

Fiberglass Reinforced Plastics Institute, Inc.

Syllabus

Course: FRP301 V2 – Intro to Manufacturing, Quality Assurance and In Operation Inspection

Duration: One (1) day totaling eight (8) hours, with continuing education PDH credit opportunity.

Description: This course provides a detailed look at how fiberglass reinforced plastic (FRP) laminates used in the fabrication of chemical process equipment are designed and manufactured, what their properties are and how they typically fail in service as fabricated structures. This information will help seed your knowledgebase for root cause/affect and cost/value tradeoff centered decisions. Industry standards and certification programs will be discussed. Both theory and practical experience are blended together with case histories to demonstrate good, risky and poor results that can be expected at design, during fabrication or in the field. Courses are conducted in a FRPI training and demonstration theater setting, with a maximum of twelve (12) participants per one (1) instructional leader. The extra-large projection screen, supplemented by dozens of hands-on demonstrations integrating actual production materials, laminate cutouts, specimens extracted from equipment taken out of service plus laboratory test remains, provides for a tremendously interactive learning involvement.

Learning Objectives: After attending this course, participants should be able to:

1. Differentiate and specify good, better and best FRP laminate designs for all applications.
2. Choose industry standards for design, fabrication and inspection purposes.
3. Determine which industry certification programs to use when.
4. Identify all types and compositions of laminates.
5. Assess the design basis for proposed and as built FRP laminates.
6. Describe laminate defects in new and degradation (“corrosion”) in used equipment.
7. Correlate deficiencies in new equipment to failure mechanisms observed in used.
8. Apply concepts to sound decisions that balance cost, risk and public welfare.

Who Should Attend:

- FRP Decision Makers
- Inspectors and QA/QC Personnel
- Designers, Engineers and PE’s
- Owner/User and Resident Engineers
- Specification Writers
- Installers, Operators and Maintenance
- Project Managers
- Salespeople
- Purchasing Agents and Buyers
- Those New to Industry

Prerequisites: Fluent in the English language. No prior knowledge, special areas of study or experience are required. Although not required, it is highly recommended that participants purchase a licensed copy of the FRPI “Aboveground Storage Tank Inspector Certification and Licensing Manual” and review the five (5) FRPI standards included within the Manual. It is also suggested to obtain and review the standards referenced in the Manual. Total of all participants from a given employer in possession of the Manual shall not exceed the number of Manual copyright licenses employer has purchased. Prior general understanding of FRP industry standards, laminate design, manufacturing and inspection may result in establishing broader and deeper learning experience.

Recognition: A course completion certificate will be issued to all attendees who participate in entire program, with eight (8) Professional Development Hours (“PDH’s”) recorded for professional engineers. FRPI has been vetted and is recognized by RCEP (www.rcep.net) since 2011 as a provider of continuing education for licensed professional engineers. Participants desiring PDH credits will be given a program evaluation survey at the end of course and required to complete it. See Terms and Conditions of Course Registration for more information pertaining to PDH credit opportunities.

Instructional Leader: Gary L. Arthur – FRPI Executive Director and President (see [Bio/CV](#))