

SMART CONCRETE®



SMART CONCRETE: Technologically advanced concrete that automatically responds to its environment

Using Kryton technologies, Smart Concrete will respond to its environment to protect itself against corrosion, erosion, abrasion and water penetration. Smart concrete will last many times longer than regular concrete – even in the harshest conditions.



Needle-shaped crystals under 30x magnification

For 45 years, Kryton has been developing technologies for improving the durability of concrete structures. In the 1970's, Kryton pioneered its ["Krystol" technology](#), which turns normally porous concrete into watertight concrete. Concrete is able to protect itself against water intrusion by filling its capillary pores with millions of microscopic, needle-shaped crystals. In 1980, Kryton invented the world's first crystalline [waterproofing admixture](#). Employing the same Krystol technology, surface applied coatings and membranes are eliminated as Krystol turns the concrete itself into a waterproof membrane. Just as importantly, Krystol treated concrete has the unique ability to respond to moisture entering through newly formed cracks by growing more crystals to shut off the water. This "self-sealing" ability was a critical advancement in concrete performance. Over the past three decades, this technology has revolutionized the way concrete structures are built all around the globe.

More recently, Kryton has introduced a highly specialized admixture that gives concrete up to six times greater resistance to abrasion or erosion. Kryton's ["Hard-Cem"](#) technology is ideal for industrial floors, roadways, hydro spillways and many other applications in transportation, agriculture, power generation and marine structures. Hard-Cem overcomes the performance issues, practical constraints and safety concerns of existing hardening strategies while actually costing much less.

The next generation of Smart Concrete technology is sensing and monitoring devices. These devices will tell us critical information about concrete structures as they are built and throughout their lifetime – everything from early age strength development, to the appearance of cracks, the onset of corrosion and the progress of carbonation just to name a few.

Concrete has always been a durable material to build with. Concrete structures have proven this through the test of time. But today we look at our aging infrastructure and ask if we can build things even better. The answer is yes – using Kryton's Smart Concrete technologies.