MERCURY

Screens and Liners in Water Well Construction

08 - 12 Aug 2027
Online

Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
Amman - Jordan: +962 79 712 3347

Screens and Liners in Water Well Construction

Ref.: 15923_338682 **Date:** 08 - 12 Aug 2027 **Location:** Online **Fees:** 2900 **Euro**

Introduction:

In water well construction, screens and liners are crucial to ensuring the well's longevity, efficiency, and safety. Screens are designed to allow the passage of water while preventing the infiltration of unwanted particles, such as sand or debris. They are typically placed at the well's intake zone to filter water effectively.

On the other hand, liners provide structural integrity to the well, preventing the collapse of the well casing and protecting the water source from contamination. Screens and liners help optimize water extraction while safeguarding the well and the surrounding environment. Understanding their design, materials, and installation methods is vital for building successful and sustainable water wells.

This Screens and Liners in Water Well Construction course delves into the critical elements of designing and constructing wells to meet various needs, from drinking water wells to deep water wells. Participants will explore Colorado water well construction rules and gain insights into water well construction details, including essential aspects such as water well construction diagrams and manuals of water well construction practices.

The Screens and Liners in Water Well Construction training covers hand-dug water well construction techniques and modern methods using liners for water wells to ensure durability and efficiency. Participants will examine types of water well screens, their applications, and how to select the most effective water well screens for different geological conditions. Whether working on small-scale or large-scale projects, this training equips professionals with the skills and knowledge to implement best practices in water well construction.

Targeted Groups:

- Water well drilling contractors.
- Environmental engineers.
- Hydrogeologists.
- Water resource managers.
- Construction and infrastructure engineers.
- Water well maintenance professionals.
- Geotechnical engineers.
- Municipal water supply operators.
- Agricultural irrigation specialists.
- Sustainability and water conservation experts.

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Course Objectives:

At the end of this Screens and Liners in Water Well Construction course, the participants will be able to:

- Understand the role of screens and liners in water well construction.
- Learn the different types of screens and liners used in well design.
- Gain knowledge on selecting appropriate materials for screens and liners.
- Master the installation techniques for screens and liners in water wells.
- Develop skills to troubleshoot and maintain screens and liners.
- Analyze the impact of screens and liners on well performance.
- Understand best practices for ensuring water quality and flow efficiency.
- Learn how to design wells that meet environmental and regulatory standards.
- Explore sustainable practices in water well construction.
- Enhance the ability to address challenges in water well maintenance and repair.

Targeted Competencies:

By the end of this Screens and Liners in Water Well Construction training, the participant's competencies will:

- Understanding screen and liner materials.
- Designing effective screen and liner systems.
- Installation techniques for screens and liners.
- Assessing water quality and filtration needs.
- Analyzing water well performance and efficiency.
- Troubleshooting common screen and liner issues.
- Ensuring structural integrity of the well casing.
- Managing water flow and preventing clogging.
- Implementing sustainable water well construction practices.
- Complying with industry standards and regulations.

Course Content:

Unit 1: Introduction to Screens and Liners in Water Well Construction:

- Overview of water well construction processes.
- Screens and liners are important to ensure water well performance.
- Types of screens and their functions in water filtration.
- Different liner materials and their roles in well integrity.
- Factors influencing the choice of screens and liners.
- How screens and liners impact water quality and water well longevity.
- Common challenges and solutions in using screens and liners.
- Environmental considerations in screen and liner selection.

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Unit 2: Materials and Design of Screens and Liners:

- Types of materials used for screens: steel, PVC, and stainless steel.
- Characteristics of different screen openings and their suitability.
- Designing screen and liner systems for specific water well conditions.
- The role of slot size, shape, and depth in screen efficiency.
- Calculating the appropriate length and diameter of screens.
- Choosing liners based on water well depth and groundwater quality.
- Design considerations for preventing clogging and ensuring smooth water flow.
- The importance of corrosion resistance in materials selection.
- Analyzing the impact of design choices on water well performance.

Unit 3: Installation Techniques for Screens and Liners:

- A step-by-step process for installing screens and liners.
- Proper placement of screens to maximize water extraction.
- Techniques for securing liners to prevent casing collapse.
- Handling and positioning of materials during installation.
- Tools and equipment required for installation.
- Common installation challenges and how to avoid them.
- Quality control during the installation process.
- Coordination with drilling operations to ensure successful integration.
- Monitoring well structure and performance during installation.

Unit 4: Maintenance and Troubleshooting of Screens and Liners:

- Regular maintenance requirements for screens and liners.
- Identifying signs of wear and damage in screens and liners.
- Techniques for cleaning and unclogging screens.
- Repair methods for damaged liners and screens.
- When should screens or liners be replaced to maintain water well efficiency?
- Best practices for prolonging the lifespan of screens and liners.
- Addressing common operational issues: scaling, clogging, and corrosion.
- The role of well rehabilitation in extending well life.
- Monitoring water quality and flow rate to assess screen and liner health.

Unit 5: Regulatory Standards and Sustainable Practices in Well Construction:

- Overview of industry standards and regulations for water well construction.
- Ensuring compliance with local and international water quality standards.
- Sustainable practices in the selection and installation of screens and liners.
- The role of eco-friendly materials in well construction.
- Minimizing environmental impact during installation and operation.
- Proper disposal and recycling of well construction materials.
- Balancing cost-effectiveness and sustainability in design choices.
- Emerging technologies for improving screen and liner efficiency.
- Trends in sustainable water well construction practices.

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Registration form on the :
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code: 15923 **From:** 08 - 12 Aug 2027 **Venue:** Online **Fees:** 2900 **Euro**

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