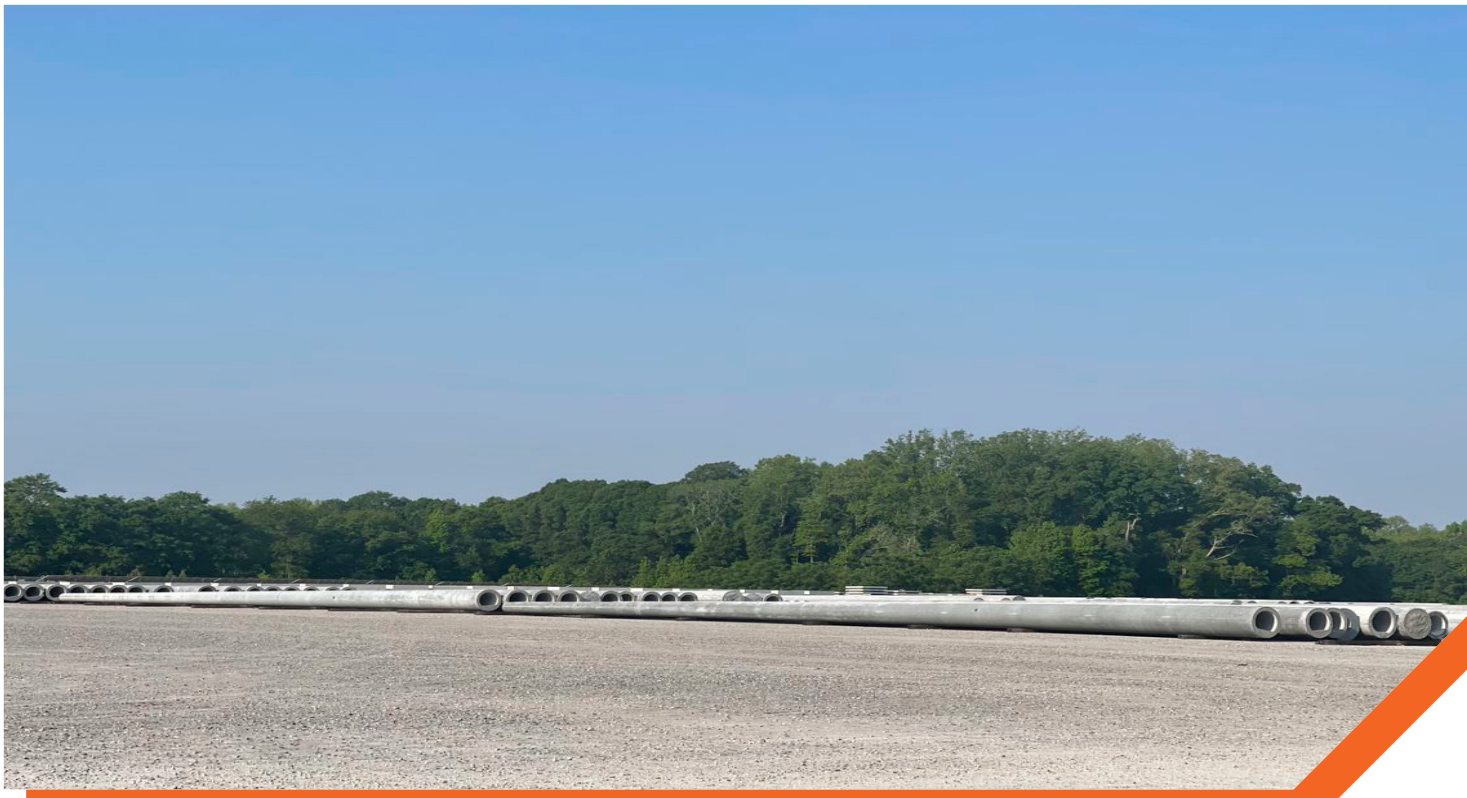

» Client **Valmont Industries**

» Location **Georgia, USA**

» Products used Donplast® **PC214**

Donplast® **HC3**

Project requirements

Valmont Industries, renowned as a global leader in engineering and innovation, specializes in custom-engineered solutions across multiple sectors including utility, agriculture, and infrastructure. With an impressive capability to deliver solutions fabricated from concrete, steel, or hybrid materials, Valmont caters to diverse technological and environmental demands.

In pursuit of modernizing vital infrastructure while emphasizing sustainability and reliability, Valmont Industries sought an advanced concrete solution for their spun-cast concrete pole production. The challenge was to find a concrete mix that not only provided superior workability and compaction appropriate for spun-cast production but also maintained high standards of durability and aesthetics.

DCP Solution

Donplast® **PC214**

In the advanced manufacturing process at Valmont Industries, where precision and efficiency are paramount, there is a critical requirement for an admixture that can enhance the strength and workability of concrete. This admixture must effectively reduce the water-to-cement ratio without compromising the wokability or structural integrity of the concrete, essential for producing high-quality spun-cast concrete poles with superior aesthetic and functional attributes.

Donplast® PC214 stands at the forefront of water-reducing admixtures, crafted from polycarboxylic polymers and selective additives. This advanced formulation significantly enhances the concrete's water efficiency, allowing for a high-strength and workable mix at a reduced water-to-cement ratio.

The resultant concrete achieves superior durability and performance, with minimal air entrainment, crucial for the structural integrity of spun-cast poles.

The application of **Donplast® PC214** in Valmont Industries' production process has markedly improved the workability of concrete, facilitating perfect compaction and a consistent surface finish. This is particularly critical in spun-cast concrete pole production where the aesthetic and structural qualities of the poles are paramount. Moreover, the improved water impermeability characteristics of the concrete mix help in increasing the lifespan of the poles under various environmental conditions.

DCP Solution

Donplast® **HC3**

For large-scale concrete operations like those at Valmont Industries, having the ability to extend the workability of concrete mixes is vital. This ensures that the concrete remains manageable and stable, ready for use without time constraints, which is particularly beneficial for projects requiring flexibility in scheduling and application.

Donplast® HC3 is a liquid admixture that controls the hydration process of cement effectively. It ensures that concrete mixes remain workable for long periods of time, which is especially beneficial for manufacturers of spun-cast concrete poles like Valmont Industries.

This extended workability provides the needed subsequent working time for finishers to ensure that concrete is spread properly and secured in the steel column forms.

In practice, the use of **Donplast® HC3** at Valmont has led to substantial improvements in operational efficiency. The ability to control the setting time of concrete has minimized potential waste and enhanced the quality control measures during production. This admixture has proven particularly beneficial in maintaining the high standards required for Valmont's utility poles, ensuring that each batch meets stringent quality specifications.

DCP's Admixture Dispensing System

The installation of a custom admixture dispensing system by DCP at Valmont Industries has streamlines the integration of DCP admixtures into the concrete product process. This system allowed for precise, automated dispensing of the admixtures, ensuring consistent concrete quality and adherence to exact formulation requirements.

By automating the dosing process, Valmont has achieved consistent product quality, with reduced manual errors and optimized use of materials.