POLYMERUPDATE ACADEMY

EDUCATIONEM RESPONSUM EST

MECHANICAL RECYCLING OF THERMOPLASTICS

PREPARED & CONDUCTED BY
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INDEX

Summary

The market for recycled plastics is growing rapidly, driven by increasing consumer demand for sustainable products and a push towards a circular economy. According to a recent report by Grand View Research, the global recycled plastic market size is expected to reach USD 72.6 billion by 2028, growing at a CAGR of 6.8% from 2021 to 2028. Mechanical recycling of thermoplastics is a key driver of this growth, providing a sustainable solution for plastic waste reduction while also offering economic benefits to industry players. By embracing mechanical recycling, companies can reduce their carbon footprint, save on costs, and meet regulatory requirements for sustainable waste management. "Mechanical Recycling of Thermoplastics" is an engaging course which will help you learn how this sustainable approach can benefit your industry. Our comprehensive course will cover everything you need to know about the different types of thermoplastics that can be mechanically recycled, the methods used to recycle them, and the quality control measures required to ensure that recycled materials meet industry standards.

Summary

You will also discover the various applications of recycled thermoplastics in industry, including their use in packaging, automotive, construction, and other sectors. Learn about the economic and environmental benefits of mechanical recycling, including cost savings, waste reduction, and a reduced carbon footprint. Our course will also provide insights into the current regulatory landscape for recycled thermoplastics and real-world case studies of successful implementation in industry. Finally, you will be introduced to emerging technologies and future developments that will shape the future of mechanical recycling of thermoplastics.

The comprehensive workshop on "Mechanical Recycling of Thermoplastics", will help you to know about the latest technologies and best practices in the field and gain a competitive edge in the market. The course will equip you with the knowledge and skills to implement mechanical recycling in your industry and take advantage of the growing market for recycled plastics. Join us now and be a part of the sustainable future of the plastics industry!

Who this course is for??

- Engineers and technicians involved in plastic processing and manufacturing.
- Managers and executives (R & D/QC/Production/sustainability) responsible for waste reduction, sustainability, and environmental compliance.
- Researchers and academics interested in the development and implementation of sustainable plastic recycling technologies.
- Professionals involved in product design, development, and testing.
- Supply chain professionals involved in the procurement and management of plastic materials.
- Regulatory and compliance professionals responsible for ensuring compliance with regulations and standards related to plastic waste management.
- Professionals involved in the use of recycled plastics in their products or processes.

What will you learn??

- The different types of thermoplastics that can be mechanically recycled and their properties.
- The mechanical recycling methods used to recycle thermoplastics, including shredding, granulation, and extrusion.
- The benefits and limitations of each mechanical recycling method.
- The importance of quality control and testing in mechanical recycling, and the different types of testing used to assess the quality of recycled materials.
- The applications of recycled thermoplastics in industry, including their use in packaging, automotive, construction, and other sectors.
- The economic and environmental benefits of mechanical recycling, including cost savings, waste reduction, and reduced carbon footprint.

What will you learn??

- The current regulatory landscape for recycled thermoplastics, including regulations and standards that govern the quality and safety of recycled materials.
- Real-world case studies of successful implementation of mechanical recycling of thermoplastics in industry.
- Emerging technologies and future developments in mechanical recycling of thermoplastics that could improve the efficiency and quality of the recycling process.

Lecture 1: Introduction to Mechanical Recycling of thermoplastics

- Understanding the concept of mechanical recycling
- Benefits and limitations of mechanical recycling
- Overview of different types of thermoplastics and their properties
- Key considerations for implementing mechanical recycling in industry

Lecture 2: Formulations, Processing Operations and Quality Control in Recycling Extrusion

- Stages in mechanical recycling methods for thermoplastics
- Understanding the extrusion process in mechanical recycling
- Factors affecting the quality of recycled materials
- Quality control measures and testing techniques for recycled materials
- Formulations for rPET, rPP, rPE, rABS, rNylon, etc. and optimizing them for processing

Lecture 3: Standards and Regulations

- Overview of international and local regulations and standards for recycled thermoplastics
- Understanding the quality and safety requirements for recycled materials
- Best practices for compliance with regulations and standards

Lecture 4: Case Studies and Best Practices

- Real-world case studies of successful implementation of mechanical recycling in industry
- Best practices for implementing mechanical recycling in various industries, including packaging, automotive, construction, and others
- Challenges and opportunities in the mechanical recycling of thermoplastics
- Future trends and emerging technologies in mechanical recycling

Dr. Prashant Gupta

B Tech. M. E. PGD - CTM. Ph.

Born on June 6th, 1987, Dr. Gupta is a Polymer Technologist and has obtained his Masters, Post Graduate Diploma and Ph. D. from Institute of Chemical Technology, Mumbai. With virtue of his excellence in PGD-CTM course, Dr. Gupta has been awarded with a Gold Medal for securing top merit in the course.

Dr. Gupta has 5.5 years of academic experience (teaching/research) along with Industrial Research & Development experience in managerial positions for around 3.5 years in polymer compounding, testing, processing, and composites. Dr. Gupta has more than 20 publications to his credit in peer reviewed journals and books with high impact international (Elsevier, Wiley, Springer, Taylor & Francis etc.) publishers.

His areas of expertise and teaching include testing and quality control, polymer additives and compounding, polymer processing technology, polymer recycling and waste management, biodegradable and oxo-degradable plastics for packaging, use of information and communication technology for effective teaching learning, pedagogy related to teaching-learning, artificial intelligence in teaching learning, content creation for virtual laboratory, its development and applications.

Dr. Gupta has offered his expertise in the form of technical presentations at more than 20 international and prestigious national conferences/events across the globe some of which include EUROTEC-France, ANTEC-Mumbai, ICERP-Hyderabad, PPS-Mumbai, APM-Lucknow, APA-Chandigarh, Rangotsav-Mumbai, AMAI-Ahmedabad, etc. and won several awards for best paper, poster, project etc. Dr. Gupta has also been recognized as a certified developer, mentor, and reviewer for Virtual Labs, Mumbai an initiative of IIT M, IIT D and IIT K under MHRD, India.

Work Experience:

Organization Name: Maharashtra Institute of Technology
Tenure: 19th Sep 2016 onwards
Assistant Professor-Plastics and Polymer Engineering Dept. (UGC Approved) Junior Scientist, MIT-Center for Advanced Materials Research and Technology

Organization Name: Loxim Industries Ltd.
Tenure: 1st Sep 2015 – 16th Sep 2016
HOD and Manager: R & D/Quality Control
Management and Customer Representative-ISO-TS 16949

Organization Name : Crest Composites and Plastics Pvt. Ltd, Ahmedabad Tenure: 21st Apr 14 –31st Aug 15
Assistant Manager, (R & D) Application Development

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