

## 10.200 - FIBERCEMENT PRODUCTS



### **High Reactivity Metakaolin (HRM)** **Engineered Mineral Admixture for Use with Portland Cement**

*PowerPozz™* is a **white pozzolanic mineral admixture** that enhances the performance of Portland cement in many types of cement-based products. It is particularly well suited for use in Fibercement.

**BENDING STRENGTH** of Fibercement based products are considerably higher when *PowerPozz™* is used:

- A High Reactivity Metakaolin, *PowerPozz™* combines chemically with calcium hydroxide, creating calcium silicate and calcium aluminate hydrates.
- With a consistent particle size distribution, *PowerPozz™* is several times smaller than cement particles. Thus, *PowerPozz™* forms a more densified paste by filling voids that would otherwise be present in plain cement compositions.

### **DIMENSIONAL STABILITY**

- High Reactivity Metakaolin has been shown to **reduce drying shrinkage** versus comparable silica fume enhanced composites.
- **Reduced overall permeability** will greatly reduce the swelling and shrinkage associated with all types of exposure conditions.

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### IMPROVED BOND STRENGTH

The densified paste system, with enhanced internal cohesion and adhesion, will reduce the incidence of weak fiber/paste interfacial zones without increased brittleness, thus **improving the strength and toughness** of the system.

### EFFLORESCENCE CONTROL

*PowerPozz™* is a lime-hungry pozzolan. It has been shown to combine with more than its weight equivalence in calcium hydroxide, helping to prevent **Primary Efflorescence** during curing. Filling the spaces between cement grains will limit internal “bleeding”, thus reducing  $\text{CaCO}_3$  formation and staining.

In hardened, cured products, *PowerPozz™* will help prevent **Secondary Efflorescence** caused by wet/dry cycles in two ways:

- The  $\text{Ca}(\text{OH}_2)$  combines chemically with the High Reactivity Metakaolin and renders the lime unavailable to be leached to the surface air by migrating moisture.
- The more dense mixture reduces the ingress and egress of moisture in the cementitious mixture. When moisture is prohibited from penetrating, the opportunity for efflorescence is eliminated.

### COLOR NEUTRAL

*PowerPozz™* is a white pozzolan. It will not darken existing compositions. In fact, in colored products, it offers the solution to problems with pozzolan color variability by providing quality-assured, lot-to-lot consistency.

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### SCREEN RETENTION - HATSCHEK PROCESS

*PowerPozz™* platelet-shaped particles will benefit in improved screen retention in Hatschek processes, providing production gains while enhancing output quality. *PowerPozz™* has been engineered to optimize micropacking, surface area, and reactivity without sacrificing physical handling and production efficiency.

### CONSISTENCY OF SUPPLY

An engineered product, *PowerPozz™* is manufactured to **exacting specifications**. Consistent in its properties and performance, *PowerPozz™* delivers reliable results.

**EASE OF USE** - No special handling equipment required.