



Product: SandSeal® MMS™

Physical Data:

Appearance: Greyish free flowing powder
Odor: Odorless
pH: NA
Freeze Point: NA
Specific Gravity: 2.56 (Water = 1.0)

Description & Function:

SandSeal® MMS™ is a synthetically modified colloid in dry form which functions within a SlurryPro® CDP™ or SlurryShield® fluid to form a less permeable polymeric film at the formation interface. In addition to assisting in fluid loss control SandSeal moderately increases slurry density or specific gravity. It also promotes a soft grouting effect within the membrane-formation interface in porous soils when the slurry pH is maintained above 10.0 using ProTek®-100™.

General Application Instructions:

SandSeal® is an inexpensive highly specialized fluid loss additive for use in a KB's earth stabilization systems. SandSeal is inert and does not significantly alter the system's viscosity, as do traditional fluid loss agents such as starches, cellulose, or reactive colloids such as bentonite. The general guidelines for addition of SandSeal are; pour the product slowly (sifting) in 20 to 50 pound or 10 to 23 kilo increments into fresh or recycled slurry in the mix tank or when required to the slurry in route to the excavation. When adding SandSeal MMS at the point of excavation, please pour SandSeal slowly into a KB Eductor feeding into an adequately flowing stream of slurry emptying into the excavation. SandSeal may also be added directly to the stream of fluid flowing into the excavation while the digging tool is one meter (3 feet) below the surface of the slurry and rotating to form a vortex within the slurry column. Avoid the agglomeration of SandSeal into "grey unhydrated balls" in the slurry by slowly sifting product into the fluid stream. Feeding SandSeal too quickly with lack of proper agitation causes the agglomeration of polymer particles and wastes material. After completing the addition of SandSeal MMS to any excavation raise and lower the excavation tool from the top of the hole to the bottom to assist in proper agitation. The slurry viscosity within the excavation should never be allowed to drop below 55 seconds per quart regardless of what type of soil is being excavated. Additionally, the percent total entrained solids should not exceed one percent during excavation. Therefore, never add SandSeal in excess of 5 pounds / cubic yard or 3 kilos / cubic meter of slurry without specific direction from KB. The best method to check percent entrained solids is by the slurry's Specific Gravity. If the slurry S. G. exceeds 1.04 without the addition of WeightIt it should be assumed that the percent entrained solids have exceeded one percent and corrective action should be taken immediately to remove some of the entrained solids in a controlled manner. Contact KB for specific guidelines should controlled solids removal be required.

In addition to assisting with fluid loss control, SandSeal assists with formation wall stabilization as it acts as a light grouting agent in the presence of a ProTek treated KB slurry with a pH from 10.5 or higher. SandSeal may also be combined with WeightIt when slurry's specific gravity must be increased due to insufficient positive head height (2.5 meters / 7.5 feet) of the slurry column being able to be maintained above the natural water table.

When excavating more challenging formations, KB International's System additives including Instafreeze should be utilized in combination with a SlurryPro or SlurryShield system to increase slurry stabilization performance. The more challenging the formation type the more requirements for various SlurryPro Specialty Additives.



Unusual site conditions may arise during actual excavation, in which case the recommendations from KB technical personnel must always be followed.

Special Operational Precautions and Instructions:

The specific gravity range for the slurry should be maintained from 1.01 to 1.04 under normal operating conditions. If low hydrostatic conditions are encountered where the water table is less than 3 meters (10 feet) beneath the slurry level, the specific gravity of the slurry should be increased as required using Weightltt or a combination of Weightltt™ and SandSeal™ to raise the slurry S.G. accordingly.

Due to the unique characteristics of a KB Earth Stabilization System as compared to bentonite, several key operational procedures should be modified from bentonite systems. These modifications will have a major impact on the overall effectiveness and successful use of KB International's Earth Stabilization Systems. For smaller projects, please consult KB International's " General Operating, Product Addition and Testing Procedures." For larger or more complicated projects, please contact KB International for specific project planning.

Packaging:

SandSeal MMS is available in: 25 kilo / 55 pound multi-ply bags

Availability:

SandSeal MMS is available from KB International's warehouses in these geographical areas:

- | | | |
|---------------------------|------------------------------|----------------|
| Charleston, SC USA | Seattle, WA USA | England |
| Cerritos, CA USA | San Francisco, CA USA | Italy |
| Hong Kong | | |

KB's SlurryPro® CDP™ System, including additives, and SlurryShield® Technology have been awarded four US Patents, No. 5,407,909, 5,663,123, 6,248,697 and 6,897,186 as well as various corresponding international patents. Additional patents are currently pending.

KB International LLC

Main Offices:

P. O. Box 680648

Houston TX 77268-0648

USA

P: 1-281-880-7505

1-800-525-5237

F: 1-832-201-9196

Email: info@kbtech.com

For More Information:

Additional information on all aspects of the SlurryPro CDP Vinyl System is available from KB International LLC on request. General Operating Procedures provide more detailed recommendations for the use of KB's System in bored piles, diaphragm walls, and other applications.

The information in this bulletin is given in good faith and is accurate to the best of our knowledge. Because we can neither anticipate nor control the different conditions under which this information and our products are used, we make no warranty of performance, expressed or implied. Typical properties given herein are not specifications. Our policy is to continually review product formulations and manufacturing to assure technical suitability and cost-effectiveness. Product characteristics are subject to change without notice. Users of our products are responsible for compliance with government regulations and patent laws. The SlurryPro System is covered by the following US Patent's, 5,407,909; 5,663,123; 6,248,697; and 6,897,186 and various corresponding International patents. Other U.S. and International patents pending. All users should discuss the product with an appropriate representative of KB International, LLC before utilizing the product.