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PRE-HYDRATED PUDLO MEMBRANE BW

PUDLO Membrane BW, is a waterproofing product deemed as a Type A system in accordance with BS8102:2009 that “activates” upon contact with water, and the bentonite component of the product swells and functions as a water barrier. It is important to consider whether the “unconfined hydration” of PUDLO Membrane BW (unconfined, meaning instances where the product is wetted before being covered with soil or concrete) requires the product to be removed and replaced with new materials. In most cases, material replacement is not necessary, and the PUDLO Membrane BW will perform as intended regardless of its moisture content at the time of covering. The purpose of this document is to describe the conditions of pre-hydrated PUDLO Membrane BW and to provide general recommendations so that a case-by-case decision can be made on the serviceability of hydrated PUDLO Membrane BW.

PUDLO Membrane BW is confined between two geotextiles which are uniformly needle punched together to create a three-layer membrane and provide the products structural integrity.

When manufactured, the needle punched construction of PUDLO Membrane BW, confines the bentonite. PUDLO Membrane BW can withstand unconfined hydration without losing its integrity, which will enable the system to be successfully deployed even in standing water for short periods without adverse effect.

Using PUDLO Membrane BW does not mean that PUDLO Waterproof Systems recommends wet installation conditions. Instances of unconfined hydration should be evaluated on a case-by-case basis. For example, the duration of the exposure, the degree of hydration, and the bearing loads it will be subjected to during construction are all factored into a project-specific recommendation as to whether the pre-hydrated material can remain in place. When assessing whether to remove and replace any prematurely hydrated PUDLO Membrane BW, an examination of the hydrated areas should be conducted to verify that:

- Encapsulating geotextiles have not been separated, torn, or otherwise damaged.
- No evidence that the needle punching between the geotextiles has been compromised.
- PUDLO Membrane BW does not leave deep indentations when it is walked upon.
- Membrane overlap seams are intact and are not contaminated with sediment or construction debris.



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If the above conditions are met, then the PUDLO Membrane BW can probably remain in place. Although it may contain more water than it would have under soil or concrete cover, this extra water will migrate out of the PUDLO Membrane BW when consolidation occurs as normal loads are applied. Even if the PUDLO Membrane BW is hydrated to the extent that bentonite would be displaced under foot traffic, it is possible to allow the material to air-dry such that bentonite is no longer fluid and cannot be displaced by concentrated loads. PUDLO Waterproof Systems recommends that all standing water be removed from the material as soon as possible if it becomes submerged at any time during the installation process.

The above procedures will ensure that the PUDLO Membrane BW will maintain its physical integrity if pre-hydrated. To assess the performance of hydrated PUDLO Membrane BW, PUDLO Waterproof Systems has tested PUDLO Membrane BW specimens that have undergone a 30-day submersion period in water. The objective of these tests was to determine if the swelling pressure exerted by the hydrated bentonite could cause damage to the performance of the product. Test results indicate that neither the physical integrity of PUDLO Membrane BW (as measured by its peel strength) nor its ability to adhere to concrete was negatively affected after 30 days of hydration. The 30-day test period was a worst-case exposure scenario. PUDLO still recommends that standing water be removed as quickly as possible to ensure that the product will function effectively.

Premature hydration is an extremely common occurrence, and PUDLO Membrane BW is designed to sustain it without compromising the performance characteristics of the product. In PUDLO Waterproof Systems experience, such cases are a rare exception and occur only because of prolonged hydration followed by direct vehicular traffic loads. Most instances of prematurely hydrated PUDLO Membrane BW do not require removal or replacement of the product.