AGGREPLEX
SUSTAINABLE POZZOLANS

AggrePlex manufactures PozzoDyne™, an Activated Ground Glass Pozzolan (AGGP) derived from diverted landfill waste glass, serving as an alternative supplemental cementitious material (SCM) and replacement for Ordinary Portland Cement (OPC). This product addresses the needs of both the solid waste and cement/concrete industries by transforming typically landfilled waste glass from material recovery facilities into a high-performance SCM. AGGP is particularly effective in mitigating Alkali-Silica Reaction (ASR) and meets stringent ASTM C1866/C1866M-20C standards, ensuring reliability and effectiveness.

Due to clean energy initiatives and a shift away from fossil fuels, there is a significant shortage of common SCMs like fly ash and slag. AGGP, derived from finely ground waste glass, offers a sustainable and high-performing alternative. This innovative solution is especially relevant in states such as Florida, California, Georgia, Texas, and Illinois.

The production process of AGGP involves cleaning and micronizing waste glass to achieve particle sizes smaller than 20 microns, with over 50% of particles being 5 microns or finer. This fine particle size distribution enhances AGGP's reactivity and performance in concrete applications, optimizing its effectiveness in mitigating ASR.

Microtec's advanced technology is integral to AGGP production, providing superior throughput, enhanced energy efficiency, and significantly reduced capital intensity compared to conventional milling technologies. Historically used for refining virgin technical raw materials, this technology now optimizes complex, over-engineered recycled materials, supporting the circular economy and sustainability goals by reducing the need for environmentally damaging practices such as mining and deforestation.

AggrePlex plans to establish state-of-the-art 100,000-ton/year AGGP facilities across Florida, California, Georgia, Texas, and Illinois. These facilities will initially process post-consumer container glass and expand to other types of glass, such as windshield, solar panel, and fiberglass from wind turbine blades. This advanced process reduces carbon emissions by 92% per ton compared to traditional cement production, significantly lowering the global warming potential of concrete by up to 20%.

AGGP has been rigorously tested and validated by leading cement and concrete companies and universities, including Ozinga, CEMEX, CalPortland, Titan America, CRH Ash Grove/Preferred, Vulcan Materials, MIT, and the University of Miami, demonstrating its effectiveness and reliability as a supplementary cementitious material.

AggrePlex is committed to creating a circular economy model around waste glass generation. By collaborating with local recycling partners, the company aims to recover waste glass diverted from landfills and transform it into high-performance AGGP. This material will be supplied to the concrete industry, resulting in ultra-high-performance concrete that enhances the resilience and strength of the built environment and infrastructure in targeted states.

The use of AGGP in concrete offers numerous benefits, including increased resistance to seismic events, improved thermal insulation (R-Value) for energy-efficient buildings such as cold storage facilities and data centers, and extended lifecycles with lower maintenance and repair costs. Additionally, the superior durability of AGGP concrete leads to lower insurance costs and eligibility for LEED credits, promoting cost-effective green financing alternatives.

AggrePlex's leadership team includes experienced executives from the resource extraction, waste, and recycling sectors, with Kevin Crutchfield as CEO, Anthony Cialone as President, James Burnham as EVP, Josef Fischer as CTO, Herb Northrop as Director of Business Development, David Petroni as Director of Plant Operations, and Koren Wah as Director of LEAN Manufacturing & Quality Production. The company aims to increase glass recovery rates from 25% to 75%, providing high-paying technical jobs and supporting sustainability goals in each of these states.

By integrating these processes, AggrePlex is driving sustainability and environmental stewardship, transforming waste into valuable construction materials, and supporting the goals for a greener, more resilient built environment across Florida, California, Georgia, Texas, and Illinois.