GSI W-26 Webinar Entitled:
"Applications and Design of Geotextile Tubes"

Webinar Overview

Geotextile tubes are large factory fabricated textile tubes with multiple access ports for introduction of the infilled material which is generally dredged and in slurry form. Sand or gravel is used for erosion control, whereas soil fines and sludges are used for dewatering and/or decontamination. The tubes themselves have progressed up to 5 m in diameter and the applications have grown accordingly.

After an overview, a nine-part design procedure is presented which represents the current state-of-the-practice. It then proceeds with details of adding decontamination materials to the slurries for the purpose of properly handling contaminated river and harbor sediments. Several economic examples are presented. The summary will counterpoint the various applications against one another.

Learning Objectives

Participants will learn the fabric manufacturing details, including testing, as well as design idiosyncrasies of geotextile tubes. The design has indeed progressed to where confidence of success is readily achieved. Current extensions into adding deflocculants to reduce "filter cake" formation and neutralizing hazardous constituents of fine-grained sludges will be explained accordingly.

Webinar Benefits

1. Understand manufacturing details, including seams, of textile tubes
2. Understand the various applications for geotextile tubes
3. Learn details of the complete design process through nine separate items
4. Learn about chemical deflocculating materials
5. Learn about additives to neutralize contaminants
6. Counterpoint applications-to-design-to performance of this exciting field of geosynthetic engineering

Intended Audiences

Public and private owners of locations subject to erosion, as well as contaminated harbor and riverbed sediments insofar as our hydraulic infrastructure is concerned. Federal, state and regional hydraulic, geotechnical, and geoenvironmental engineers; engineers from municipal districts and townships; private and municipal land developers; general civil consulting engineers; testing laboratories servicing these organizations; manufacturers and representatives of geosynthetic materials; contractors and installers of geosynthetic materials; academic and research groups; and others desiring technically related information on this important aspect of our hydraulic infrastructure.

Specific Topics Covered

1. Concept and Background of Geotextile Tube
2. Various Applications
3. Design Considerations
    - 3.1 Your Partner, The Dredger
    - 3.2 Movement of Tubes
    - 3.3 Tensile Strength of Fabrics
    - 3.4 GeoCOP Computer Code
    - 3.5 Fabric Strength
    - 3.6 Tensile Strength of Seams
    - 3.7 On-Site Performance Tests
    - 3.8 Chemical Coagulants
    - 3.9 Additional Design Details
4. Dewatering "plus" Decontamination
5. Summary and Recommendations

Webinar Instructor

Dr. George R. Koerner is the current director of the Geosynthetic Institute, a position that he has held since 2014. George's interest in geosynthetics spans his entire professional life from undergraduate work in the 1980's to the present. He holds his PH.D. in Civil, Architectural and Environmental Engineering from Drexel University in Philadelphia. George's master thesis was on direct shear testing of geosynthetic interfaces and his doctoral dissertation was on landfill leachate clogging of soil and geosynthetic filters. Both are regularly cited to this day.
Dr. George Koerner is a Professional Engineer in both Pennsylvania and New Jersey, and is an ASQC Quality Auditor. During his 30-years of geosynthetic activities, Dr. Koerner's output has been tremendous and he has to his credit the following publications:

- Books Edited or Co-Edited – 15
- Journal Papers – 18
- Symposium and Conference Publications – 40
- Book Chapters and Published Reports – 4
- Miscellaneous Articles – 30

The Geosynthetic Institute is a nonprofit research and development organization dedicated to the proper use of geosynthetics in its myriad applications. As director of the Geosynthetic Institute, Dr. George Koerner is also in charge of the laboratory accreditation and inspection certification programs.