**DESCRIPTION**

HSG additives are high-performance grinding aids generally used to increase mill production and to improve the cement quality. These highly concentrated additives are formulated with select raw materials to guarantee consistent high quality and superior performance.

**CHARACTERISTICS**

Thanks to their polar nature, HSG additives notably reduce the attraction forces of cement particles, the main cause of agglomeration inside tubular mills. These additives are also able to modify the hydrated structure of cement, thereby improving strength.

The elimination or drastic reduction of agglomeration improves the granulometric distribution of the finished cement for better cement strength and enhanced efficiency in the separation process.

This allows for maximized production, power savings, and improvements of the specific surface of the finished cement. Customized formulations of HSG additives allow for the modification of the hydration produced by the cement, thereby increasing the early and/or ultimate strengths.

**APPLICATIONS**

HSG additives may be successfully utilized in all cases of pack-set phenomena (when not resulting from humidity) inside the mills, particularly in the grinding of Portland and limestone cements. Production increases due to usage of HSG additives generally vary between 10% and 30%, depending on the cement fineness, the grinding system available, the clinker’s mineralogical composition, the additive dosage and other factors. The low pack-set index obtained with HSG additives gives a better flowability of the dry cement powder with faster loading and unloading of trucks, railcars and barges.

**CHEMICAL/PHYSICAL DATA**

Please refer to the appropriate Safety Data Sheet.
**DOSAGE: (0.02% to 0.08%)**

Cements, Type I and II: 0.02% to 0.05%
Cements, Type III: 0.05% to 0.08%

The higher dosage threshold is recommended when the aim is maximizing the mill output and minimizing the pack-set index.

In any case, the optimum dosage must be determined through a reliable industrial trial, preferably with the help of MAPEI’s Cement Additives Division (C-ADD) technicians.

HSG additives should be added to the clinker conveyor belt or sprayed in the first mill compartment utilizing a suitable dosing system.

**PACKAGING**

HSG additives are available in plastic totes measuring 275 U.S. gals. (1 041 L) and in bulk tankers with 45,000 lbs. (20 412 kg) in capacity.

**STORAGE**

Maintain the additives at a temperature above 0°F (-18°C). In normal conditions, shelf life for HSG additives is at least 2 years.

**TECHNICAL ASSISTANCE**

MAPEI’s C-ADD specialists are available to optimize the grinding circuit during the industrial trials and to suggest the most suitable dosage system.

**SAFETY INSTRUCTIONS**

During the usage of HSG additives, respect the usual rules of industrial hygiene and manipulation of the chemical products. For details, please refer to the SDS.

**PRODUCT FOR PROFESSIONAL USE.**

**WARNING**

Although the technical details and recommendations contained in this Technical Data Sheet correspond with the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical applications. For this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences resulting from the use of the product.