

Case Study



- » Client **Quality Block Co. Inc.**
- » Location **Georgia, USA**
- » Products used **Donplast ES500W**

Project requirements

Quality Block is a leading Concrete Masonry Unit manufacturer that designs and builds various types of concrete blocks offering a full range of designs and colors with unique texture and appearance, its blocks are used in a wide range of applications such as construction blocks, fence blocks, decorative blocks, etc.

An inside showroom area is available for masonry contractors, general contractors, home builders, and their clients for the selection of block style and color.

Therefore, the consistent color and texture of their blocks is always a must for both display and the final products supplied to clients. Quality Block was facing multiple issues with the quality of its concrete blocks.

This required a solution that could be achieved with a redesigned mix and an admixture that could provide an appealing texture while minimizing corner cracking and improving ultimate strength of their products.

DCP Solution

Donplast ES500W

Successful block production relies on a well-designed concrete block mix, and DCP was able to provide technical support based on considerable progress in concrete technology due to the consistent development and utilization of highly efficient concrete admixtures.

By having our own production and research facilities, DCP is able to focus on and promote innovation and collaboration to produce versatile and high-quality products with optimal formulations that meet any client's needs, especially with a company like Quality Block, which takes quality and professionalism very seriously.

The optimal slump, workability, and setting time needed for casting the blocks require careful selection of the plasticizing admixtures while also ensuring a uniform quality of the produced concrete products, therefore, **Donplast ES500W** was selected.

Notable improvements in Quality Block's mix design were observed after using the **Donplast ES500W** plasticizing admixture when compared to the previously used mix design.

Donplast ES500W is a premium quality plasticizing admixture based on polycarboxylic polymers with selective additives which are specially formulated for machine-made (dry-cast) concrete products.

Donplast ES500W is specially designed to significantly assist in the production of more uniform and consistent quality concrete products.



After the addition of **Donplast ES500W** in the concrete blocks mix design, it was noted that **Donplast ES500W** was able to provide better an improved finish of the surface profile in concrete blocks of all sizes while using less manufactured sand or "screenings". Current contractors using the new casted blocks on a large municipal project commented that the block was noticeably smoother.



DCP Solution

Donplast ES500W also reduced the cement used in the mix design by 15 lbs. per yard while also providing higher compressive strength by around 70% compared to the former mix design. The resulting concrete mix enabled us to meet the objective of reduced corner cracking and stress cracking when strapping the blocks down for transport.

Moreover, the addition of **Donplast ES500W** gave the company the ability to incorporate a more cost-effective source of sand in their mixes; river sand produced from Quality Block's owned quarry.

In terms of time saving, the resulting concrete mix also enabled the company to ship on the same day of the kiln removal, if necessary.

Before-After Images



Before



After