CHOOSE THE RIGHT POZZOLAN

Today, pozzolans are in wide usage. The question, increasingly, is no longer, “Should we use pozzolan?”, but, “Which pozzolan is best for the project?”.

The two most commonly used pozzolans are fly ash and silica fume. MetaMax High Reactivity Metakaolin provides a third option.

Characteristic	**Fly Ash**	**Silica Fume**	**MetaMax HRM**
Reactivity	Moderate	High	High
Concrete Strength	Little early strength gain; modest ultimate strength gain.	Significant increase in both early and ultimate strength.	Significant increase in both early and ultimate strength.
Concrete Durability	Can improve durability	Significant improvement	Significant Improvement
Concrete Workability	Fair to Good	Poor. Sticky feel and high water demand makes placing, finishing and curing difficult and requires use of plasticizers.	Good. Feels creamy or buttery on trowel. Compared to silica fume, it has easy consolidation, less plastic shrinkage, and faster cleanup.
Appearance	Tan or gray, inconsistent color.	Dark, inconsistent color.	Bright white, consistent. Tends to reduce mottling of concrete and plaster surfaces.
Sustainability	Replaces cement to reduce CO_2. Post industrial recycled content.	Replaces cement to reduce CO_2. Post industrial recycled content.	Replaces cement to reduce CO_2. Brightens concrete to improve lighting efficiency and reduce heat island effect. Allows use of post consumer recycled glass aggregate.
Particle Size, micron	5 to 20	0.4 average	1.2 average

Quality Assurance	As a byproduct of coal-fired electrical generation, production is not optimized for product quality.	As a byproduct of silicon smelting, production is not optimized for product quality.	Dedicated product under ISO 9002 quality control program to ensure consistent lot-to-lot color and performance