



Foundry Green Sand Bonding Technologies

Custom Green Sand Premixes and Bentonite

GREEN SAND ADDITIVES

PREMIX™
IMQUICK®
ENVIBOND®
QUICKCOL™
IKOBOND® BC
HYDROBOND®
CARBONITE®

FOUNDRY PRODUCTS

ANTRAPEX® - Core Sand Additives
RIKO® - Recovery Materials
SLAGBUSTER® - Slag Coagulant



IMERYYS

Partner to the Foundry Industry



GREEN SAND ADDITIVES

PREMIX™

IMERYYS is a pioneer in the development of the PREMIX™ conventional molding sand binders formulated with various clay products, various organic and inorganic additives. IMERYYS's modern blending equipment permits the necessary sand additives to be mixed according to the customer's specific formula. The blending method provides foundries with the ability to adjust and control additive requirements for the entire range of cast metal production to meet the expectations of the future.

CARBONITE®

Carbonites have been developed by IMERYYS as a unique family of Carbonaceous Additives that support molding sand (some of these include): Carbonite® SA and Carbonite® RSB

IMQUICK®

Water is THE essential component in the activation of bentonite used to bond in the green sand process. While necessary to activate the clay, free moisture, not tied up in the bentonite platelets structure is the enemy of metal. If it exists the free moisture can cause significant casting defects.

With IMQUICK® IMERYYS has developed a patented, bentonite based formulation which includes finely sized industrial mica. As part of a premix formulation the added mica provides lubricity, which allows for better sand flowability in the molding process, better compaction and more consistent mold hardness; all of this without the need for additional moisture. In fact, if reduced moisture is your goal it's possible to run lower moisture percentages with IMQUICK® versus most conventional premix formulas.

QuickCol™

For those foundries that prefer to buy bentonite, seacoal and other additives separately and blend in-house IMERYYS has QuickCol™ It's the same high purity, low sulfur coal we're known for, but with the addition of mica made in the coal processing operation. This provides foundries with the opportunity to take advantage of the Quick technology and still blend in-house.

IKOBOND® BC

IKOBOND® BC is the newly developed patent pending clay technology designed for superior durability for high density molding. The strengths generated allow quicker sand development, optimizing consumption.

A special blend of bentonite with a small percentage of high refractory clay that improves thermal expansion results reduces the amount of bentonite burned out in the process, resulting in better mold integrity and strength.

Envibond®

In order to address issues of smoke and emissions from combustible materials IMERYYS has developed Envibond® This formulation consumes the needed combustible materials far more efficiently than conventional premixes. The formulation can reduce seacoal by some 30% to 90%. The formulation is far more efficient at consuming the gases that are generated, reducing smoke and hazardous organic compounds that result.

Hydrobond®

This technology incorporates magnesium oxide to provide for higher green strength and lower dry strength in a 100% sodium bentonite formulation. The product has been shown to reduce scrap rates, improve sand properties and shorten casting shot blast times. The IMERYYS solution incorporates veral magnesite (magnesium rich mineral) provides improved shakeout without the need for calcium bentonite. Patent pending.



FOUNDRY PRODUCTS

Core Sand Additives

ANTRAPEX®

ANTRAPEX® is a service-proven core sand additive that positively influences both the core and the bentonite-bonded molding material. The additive is mixed with core sand and thus contributes to reducing expansion and penetration defects. After core breakdown, ANTRAPEX® passes into the molding material where it has a positive effect on the casting surface and sand stability.

Bentonite Recovery from Foundry Dust

RIKO®

Dust collection on your sand preparation, shakeout and return sand are an absolute necessity. Especially with the more demanding Permissible Exposure Limits instituted by the USEPA. With it comes the extraction/loss of useable materials including active clay and good carbon. Our patented RIKO® process recovers useable clay and carbon from dust collector fines, returning this valuable material into the green sand system.

Active clay in the dust collector is largely bonded to fine sand particles. The high surface area of these fines and the bonding strength of bentonite make separation a real challenge. Our patented water based process uses high shear agitation, hydro-cyclone separation and dynamic screening to separate the constituents. The result is an 83% recovery of clay and carbon. The

resulting slurry is used at the mixer/muller as a portion of the water and bentonite addition for the system. The pre-hydrated clay provides for easier mixing, faster sand property development and quicker sand system changeover when switching castings on the mold line. The slurry produced is sizably less expensive to produce versus the delivered price of conventional dry bentonite premixes.

Slag Coagulant

SLAGBUSTER®

SLAGBUSTER® is made out of granular, non-metallic material specifically designed to remove slag in molten metal applications. Any slag present on the molten metal will adhere to SLAGBUSTER® and

continue to float. The combined slag/ SLAGBUSTER® can then be removed from the molten metal in large pieces, resulting in clean molten metal for the casting process.

Custom Bentonite Solutions

Unlike others, IMERYS is not locked to a specific bentonite reserve. This provides us with the opportunity to source bentonite both domestic and international. We have spent the last two years investigating different geological formations and the resulting bentonite's applicability and performance in metal casting applications. Using these differing clay types we can customize a solution specific to a foundry's need.

RIKO® System





TECHNICAL SERVICES

Our sand and bentonite laboratory facilities are staffed with a team of highly qualified engineers and technicians. Our USA testing facilities offer extensive product testing and research capabilities that allow us to better support our customers and assist them in meeting their competitive challenges. We also offer monthly green sand testing services, laboratory validation support and extensive training on laboratory procedures and development of green sand expertise.



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