

BELOW GRADE BLINDSIDE WATERPROOFING  
FOR NEW CONSTRUCTION

Blindside waterproofing is a system where the waterproofing membrane is temporarily attached to soil retaining system prior to the installation of the permanent foundation wall. There are two types of products typically used for blind side waterproofing in the Washington, DC Area. TCE is authorized to inspect multiple below grade waterproofing systems.

The two main blind waterproofing systems in the Washington, DC Area include Bentonite systems and adhered Polyethylene films. Both systems are described below.

**BENTONITE CLAY BASED WATERPROOFING**

Bentonite clays act as waterproofing by swelling when exposed to moisture becoming impervious to water. Bentonite is most effective when properly confined so the product can swell to fill voids. Older bentonite clay systems typically included kraft paper panel boards which are no longer used due to their inflexibility to fill voids when concrete is poured against them and when flowing water washed away the bentonite system. Newer more flexible systems are currently recommended including laminated membranes where the bentonite is bonded by woven fabric to prevent water that infiltrates the area to wash away the waterproofing material.

- **ADVANTAGES:**
  - **COST** – Typically less expensive than adhered Polyethylene films.
    - Manufacturers offer no leak warranty
    - Ease of installation if the back-up wall is properly prepared
- **DISADVANTAGES**
  - Back up wall has to be carefully prepared to provide adequate containment
  - Not an Adhered System – water that penetrates through the membrane may travel along the concrete wall with water pressure.
  - Requires to be wet to be effective. Areas where soil wets and dries can cause loss of bentonite clay. If Bentonite is unconfined it can shrink upon drying creating gaps in the system.



Photo 1. Bentonite System Example with Lagging



Photo 2. Close view of Bentonite System

## **HIGH DENSITY POLYTHELYNE FILMS**

Waterproof sheets are coated with pressure-sensitive adhesives. The adhesives form a continuous mechanical bond to the concrete cast against it. The seams are lapped and sealed with a factory applied adhesive.

- **ADVANTAGES:**
  - Contact adhesive reacts with concrete creating bond (Adhered System)
  - Unaffected by ground settlement or other events after initial adhesion.
  - Leak tight warranty provided by manufacturer
  
- **DISADVANTAGES**
  - Typically more expensive than a Bentonite system
  - More labor intensive to install due to sealing and taping of the seams



Photo 2. High Density Polyethylene Film Example against lagging

In order to receive a warranty a certified inspector is required to review the daily installation of the below grade waterproofing to ensure that the waterproofing is installed correctly

Additional items to consider:

- Ground water table and adjacent drainage system
- Water stops at constructions joints should be coordinated with waterproofing system.

- Drainage system designed for the building to be coordinated with the below grade waterproofing system
- Manufacturer detailing of transitions and support of typical details
- Warranty coverage by manufacturer and response to detailing during construction.

TCE has extensive experience in waterproofing design and inspection and can help Architects, Developers, Owners, and Property Managers to design a waterproofing system that can be efficient, cost effective, lasting and performing. In addition to new waterproofing design, TCE has 40 years of experience in helping owners identify the causes of leaks in existing buildings and providing the appropriate repair procedure.

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