recycling Plants and they have received good response.

They have developed a Machinery to separate Paper and Plastics from Laminated Plastic – Paper Waste for which the unit has received "Plasticon Award 2005" for Innovation in Recycling Technology. The team received the "Indian Achievers Award" for Industries Development from All India Achievers Foundation, New Delhi and the "Indian Achievers Award 2011" for Business Excellence. Extensive R&D work has been carried out and the team has developed lumber / profile Extrusion Machine to process all types of MIXED Plastics waste from the road side including metalized waste.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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INNOVATION IN MACHINERY AND EQUIPMENT
MACHINERY FOR PLASTIC WASTE MANAGEMENT
M/s Dollplast Machinery Inc.

M/S DollPlast Machinery Inc. Ahmedabad innovated a unique machine indigenously for the first time in the country which processes and recycles the post-consumer Plastics Waste. The Uniqueness of the Machine is that it processes all type of mixed plastic waste generated from the road and industry. The dust from the waste is totally removed by the Dust Remover Equipment without using any water. Then the clean mixed Plastic waste is agglomerated in the Agglomerated Machine and a compound is made in the Compounding Machine by adding chemicals and additives. The waste color compound is then fed into the lumber / profile Extrusion Machine to make different sizes of profiles and lumbers in rectangular, square and round shapes and in sheet form.

Finished Products are made in eye catching colors which has an aesthetic appeal. Beautiful designs of Benches, Doors, Windows, Furniture, Fencing and Pellets are fabricated in attractive colors from these profiles and lumbers. Energy consumption is less in processing of the Waste. The extrusion capacity is between 80 to 90 kgs. Per hour. The process doesn't require any special skill. It can be operated by any Non Technical Persons.

DollPlast Machinery Inc. is the winner of National Awards 2010-11 under the Industry Category of **Innovation in Machinery and Equipment.**

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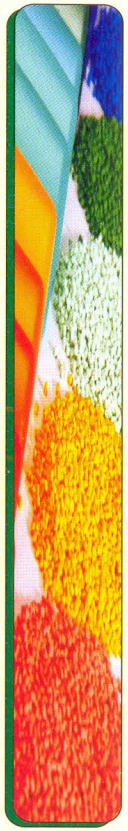
NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

INNOVATION IN PROCESS AND TECHNOLOGY

PROCESS AND TECHNOLOGY FOR PLASTIC WASTE MANAGEMENT

M/s Dollplast Machinery Inc.



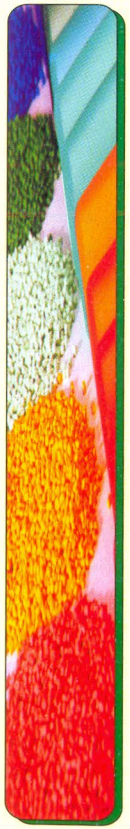
The team has carried out extensive Research and **Innovated New Technology** for the **first time in the country** to utilize Plastic Waste and make innovative products which have value addition. The extruded profiles and lumbers are fabricated to make furniture which can be used in various sectors. The Plastic waste generated by common man and industry has created enormous problems for Municipal Corporations and others. The Technology invented by M/S Dollplast will go a long way to **solve Pollution problems.** The Process and Technology developed is to recycle all the Plastics waste generated from the streets, houses, industries, gardens, hotels, hospitals, airports, railways, and bus stand which includes all types of Metal laminated and Unlaminated sheets / bags / pouches / products etc. This is the first technology that has been developed to remove dust from the waste without using any water. Chemical, wood powder and additives are added to give strength and aesthetic appeal to the eyes.

Beautiful designs of Benches, Doors, Windows, Furniture, Fencing and Pellets are fabricated in attractive colors from these profiles and lumbers. These are hard, tough, strong, appealing with high impact strength. It is easy to process and make Furniture and other Products by cutting, screwing, gluing, drilling, nailing, laminating, finishing, polishing, coloring etc. The products are inert to fungus, moisture, chemicals, environment, weather, sun light, water proof and have long Life.

DollPlast Machinery Inc.is the winner of National Awards 2010-11 under the Industry Category of **Innovation in Process and Technology.**

सत्यमेव जयते

GROW WITH PLASTICS



सत्यमेव जयते

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

M/s Varroc Polymers Pvt.Ltd.,
L-6/2 B,MIDC, Waluj,
Aurangabad – 431136.
Mob: 9673001222;
E-Mail: patil.sn@varrocgroup.com

Mr. Shejwal Ramchandra
Team Members

Mr. Mahajan Bhushan
Team Members

Mr. Kotkar Yogesh
Team Members

Varroc Polymers is a leading Tier-1 global supplier of automotive components and systems, including interior trims, exterior trims, structural and functional applications with wide manufacturing reach & ability. Their in-house Govt. approved R&D Center is supporting 7 manufacturing locations. The design team finds new & innovative ways to create solutions to complex problems. The development process includes simulations so that the customers can be provided with data that can improve durability.

Mr. Shejwal Ramchandra is the Associate Vice President ,Technical Center of M/s Varroc Polymers Pvt. Ltd, who is an engineering garaduate with 24 years of rich experience in product development and tooling management. Mr. Bhushan Mahajan, Manager – R&D has completed Diploma in Mechanical Engineering and has 15 years experience in the field of tooling and product development. Mr. Yogesh Kotkar is the Sr.Officer – R&D and has more than 14 years experience in the field of product design.

The 03 members team were involved for Cost Innovation by reducing part cost through integration of Product Design.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

सत्यमेव जयते

INNOVATION IN PRODUCTS

COST INNOVATION BY REDUCING PART COST THROUGH INTEGRATION OF PRODUCT DESIGN

M/s Varroc Polymers Pvt. Ltd.

In today's automotive world the major thrust is on improving the overall vehicle performance and paralley addressing the environmental concerns. Being in Polymers, they have an edge in terms of lighter material & design flexibility. Over the years they have been using this as a guiding factor for consistent innovation focus. Similar practice was adopted in the Tool Box for 3 wheeler application. The historical data extracted from the customer reveals, in the previous design there were repeated issues of rattling sound, assembly sub part missing. Thus the challenges in front of them were weight reduction & design integration. They did the complete redesign of the assembly in which seven subparts were integrated in single piece design, without affecting the functionality of assembly in the vehicle. The innovation done by the team is measured on the following success indicators.

- Replacement of conventional material by Plastic
- Product design modification by integration of assembled functional parts into single part
- Reduction of production thru put time
- Reduction in inventory and inventory carrying cost

The end result was cost saving of around 25 Lac / annum & customer satisfaction.

Team - Mr. Shejwal Ramchandra, Mr. Mahajan Bhushan & Mr. Kotkar Yogesh is the winner of National Awards 2010-11 under the Team Category of **Innovation in Products.**

सत्यमेव जयते

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

National Awards 2010-11 for Technology Innovation in Petrochemicals and Downstream Plastic Processing Industry

Prof. (Dr.) S.K. Nayak, Ph.D., D.Sc.
Director General, CIPET

Ever since the globalization of Indian Economy, plastic industries in India are witnessing a double digit growth rate of about 12% mainly on account of widening of application spectrum in all the key sectors of Indian economy viz. Automobile, Agriculture, Aero space, Building & Constructions, Consumer Durables, FMCG, Defence, Healthcare, IT, Telecommunications, Medical etc.,

In the ever changing and challenging industrial environment, growth sustainability can be ensured only through promoting more & more cost effective solutions, indigenous development of imported components/products, and environment friendly processes, technologies and products. This in-turn calls for developing innovative process technologies, efficient energy saving manufacturing practices, environmentally sound technologies, quality products at par with international standards.

Currently the expenditure on R&D in this sector is less than 1% of industry turnover. This needs to be increased in phases to 2 to 3%. India has a highly trained manpower base. However, as per world industry estimates, inadequate R&D infrastructure is a constraint for attracting investment in innovation.

In line with the National Policy on Petrochemicals, with the view to promote and encourage development of environmental friendly process/technologies, innovation in polymeric materials and products, cost to performance balance, import substitution etc, Department of Chemicals & Petrochemicals (DCPC), Govt. of India, has announced a scheme – National Award for Technology Innovation in Petrochemicals and Downstream Plastics Processing industry- 2010-11, with the core philosophy of **"Reward the innovation suitably with an Award".**

Central Institute of Plastics Engineering & Technology (CIPET) was entrusted with the work of processing of the applications/nominations, scrutiny and evaluation of nominations through field experts till the completion of organizing successfully the award function.

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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- **Classification of Categories**

The following broad areas have been identified for the awards:
1. Plastics
2. Elastomers
3. Synthetic Fiber
4. Surfactants and Intermediates
5. New Emerging Areas

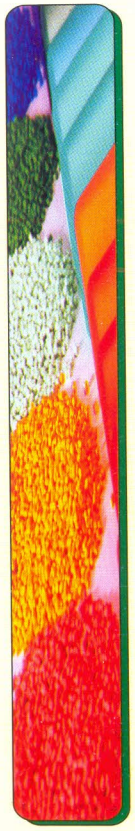
I. For Elastomers, Synthetic Fiber, Surfactants and Intermediates and New Emerging Areas following awards will be given
   - Innovation in Processes and Technology and
   - Innovation in Technology Management.

ii. For Plastics, following awards will be given.
   - Innovation in Processes and Technology and
   - Innovation in Technology Management.
   - Innovation in Products
   - Innovation in raw materials.
   - Innovation in Machinery and equipment.
   - Waste Management Technology including recycling and eco friendly processes and technology.
   - Development of Bio-polymers, Biodegradable, Photo degradable polymers plastics
   - Emerging packaging technologies including creative design.

- **Implementation Framework & Operational Modalities**

Totally 82 entry applications/nominations for awards were scrutinized and evaluated by the nominated field experts and recommended by the 'Standing Committee on Awards' headed by Joint Secretary of the administrative Ministry with representatives from Government Institutions/Research Laboratories/Academic Institutions, National Level Industry Associations associated with petrochemical products and other representatives from Government of India. The recommendation of this Standing Committee was deliberated by Prize Award Committee – an 'Apex Body' headed by the Secretary of the Department of Chemicals & Petrochemicals. 09 nominations were finally rewarded with an award for the technology innovation in petrochemicals/downstream plastics processing industries.

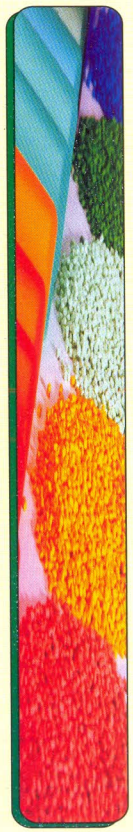
The first ever award function – to encourage and to promote **Technology Innovation in Petrochemicals and Downstream Plastics Processing Industry -2010-11** is being organized on 28th November 2011 at Vigyan Bhawan, New Delhi.



सत्यमेव जयते

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

Organized by CIPET



2nd National Awards for TECHNOLOGY INNOVATION in Petrochemicals & downstream Plastics Processing Industry 2011 - 12

Department of Chemicals & Petrochemicals,
Ministry of Chemicals & Fertilizers, Govt. of India

Invites

Nomination from the Individual / Team, Industry, Academic / R&D Institution.

Categories of Awards

Innovation in Polymeric Materials.	Innovation in Polymeric Products.
Innovation of Polymer Processing Machinery & Equipments.	Innovation in Polymer Waste Management & Recycling Technology.
Innovation in Green polymeric Materials & Products.	Polymers in Agriculture and Water Conservation.
Polymers in Public Health Care.	Research in the field of Polymer Science & Technology (for researchers working in Academic Institute / Research Lab).

KEY DATE	CLOSE OF NOMINATIONS 31st DECEMBER 2011

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

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SUB-CATEGORIES

1 Innovation in Polymeric Materials

New Polymers, Blends & Alloys, filled materials, fibers, Polymer Composites and Nano composites, Smart Materials etc.,

2 Innovation in Polymeric Products.

New / creative product design, Non conventional application / Replacement of conventional materials (Metals, ceramics etc.)., Modification of product design for performance improvements

3 Innovation of Polymer Processing Machinery & Equipments

Development of new processing techniques, Modification of machinery for higher efficiency/productivity / Automation

Energy conservation, product quality improvement , Improvement in moulds, dies and auxiliary equipments

4 Innovation in Polymer Waste Management & Recycling Technology

Newer technology in plastic waste utilization into products/energy recovery

Recycling Technology, Plastic waste collection, segregation techniques

Product design for improved recyclability

5 Innovation in Green Polymeric Materials & Products.

Biopolymers, Biodegradable / compostable Polymers, Time controlled degradation, Green material filled polymers, Biodegradability evaluation techniques

6 Polymers in Agriculture and Water Conservation

Water transportation, mulching, canal lining, Drip irrigation, Sprinkler system, Low Tunnels, Poly house etc., Controlled release system for fertilizer, pesticides, micro nutrients, etc., Innovative packaging for agriculture, floriculture and horticultural produce, Controlled permeability films & packaging for improved shelf life, Novel Usage of plastics for food security

7 Polymers in Public Health Care

Affordable / cost effective implants, implements and devises, New innovative products for medical application, Polymer based new drugs delivery system, Polymer body implants, Drinking water storage & transportation, Polymer membrane for water purification / Desalination, Devices for waste water, drainage, sewage treatment system.

8 Research in the field of Polymer Science & Technology (for Researchers Working in Academic Institute / Research Lab.)

Individual / Team of researchers in R & D Institutions & laboratories, Original research work in polymeric materials processing etc. leading to proto type development & future industrial applications

सत्यमेव जयते

NATIONAL AWARDS FOR TECHNOLOGY INNOVATION 2010-11

Central Institute of Plastics Engineering &Technology (CIPET)

Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Government of India
Head Office: Guindy, Chennai – 600 032.
Tel: 044 – 2225 4780; Fax: 044 – 2225 4787
Email: cipethq@vsnl.com; Web: www.cipet.gov.in

Central Institute of Plastics Engineering & Technology (CIPET) is a premier National Institution devoted to **Academic Programme and Technology & Research Support (ATR)** for the Plastics & allied industries, in India. Today 15 CIPET Institutes having uniform infrastructural facilities in the areas of Design, CAD/CAM/CAE, Tooling & Mould Manufacturing, Plastics processing, Testing and Quality Control are contributing through **ATR** services to the student community and industries in India.

CIPET offers blend of various specialized **Academic programmes** in the field of Plastics Engineering & Technology (Doctoral, Post Graduate, Undergraduate, Post Graduate Diploma, Post Diploma and Diploma) in order to provide qualified Human Resources to plastics & allied Industries. The **Technology Support Services (TSS)** to the industries and ingenious **Research** are the important product portfolios of CIPET.

CIPET renders Technology Services in **Design, Tooling, Plastics Processing, and Testing & Quality Assurance** in India & Abroad. CIPET's expertise as third party inspection agency for plastics products are recognized by various Central & State Govt organizations for pre-despatch / delivery inspection of plastics & allied products.

CIPET has a R&D Vision to be recognised as Global R&D Hub, in the area of Polymer Composites, Nanocomposites, Biopolymers, Functional Plastics, Carbon nanotubes, Polymer Membranes, Conducting polymers, Fuel Cells, E-waste recycling etc. & Innovative Product concept development & Commercialisation by aid of CAD/CAM/CAE expertise. Accordingly, CIPET has established 02 exclusive R & D centres viz. Advanced Research School for Technology & Product Simulation (ARSTPS) at Chennai and Laboratory for Advanced Research in Polymeric Materials (LARPM) at Bhubaneswar.

CIPET had signed various Memorandum of Understandings (MoUs) for joint collaboration in faculty & staff exchange, student exchange, cooperative research, exchange of academic materials etc., with leading International Universities / Organizations at USA, Canada, Australia, Germany, France, Korea, Poland & Mexico.

With strong **Alumni** base of about 40,000 Professionals, CIPET has emerged as an Apex plastics technology institution, not only in India but a unique institution of its kind in Asia.

Organized by

सेन्ट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स इंजीनियरिंग एण्ड टेक्नोलॉजी (सिपेट)

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY (CIPET)

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