SOMANY

CATALOGUE

DURABUILD®

GRINDING
AID SOLUTIONS

ENHANCING PERFORMANCE.
DELIVERING STRENGTH.

IMPROVED GRINDABILITY

ENHANCED PRODUCTIVITY

CONSISTENT QUALITY



ADVANCED CHEMISTRY | ECO-CONSCIOUS SOLUTIONS | TRUSTED PARTNERS

BUILDING STRENGTH.
BUILDING TOMORROW

SOMANY
DURABUILD

About Us

Somany Ceramics Limited is a global leader in tiles and ceramics, celebrated for its innovative designs and quality. It is amongst the world's largest and fastest-growing tile brands, exporting to over 80 countries across 6 continents with a manufacturing capacity of 75 lac square meter. In India, Somany stands at the forefront of the ceramic industry, offering an extensive range of Ceramic Wall and Floor Tiles, Polished and Glazed Vitrified Tiles, Sanitaryware, Bath Fittings and Adhesives and Grouts.

Strengthening its legacy of innovation, Somany has strategically entered the Building Solutions segment through the acquisition of a majority stake in Dura Build - a pioneering brand in the industry, founded in 1998 by the late Dr. Dhananjoy Ghanti, India's first recognized construction chemical chemist. Dura Build brings together leading brands such as Ambigard, Fixocrete, and Capiseal, offering a portfolio of over 250 specialized solutions that address complex construction challenges with exceptional value and performance.

Building on this strong foundation of innovation, technical excellence, and industry trust, Somany Durabuild has now expanded into high-performance Grinding Aid solutions designed to enhance cement manufacturing efficiency, improve grinding performance, optimize energy consumption, and deliver superior cement quality. Engineered with advanced chemical technology and backed by extensive technical expertise, our grinding aid range is developed to meet the evolving demands of modern cement manufacturing.

Technology

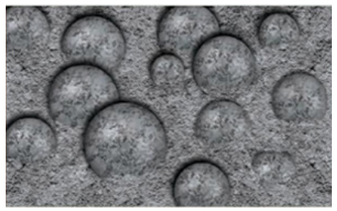
Re-defining cement market

Cement manufacture is a highly technical process in which every part has a decisive impact on the product quality as well as on economical and ecological production parameters. From the origin of the necessary raw materials, the clinker burning and cooling, to the careful adjustment of the cement formulation, cement manufacturers constantly strive for homogeneous quality of their products.

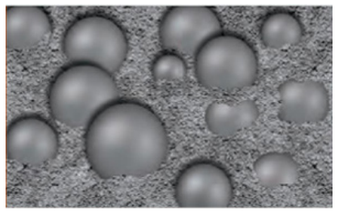
The cement grinding process is the final chance to adjust the cement quality to meet the demands set by relevant standards and cement customers. It combines influences from different areas like the mechanical grinding process, the chemical and physical raw material properties and the cement formulation itself. Interactions between these effects result in a very challenging process which needs skilled and experienced people on all sides.
Optimization of the cement formulation and the cement grinding process creates value. Application of the Somany Durabuild Technology can help you to further improve your process and profitability.

Small Drops with a Huge Impact

During cement grinding, unsatisfied charges develop on the newly created particle surfaces, which then cause an electrostatic attraction of the cement particles. The higher the targeted fineness, the more surface charges are generated. Increasing electrostatic attraction forces agglomeration of ground particles leading to basic actions like coating effect as shown in the image below:



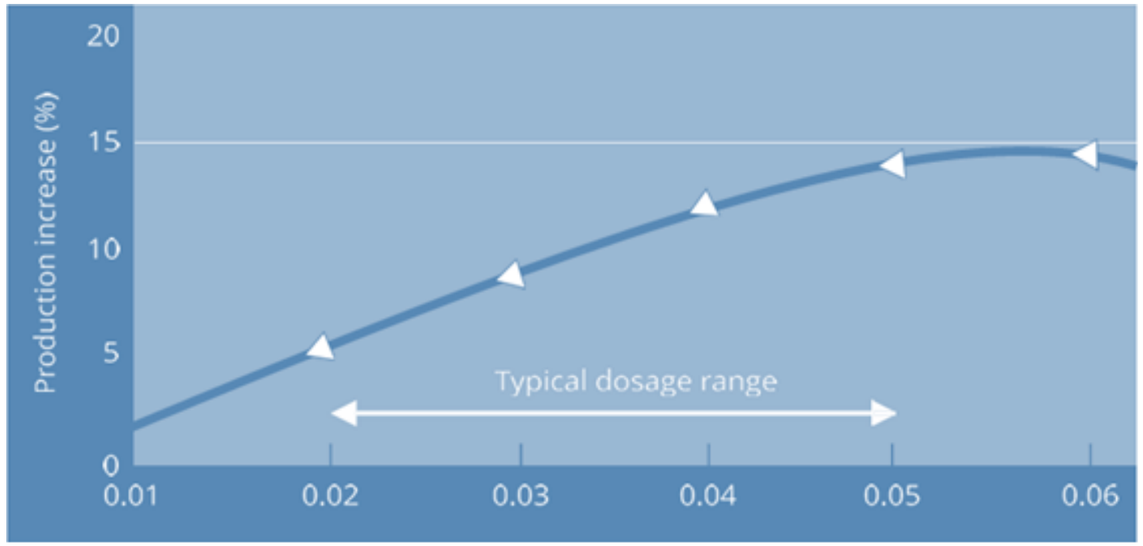
Ground particles stick on grinding equipment (coating effect) and soften the impact of the grinding media.



The use of Additive reduces the coating effect and leads to blank mill internals. The resulting intensified impact of the colliding balls enhances the grinding efficiency.

Grinding aids are usually added at low dosages, typically in a range of 0.02% - 0.05%, either onto the mill feed or directly into the mill itself. They are based on substances of high polarity. While being adsorbed on the existing and newly created cement particle surfaces, they neutralize the surface charges. As a consequence, the particle surfaces do not attract each other anymore. Three different effects can be observed:

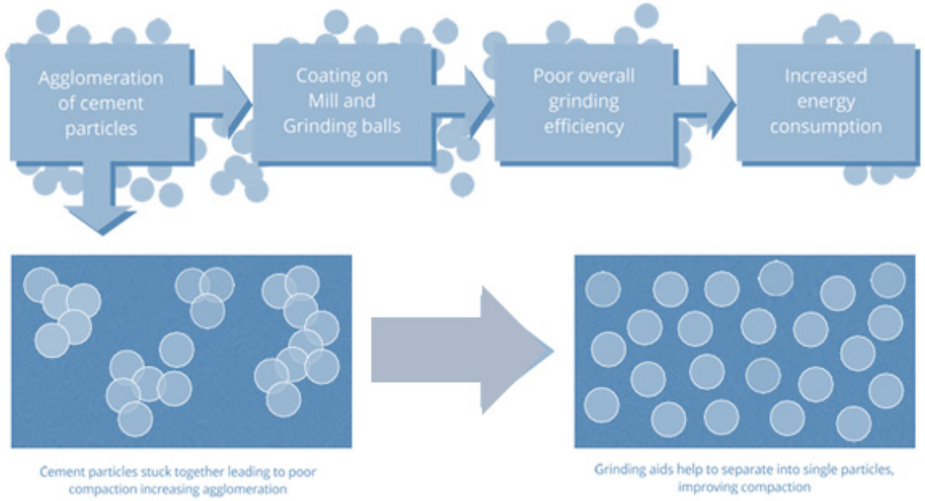
1. Grinding aids enhance the grinding and separating efficiency which leads to an increased production rate.
2. The resulting lower content of over ground particles meets the characteristics of a more favorable particle size distribution with better cement quality.
3. Somany Durabuild allows producers to economically achieve the desired fineness and quality of cement. The magnitude of the production increase is related among others to the grinding aid dosage. Up to the maximum reasonable dosage of a specific grinding aid, the production rate increases and the separator rejects decrease. Further increased dosage results in a shorter time for the cement to pass through the mill. If the mill retention time is reduced too much, the cement is insufficiently ground which leads to increased separator rejects and hence a reduced production rate (Fig a).



Cementing efficiency

Apart from improving the overall performance of cement, **SOMANY DURABUILD ADDITIVE** also increases the efficiency of the following plant components:

- Grinding media
- Diaphragms and grids
- Separators
- Filters
- Grinding process
- Transportation systems, within the plant and outside



SOMANY DURABUILD ADDITIVE can be used effectively in blended Cement (cement with addition of Pulver Flyash, ground, granulated blast furnace slags and other useful and reactive pozzolanic material) to give the same performance characteristics of Ordinary Portland cement (OPC)

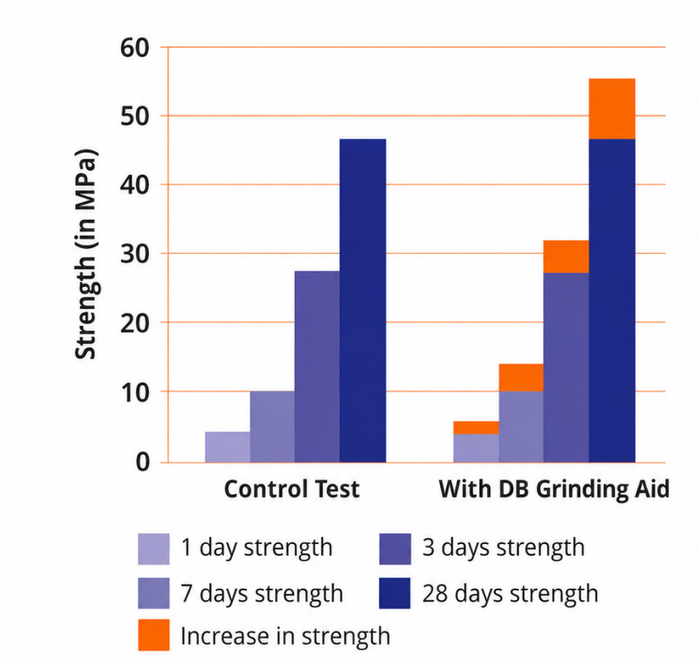
More benefits include:

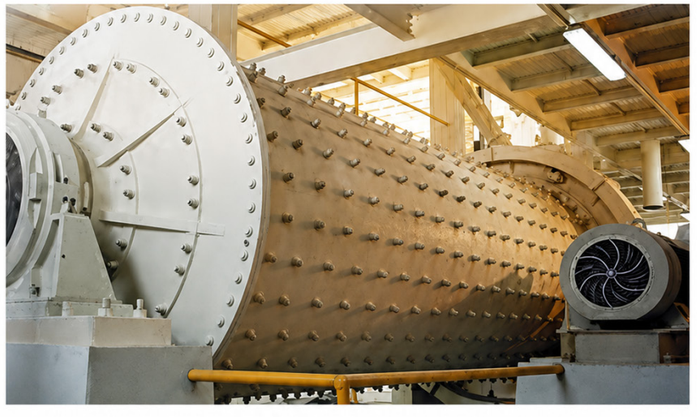
- Reduction of grinding energy leading to lower production costs
- Reduction in clinker factor which helps conserve limestone “belts” for a longer service life
- Improvement in overall cement quality
- Improvement in particle size distribution of the cement particles
- Improvement in separator efficiency
- Improvement in the adaptability to multiple clinkers as it can be difficult to ground some hard clinkers without cement additives
- Reduction of agglomeration of cement grains
- Reduction of pack-set problems
- Elimination of total/partial “coating” effect on grinding media
- Ease of material handling due to fluidity of particles
- The increase in output during seasonal demand peak to match surge in cement use

Technical Benefits

SOMANY DURABUILD ADDITIVE has the potential to increase early strengths (1 day & 3 days) later day strengths (7 days & 28 days) at equal cement composition and same cement fineness (Fig b). It can also be used:

- When clinker reactivity is low and strengths are not complying with the standards specification,
- When the objective is to reach a higher cement strength class,
- When the objectives is to reach higher performance.





Commercial benefits

Savings on Clinker
The cost of SCM (Supplementary Cementitious Materials) is lower than the cost of clinker. By substituting SCM to clinker, the total cost of cement is reduced while boosting performance by use of SOMANY DURABUILD ADDITIVE.

Reduction of CO_2 emissions
CO_2 emission is caused by the calcinations of limestone ($CaCO_3$) during the clinker manufacturing process. As each ton of cement produced requires less clinker, CO_2 emissions are decreased. Therefore, CO_2 quotas can be respected, CO_2 taxes reduced or C/K ratio company target can be achieved.

Significant reduction of production costs
The addition of SOMANY DURABUILD ADDITIVE results in improvement in clinker grinding efficiency. This allows for a shortened cement retention time in the mill which, in the end, leads to significant energy savings per ton of cement. SOMANY DURABUILD ADDITIVE can allow for up to 20% Energy consumption (KWh/ton).

Reduction of maintenance costs
Shortened cement retention time in the mill leads to a less intensive use of the grinding system, therefore reducing mill maintenance cost per ton of cement. Moreover, the reduction of the mill media coating and the improvement of pack set prevent the mill stoppage due to blockage (caused by diaphragm and outlet grit cleaning, silo blockage).

Increase of productivity

SOMANY DURABUILD ADDITIVE has an impact on improving grinding mill efficiency as a result of which productivity can be increased up to +25%, without any additional energy consumption.

Dosing system
The ease of use of the operating system is reassuring. The metering pump comes fully equipped with controllers and sensors and even a storage tank, providing an efficient unit that handles the task of dosing with utmost convenience. It merely requires appropriate electrical and hydraulic connections. There are mainly two types of dosing systems:

a. Manual system – It is recommended for long term application of SOMANY DURABUILD ADDITIVE.
b. Dosing system with metering pump and calibration column – It is suitable for trial purposes or evaluation of cement additives.

Product Selection Guide

SOMANY DURABUILD	Portland Cement	Blended Cement	White Cement	Masonry Cement	Sulphate Resistant Cement	Slag	Lime Stone	Raw meal	Vertical mill	Horizontal mill	Roller press	Blended Cements	Blended Cements	Blended Cements	Blended Cements
Series	PC series	BC series	WC series	AE series	RC series	SL series	LS series	SX series	VM series	H series	RP series	CaCO3 (BC-GA)	Pozzolana (BC-GA)	Flyash (BC-HS)	GGBFS (BC-HES)
Performance enhancer	★		★	★					★	★	★	★		★	★
Energy saver	★				★		★	★	★	★	★	★		★	★
High early strength		★	★										★		
High Late strength		★		★		★		★	★	★	★	★	★	★	★
Pack-set reduction	★	★	★	★	★	★			★	★		★	★	★	★
Workability	★	★	★	★		★	★	★			★		★	★	★
High water reducer	★	★	★		★			★	★	★	★		★	★	★

Legend	
Excellent	★
Good	★
Fair	★

NOTE

NOTE

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