



Member PROSPECTUS



An ACI Center of Excellence for
Nonmetallic Building Materials



American Concrete Institute

Founded in 2021 by the American Concrete Institute and Aramco

NEx envisions a future where everyone has the knowledge needed to use nonmetallic building materials effectively to meet the demands of a changing world.





NEx MISSION

To collaborate globally on the use of nonmetallic building materials to drive research, education, awareness, and adoption.



NEx STRUCTURE



As a stand-alone subsidiary of the American Concrete Institute with its own Board of Direction, Steering Committee, and committees, NEx leverages the resources and relationships of ACI to further its mission.

Visit the NEx website: www.nonmetallic.org.



“Aramco has been developing and deploying nonmetallic solutions within our own operations for more than 20 years, as they offer superior life-cycle cost, efficiency, and environmental advantages over their metal alternatives. The potential for using nonmetallic advanced polymeric materials, however, goes way beyond the oil and gas sector and includes the building and construction industries, where there is significant potential. That is why this new Center of Excellence for Nonmetallic Building Materials offers enormous and exciting opportunities.”

*Ahmad A. Al-Sa'adi,
Senior Vice President of Technical Services, Aramco,
Founding Member of NEx*



MARKET POTENTIAL OF NON-METALLICS IN CONSTRUCTION

The near and long-term applications for non-metallics in concrete construction and building are almost unlimited. Potential applications can range from replacing traditional metallic reinforcement in complex structures such as bridges and high-rise buildings to using non-metallics to stabilize unstable soils. Non-metallics offer many advantages in concrete construction, including lighter weight, high strength-to-weight ratio, and non-corrosivity. In addition, the use of non-metallics allows for the elimination of some additives such as corrosion inhibitors, no restriction on pH of concrete, and no limits on the total chloride content in the concrete (e.g., use of recycled concrete aggregates and calcium chloride as an accelerator).

If only five percent of the concrete-steel reinforcement used annually in the United States in engineered and non-engineered structures were replaced by a non-metallic option (fiber reinforced polymer bars - FRP), the market would be more than 100 thousand tons. In non-engineered structures, there is an immediate, untapped market for FRP due to its lighter weight, ease of handling, lower transportation costs, and corrosion resistance. There is a network of over 5000 retail locations that could supply these products to local markets.

NEx PARTNERS

Companies and organizations across the value chain are needed to support and collaborate on executing the core functions and meeting NEx's objectives. These prospective partners include:

- Manufacturers and suppliers of nonmetallic products
- Standards bodies
- Technical societies/institutes
- Oil and gas companies
- Research centers
- Construction companies and developers
- Training centers
- Specifying agencies



CORE FUNCTIONS

Committees will be developed to align with NEx's priorities, with direction and funding from the NEx Steering Committee. Committees will advance the following core functions:

■ Standards and Specifications

It is recognized that critical design and construction tools for the deployment of nonmetallic building materials are only partially available. There is a need for unambiguous standards in the form of building codes, construction specifications, material specifications, and more.

■ Technical Committee Acceleration

American Concrete Institute committees are recognized as a resource for unbiased *consensus* information on topics related to reinforced concrete. Where ACI already has committees that address certain aspects of nonmetallic reinforcement, NEx can support these committees with the latest technical information and research. In some instances, coordination with other industry organizations may be appropriate.

■ Professional Development

Technology transfer is at the core of successful deployment—designers, contractors, and owners are not necessarily familiar with new technologies. NEx will develop and deliver programs including short courses, webinars, and software tools, while also leveraging ACI facilities in Michigan, California, Illinois, Dubai, and beyond.

■ Certification of Personnel

Workforce certification is a must to transform the construction industry and ensure safety. The creation of specific certification programs for field personnel may include topics such as: reinforcement storage, handling, installation, and field inspection and Q/A.



CORE FUNCTIONS

■ Plant Audit/Certification

The setup of plants to manufacture nonmetallic building materials may not be capital-intensive; thus, new manufacturers can appear with unsubstantiated product performance claims. Additionally, changes in key constituents in product manufacturing are hard to detect. Plant production Q/C and plant certification appear to be a critical opportunity to ensure quality and consistency.

■ Research and Development

Even though research and development has been conducted over the last 30+ years, more needs to be done for the effective and efficient deployment of nonmetallic reinforcement technology in terms of better understanding physical performance (for example, slabs-on-ground); development of new tools (for example, mechanical couplers, reinforcement detection, and repair of damaged reinforcement); methods for establishing financial viability (for example, procurement protocols and LCC/LCA studies), and more. Through the support of partners, NEx will fund these industry-critical initiatives.

■ Advocacy and Technical Support

NEx will develop educational campaigns on NEx initiatives and the benefit of nonmetallic building materials for appropriate communication to the international community.

■ International Outreach

NEx will strategically leverage ACI's relationships and network of global leaders, international partners, and international chapters to meet the global needs of the Center of Excellence.



FUTURE

The uses for nonmetallic building materials far exceed the bounds of the concrete industry—additional areas include asphalt, cladding, structural components, flooring, and soil. These other areas will make it necessary for NEx to develop relationships with leading technical societies specializing in these areas.



BECOME A SUSTAINING MEMBER

Funding for all NEx initiatives will come from Sustaining and Supporting Members. This funding is necessary and critical to allow NEx to produce viable results from its inception. As part of the highest level of membership, NEx Sustaining Members receive:

- Invitation to serve on the NEx Steering Committee to establish annual budget, strategic plan, and operational plan;
- Invitation to serve on the Nominating Committee for the NEx Board of Directors;
- Invitation to serve on each of NEx Technology, Standards/Specification, Professional Development, Advocacy/Technical Support, and Product/Personnel Certification Committees;
- Access to all NEx content; and
- Prominent recognition on NEx website.

Supporting Member Options

NEx Supporting Members will help the Center achieve its mission and receive the following benefits:

	NEx Steering Committee	NEx Nominating Committee	NEx Core Function Committees	Presence on NEx website	NEx project-specific committees	Access to NEx content	Annual commitment (in USD)
Sustaining Member	✓	✓	✓	✓	✓	✓	\$300,000+
Gold Supporting Member	—	—	✓	✓	✓	✓	\$100,000
Silver Supporting Member	—	—	—	✓	✓	✓	\$50,000
Bronze Supporting Member	—	—	—	✓	By invitation	✓	\$10,000
Specifying Agency	—	—	—	✓	By invitation	By invitation	\$0

To join as a Sustaining or Supporting Member, contact Jerzy Z. Zemajtis, NEx Executive Director, at +1.248.848.3150 or jerzy.zemajtis@nonmetallic.org.



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