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# Standards for the Plastics Industry

## ASTM Committee on Plastics (D20)

Alyson Fick | January 2024 | Pan-African workshop on rPET –

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# Helping our world work better.



They improve the lives of millions every day

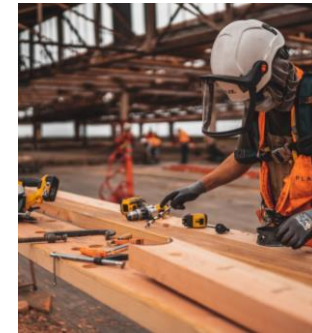


13,000+ ASTM standards operate globally



Applied to just about everything from toys to air quality

9,000+  
ASTM standards have been adopted, used as a reference, or used as the basis of national standards outside the USA



# Attributes of ASTM Standards Process



## Ensure an open and transparent process

- Direct and equal participation for everyone

## Provide impartial, consensus-based model of engagement

- Balanced system where producers' votes are equal to those of users
- Impartial, inclusive, and fair to all, with appeals and protections to avoid abuses

## Produce effective and relevant standards

- Respond to needs and changing conditions, new hazards, or emerging technologies
- Relevant to the global marketplace and performance-based in application

## Driven by research, data, and science-based decisions

- Focus on science and technical quality, and specifically addressing risks and needs

## Collaborate with other standards bodies to avoid duplications

- Agreements with ISO/IEC
- Regional agreements with CEN/CENELEC
- National agreements with over 120 NSBs

## ASTM Committees Exploring Circularity, Sustainability and Resilience

- E50 on Environmental Assessment
- D02 on Petroleum Products and Lubricants
- D20 on Plastics
- E60 on Sustainability
- F04 on Medical and Surgical Materials and Devices





# D20 Subcommittees

## Circular Polymers



- [D20.95](#) Recycled Plastics
- [D20.96](#) Environmentally Degradable Plastics and Biobased Products

## Finished Products



- [D20.19](#) Film, Sheeting, and Molded Products
- [D20.20](#) Plastic Lumber
- [D20.24](#) Plastic Building Products
- [D20.22](#) Cellular Materials - Plastics and Elastomers

## Materials and Testing

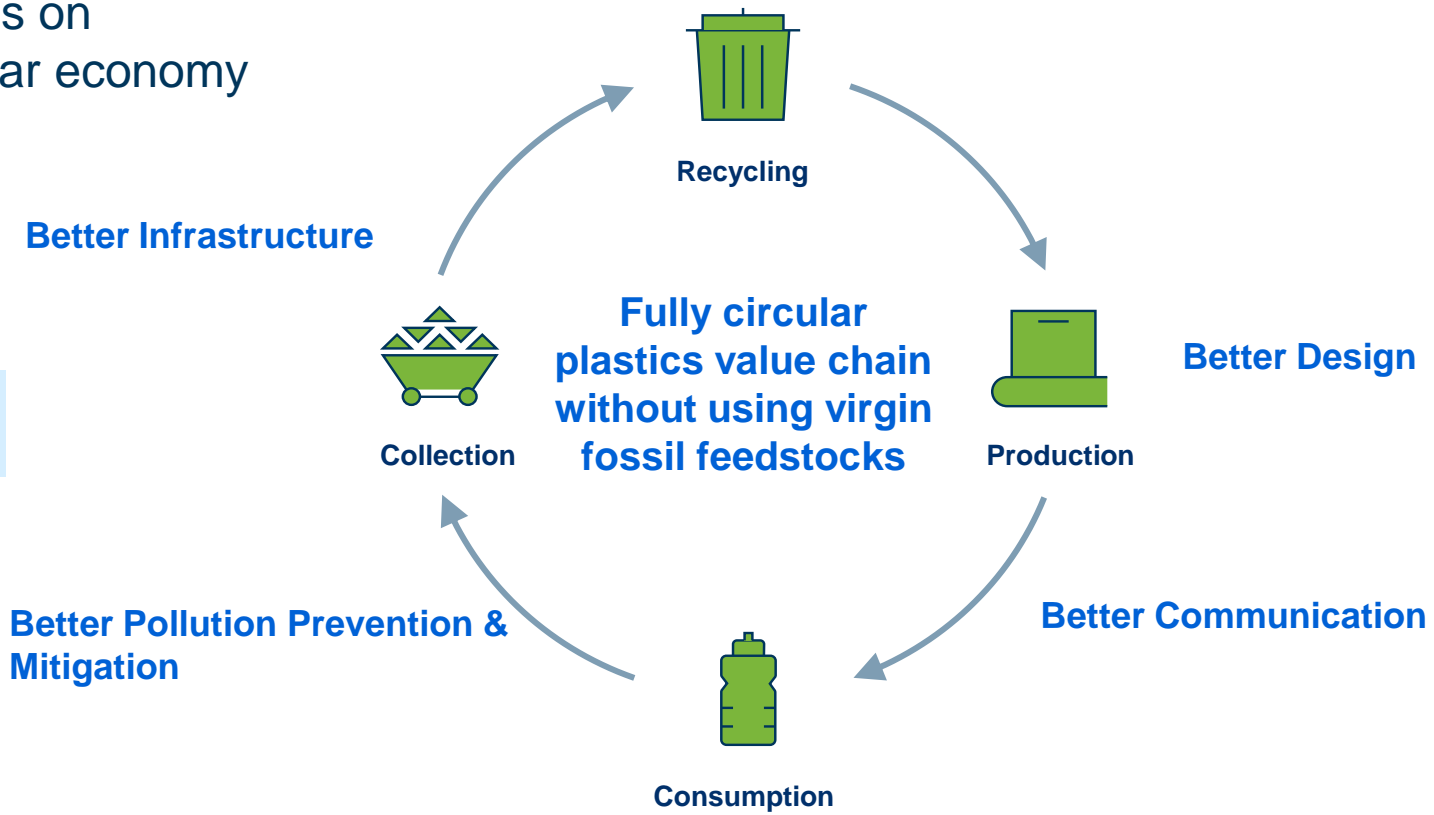


- [D20.10](#) Mechanical Properties
- [D20.15](#) Thermoplastic Materials
- [D20.30](#) Thermal Properties
- [D20.40](#) Optical Properties
- [D20.50](#) Durability of Plastics
- [D20.70](#) Analytical Methods

# Rethinking our standards system:

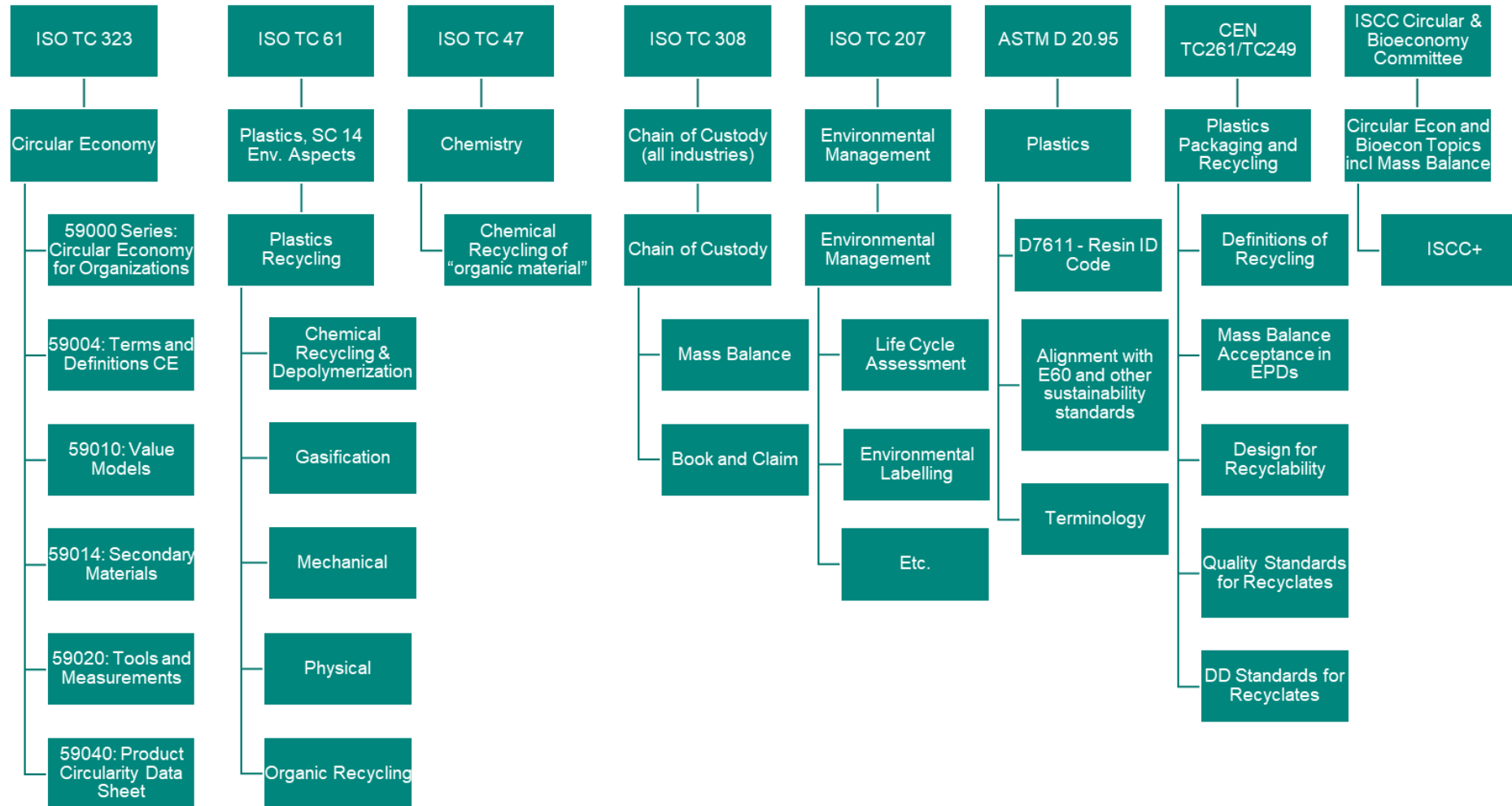
Standards will need to focus on activating vision for a circular economy

The work is ongoing:  
Join Us!





# Example SDO\* Activity Concerning recycling or circular polymers



# Collaboration with Government Entities and Non-Governmental Organizations



## ASTM looks for close collaboration

- Based on strong relationships with Government Entities and Non-Governmental Organizations
- Standards Alliance
  - Funded by USAID and managed by the American National Standards Institute (ANSI), the Standards Alliance program assists developing countries with implementation of standardization and good regulatory practices.
- Millennium Challenge Corporation
  - The Millennium Challenge Corporation funds technical training on standards in select countries.



Standards Alliance Program for W. Africa



MCC Training Program for Cote d'Ivoire



# ASTM Strategic MoU partners in Africa



- **ASTM International currently has 35 MoUs in Africa:** ARSO, AIDSMO, Angola, Algeria, Botswana, Burkina Faso, Burundi, Cameroon, Cote d'Ivoire, DRC, Egypt, Ethiopia, The Gambia, Ghana, Libya, Kenya, Mali, Malawi, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, SADCSTAN, Tanzania, Tunisia, Uganda, Zambia, Zimbabwe.
- 173 members excluding students from various academic institutions in Africa.
- **ASTM Strategic MoU partners: ARSO, SADC, Ghana, Nigeria and South Africa.**



# ASTM – CEN Cooperative Program

## MOA Signed in 2019

- Technical Cooperation Agreement
- Designed to enhance the complementary roles of ASTM and CEN as standards developers
- Collaborative discussions between technical members, information sharing, and awareness
- Collaborative Working Groups:
  - Subcommittee D20.95 on Recycled Plastics
  - CEN TC 249 – Working Group 11 on Plastics Recycling





# Prioritized Action Steps (for ASTM)

## NOW

### ASTM D20 recently finished or is actively working on:

- **Compostability and biodegradability** test methods and reports [D20.96 manages ASTM D6400 with several others in market and more on way]
- **Microplastics** specifications and test methods [some already in development through D20.96, with nanoplastics on way]
- **NEW! Terms and definitions for Circular Polymers** [in development through D20.95, work item 87117]

## NEXT

### ASTM D20 prioritized projects in Q1 2024 and beyond:

- **Quality assurance** of materials from mechanical, chemical or physically recycled plastics
- Standards related to **acceptable levels of contamination** for recycled or compostable material streams
- Specifications for recycled content including **resin ID modernization**
- Standard guide for **reusing, sorting, recycling** to improve the material recovery infrastructure
- Standards guide or spec for characteristics: measurements for recyclability of materials and products (**bendability, puncturable**)

## ACTIVE PARTNERS

### ASTM E60 recently finished or is actively working on with ASTM D20:

- **Alternate Approaches for Modeling Input and Output Flows of Secondary Materials and Related Recycling Scenarios in LCA** including specific info for plastics [ASTM E3199-22A published in Q4 2022]
- **NEW! Circular Economy Standard** [Work item 83603 announced in Q4 2022]
- **NEW! Green chemistry principles guidance document** [Work is set for 2024]

### ASTM D20 Other Collaborations

- **With E50** -- Regarding environmental risk, including PFAS discussions
- **With D34** on waste management and compostables
- **With D19** on water contamination testing and microplastics
- **With ISO TC 61 (Plastics) and CEN TC 249 (Plastics)** – On recyclability of plastics (ISO 15270 etc) and as observer to CEN TC 249, as they tackle the standardization request from EU for recyclability standards
- **NEW! ISO 15270: Guide for the Recyclability of Plastics** - Standards for Mechanical Recycling, Chemical Recycling, Biological Recycling, Physical Recycling. In development through ANSI / US TAG mirror committee]

# The Field is Full – How to move forward without confusion?



Sample of thought leaders and standards development organizations (SDO)





ASTM INTERNATIONAL  
Helping our world work better

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## Thank You

Alyson Fick

[afick@astm.org](mailto:afick@astm.org)

Standards Development

Maria Jiverage

[mjiverage@astm.org](mailto:mjiverage@astm.org)

Global Cooperation, Africa

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# Global ASTM Contacts



## ASTM International Headquarters

Teresa Cendrowska  
100 Barr Harbor Drive  
P.O. Box C700  
West Conshohocken, PA  
19428-2959, USA  
tel +1.610.832.9500  
tcendrowska@astm.org

## Washington, D.C., USA

Jeffrey Grove  
tel +1.202.223.8505  
jgrove@astm.org

## Brussel, Belgium

Sara Gobbi  
tel +32.0.28.405.127  
sgobbi@astm.org

## Beijing, China

Nancy Hu  
tel +86.10.5109.6033  
nhu@astm.org

## Singapore

Elvin Chia  
tel +65.877.84200  
echia@astm.org

## Lima, Peru

María Isabel Barrios  
tel +51.1.205.5502  
mbarrios@astm.org



# The ASTM Connection

## The Plastics Industry:

- Heavily regulated environments that are controlled by standards;
- Standards can directly impact market activities

## Your Participation:

- Customers and competitors may be participating already
- Gain competitive or industrial intelligence
- Maintain a strong and visible technical presence
- Speak the language of your customers
- Develop relationship with government agency/code officials

## Primary Business:

- Up-to-date knowledge about standards that affect your product development cycle
- Standards impact delivery of R&D programs
- Ability to network with third party testing labs and inspection agency representatives
- Access to the development of new standards right from the start
- Establish credibility by engaging in and developing international consensus standards

# Six Ways to Adopt and Reference ASTM Standards

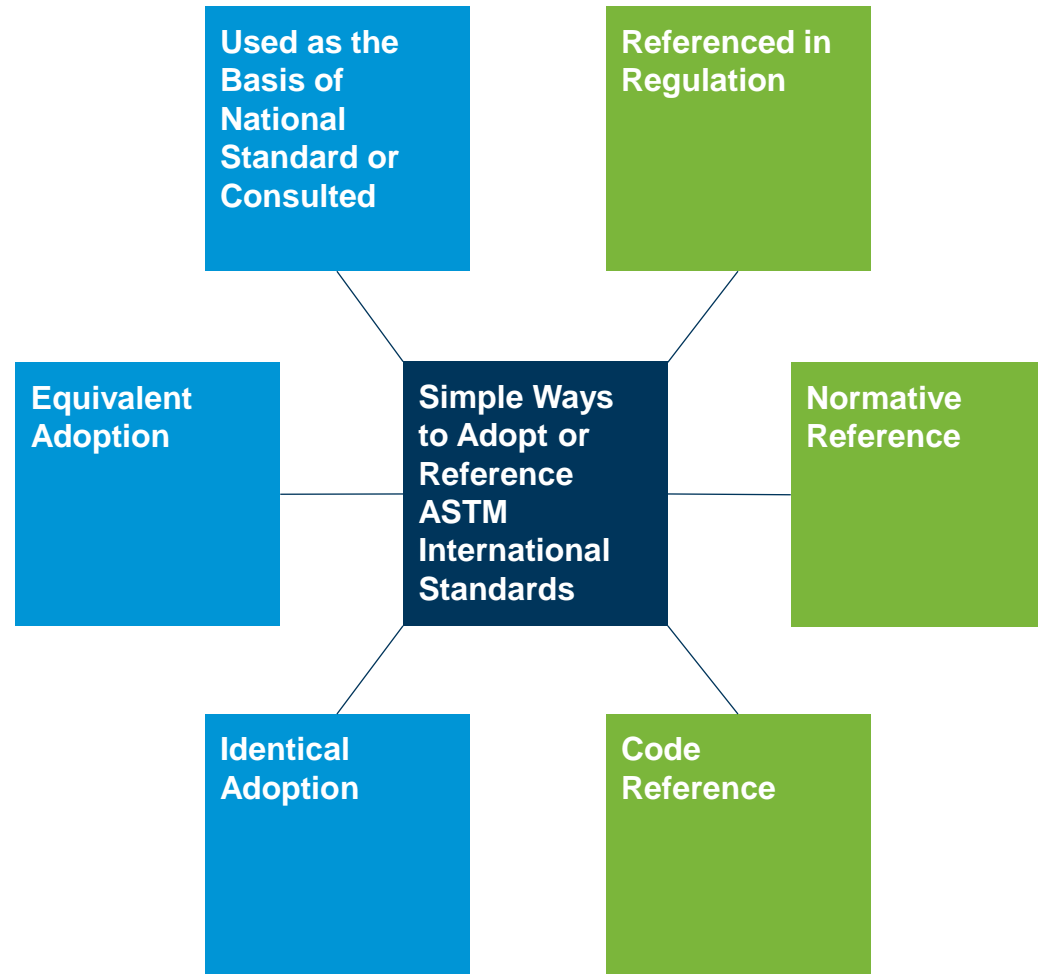


## Available to all Public and Private Standards' Users

- Referenced in Regulations
- Normative Reference
- Code Reference

## Available Only to MoU Partners

- Identical Adoption
- Equivalent Adoption
- Used as the Basis of a National Standard or Consulted





# How ASTM Can Assist...

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## Professional Growth

- Gain direct participation, influence, and access
  - Knowledge of content as it is formulated
  - A voice in development
  - Access to technical experts drafting documents
- Access to a global network of peers and professionals for
  - Business inquiries and opportunities, and
  - Professional development opportunities

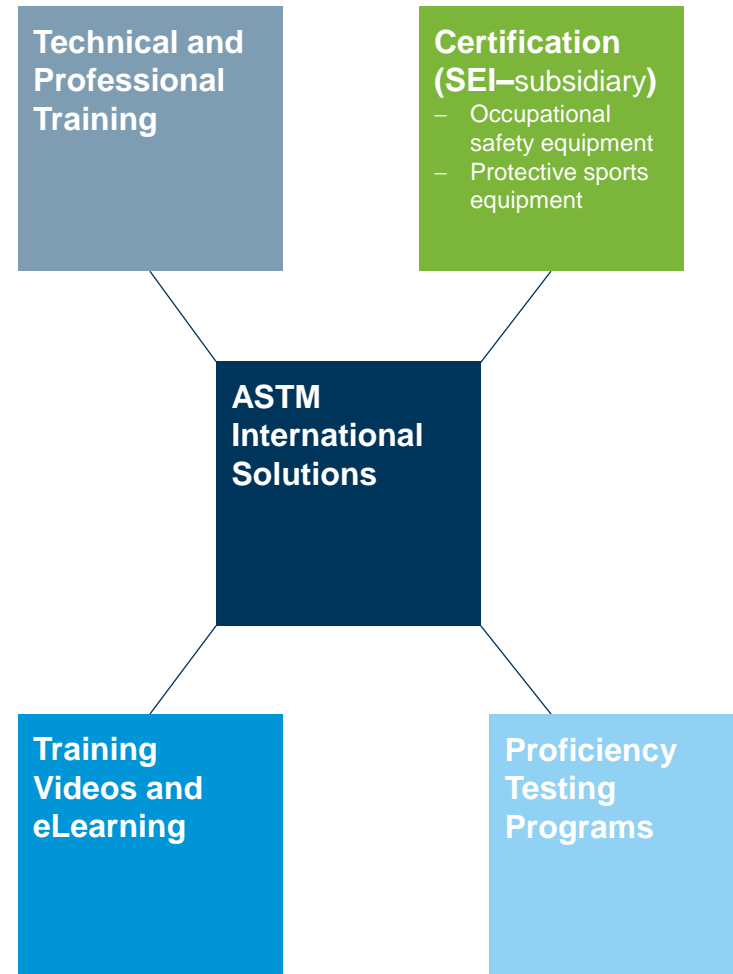
## Personal Growth

- Enhance your communication skills
- Become a Consensus Builder and Problem Solver
- Take on a Leadership Role
- Hone your Organizational Talents
- Feed Your Intellectual Curiosity
- Serve as an Ambassador for Your Company

# ASTM Products



ASTM International not only provides access to world class standards and test methods, but also services such as:



# Proficiency Testing



## Lab Accreditation

- Quality Assurance
- Meet Accreditation Requirements
- Uniform, Homogeneous Samples
- Defined Test Methods
- Statistical Analysis





# ASTM Training and E-Learning

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For over 40 years ASTM has provided training that teaches the performance, use, and application of ASTM standards, other standards, and standards-related issues.

Training is available through:

- Public classes, on-site classes and online learning

Training Areas: construction, corrosion, environment, metals, petroleum, plastics, rubber, textiles