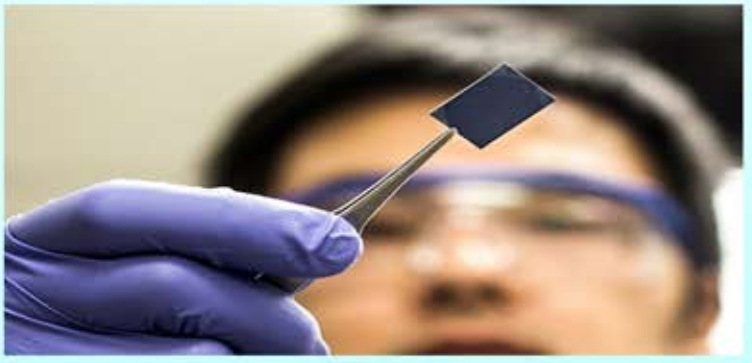
Newsletter | Issue 26 | September 2017

POLeNEWS

e-News for Polymer Industry

Polymer Data Services
A wing of CIPET

Heat-conducting plastic may lead to lighter cars, computers



Plastics are made of long chains of molecules that are tightly coiled and tangled. Using a chemical process to expand and straighten the molecule chains resulted in giving heat energy a more direct route through the material.

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One stop solution for Plastic Industries

Tenders Information

Tenders.....

Supply of Plastic Dust Bin, Mug and Bucket.

for latest tenders & enquiries information
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Events Information

Events.....

VietnamPlas
Saigon Exhibition & Convention Center
Ho Chi Minh City, Vietnam
13-16 SEPT, 2017

for latest events & exhibition information
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Heat-conducting plastic may lead to lighter cars, computers

Plastics are made of long chains of molecules that are tightly coiled and tangled. Using a chemical process to expand and straighten the molecule chains resulted in giving heat energy a more direct route through the material.

Scientists have developed a new heat-conducting plastic that may lead to lighter and more energy-efficient vehicles and computer devices. Researchers used a new technique to change the plastic's molecular structure to help it cast off heat, making it six times better at dissipating heat.

"Plastics are replacing metals and ceramics in many places, but they're such poor heat conductors that nobody even considers them for applications that require heat to be dissipated efficiently," said Jinsang Kim, professor at the University of Michigan in the US.

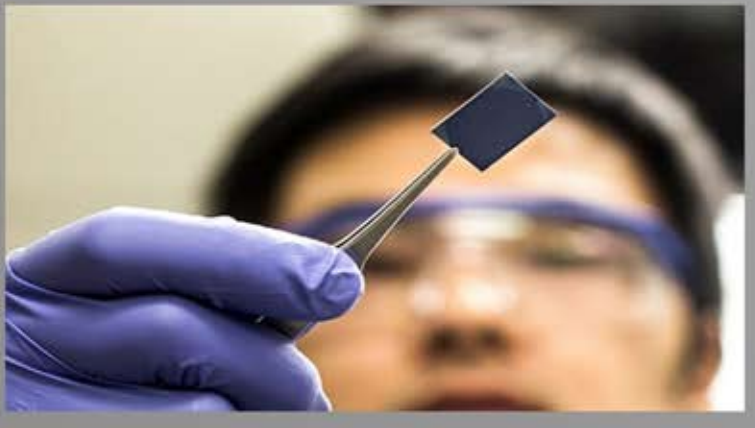
"We're working to change that by applying thermal engineering to plastics in a way that hasn't been done before," said Kim. The process is a major departure from previous approaches, which have focused on adding metallic or ceramic fillers to plastics.

This has met with limited success; a large amount of fillers must be added, which is expensive and can change the properties of the plastic in undesirable ways. Instead, the new technique uses a process that engineers the structure of the material itself.

Plastics are made of long chains of molecules that are tightly coiled and tangled. As heat travels through the material, it must travel along and between these chains a journey that impedes its progress.

The team including graduate student Apoorv Shanker used a chemical process to expand and straighten the molecule chains. This gave heat energy a more direct route through the material.

"Polymer molecules conduct heat by vibrating, and a stiffer molecule chain can vibrate more easily," said Apoorv Shanker, a materials science and engineering graduate student. "Think of a tightly stretched guitar string compared to a loosely coiled piece of twine. The guitar string will vibrate when plucked, the twine won't. Polymer molecule chains behave in a similar way," Shanker added.



Kim said that the work can have important consequences because of the large number of polymer applications in which temperature is important.

(courtesy: The Indian Express)

Tender Information

Sr. No.	Tender Tittle	Company Name	Opening Date	Closing Date
01	Plastic cards and passbooks	Indian Nursing Council http://www.indiannursingcouncil.org/All-Tenders.asp	09-Aug-2017	08-Sep-2017
02	Thermoplastic hose textile reinforced 12.5mm nominal bore,100mtr lon	Ministry of railways http://ireps.gov.in	16-Aug-2017	19-Sep-2017
03	PVC insulated 2corex25sqmm power cable	Ministry of Railways Http://ireps.gov.in	22-Aug-2017	26-Sep-2017
04	Supply of Plastic Dust Bin, Mug and Bucket.	Ministry of Railways http://ireps.gov.in/	22-Aug-2017	05-Sep-2017
05	Stackable Moulded plastic chair with arm rest.	Nuclear Power Corporation of India Ltd https://npcil.etenders.in/indexes	23-Aug-2017	13-Sep-2017
06	Plastic shoe cover	Nuclear power corporation of india ltd https://npcil.etenders.in/indexes/view_tender_details/28109	24-Aug-2017	19-Sep-2017
07	PVC trash bags	Nuclear Power Corporation of India Ltd https://npcil.etenders.in	24-Aug-2017	14-Sep-2017
08	Purchase of Plastic Crates	Department of Agricultural Research and Education https://eprocure.gov.in	25-Aug-2017	16-Sep-2017
09	Pre-qualification for HDPE unit (epcc-1)	Engineers india limited http://tenders.eil.co.in/newtenders	27-Jul-2017	25-Sep-2017
10	Disposal of HDPE Empty bags of DAP product lying at APSWC CHIRALA Prakasam District, Andhra Pradesh.	Rashtriya Chemicals and Fertilizers Ltd. Http://www.rcfltd.com/index.php/en/tenders/	28-Aug-2017	13-Sep-2017

For more details: pds.gov.in/tenderinfo.php

Government of India, Department of Chemicals & Petrochemicals has announced in April 2007 an Award scheme to incentivize meritorious innovations and inventions in the field of Polymeric Materials, Products Processes and other area of national and social importance. The polymeric applications has already penetrated in all walks of life including various manufacturing sectors for conservation of natural resources and energy efficiency etc. This innovation award scheme will motivate the inventors to carry out innovative Research & Development in the areas of petrochemicals industry, which in turn will improve performance / quality of the existing product. The department had implemented the scheme thru' CIPET and consequently awarded Seven National Awards. For the current year 2017-18, online/offline applications for the 8th National Awards are invited.

Online / Offline Applications should reach us on or before

31st October 2017

ORGANIZED BY:

POLYMER DATA SERVICES (PDS)
CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY (CIPET)
TVK Industrial Estate, Guindy,
Chennai-600 032. Tamil Nadu, India
Tel.: 044-22254780
Mob : 7338804401, 7338804402, 9176671504
Email : pdscipet@gmail.com, pds@cipet.gov.in
For Details Visit : www.pds.gov.in, www.cipet.gov.in & www.chemicals.nic.in

Government of India

Ministry of Chemicals & Fertilizers
Department of Chemicals & Petrochemicals

8th National Awards

for Technology Innovation in Petrochemicals & Downstream Plastics Processing Industry (2017-18)

www.pds.gov.in

Applications are Invited from Individual, Team, Cottage, Micro, Small, Medium, Large Scale Industry, Academic, R & D Institution etc.. for the following 6 Categories

1. New Polymers

- ✓ Innovation in Polymers, Blends & Alloys, filled materials, fibers.
- ✓ Composites and Nano composites, Smart Materials etc.
- ✓ Non conventional application / Replacement of conventional materials (eg. Metals, ceramics etc.).

2. New Applications of Polymers in various fields

- ✓ New / creative product design.
- ✓ Modification of product design for performance improvements.
- ✓ Enhancement in the working environment, Lifecycle, Energy Efficiency, Recyclability, etc.

3. New polymer Processing Machines including Energy Efficiency

- ✓ 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

- ✓ Newer technology in plastic waste utilization into products/energy recovery.
- ✓ Recycling Technology.
- ✓ Plastic waste collection, segregation techniques.
- ✓ Product design for improved recyclability.

5. Green / Bio-degradable Polymer

- ✓ Biopolymers.
- ✓ Biodegradable / compostable Polymers.
- ✓ Time controlled degradation.
- ✓ Green material filled polymers.
- ✓ Biodegradability evaluation techniques

6. Innovation in packaging

- ✓ Emerging Packaging Technologies.
- ✓ Creative Design for improved recyclability.
- ✓ Packaging for improved shelf life
- ✓ Consumer Convenience.
- ✓ Stability on Shelves for easy storage.

www.cipet.gov.in

Event Information

Sep 13 - Sep 16, 2017

Sep 20 - Sep 23, 2017

Sep 26 - Sep 29, 2017

Dec 11 - Dec 14, 2017

For Publishing your polymer related article/News, Advertising Your product in our next E-issue, Kindly contact or send E-mail to:

Shri Narendra Kumar (Executive)
Polymer Data Service (PDS) - A wing of CIPET
Department of Chemicals & Petrochemicals,
Ministry of Chemicals & Fertilizers, Govt. of India
Address: CIPET Head Office, T.V.K. Industrial Estate,
Guindy, Chennai- 600032, Tamilnadu.
Mob: +91 7338804401, +91 9770326642
Email: pdscipet@gmail.com, k.narendra@pds.gov.in
Website: www.pds.gov.in