

OPTEVA™ ESE® 942

Cement Additive for Performance Enhancement

Product Description

OPTEVA™ ESE® 942 is a chemical additive used as a cement constituent (European standard EN 197, point 5.5) to improve the manufacture and the properties of the cements. OPTEVA™ ESE® 942 is an aqueous solution of selected raw materials to suit the requirements of the cement manufacture.

Physical Properties

OPTEVA™ ESE® 942	
Appearance	Brown liquid
Density (g/l)	1050-1080
pH	10,0-12,0

Recommended Addition Rate

According to GCP Applied Technologies experience the addition rate of OPTEVA™ ESE® 942 is typically in the range of 1000-1600 g/t of treated cement. However the optimum addition rate of OPTEVA™ ESE® 942 depends on the characteristics of the material and the grinding circuit and is normally assessed through industrial tests. GCP personnel are available for assistance. Deviation from the optimum cannot guarantee the expected results and could have an impact on the cement characteristics. Overdosing can lead to a reduction in mill retention time and a possible loss of grinding efficiency, together with “mill flushing”, excessive flowability, as well as undesired modifications of cement properties.

Advantages

- Reduced tendency of re-agglomeration
- Improved flowability
- Lower pack set tendency
- Increased mill output
- Compressive strength increases at medium to later ages
- Improved mortar flow and reduced concrete water demands

Benefits

OPTEVA™ ESE® 942 is a grinding aid for cement, which reduces the tendency of re-agglomeration of the fine particles, formed during the comminution process.

OPTEVA™ ESE® 942 permits improvements of the flowability of the finished cement, of the efficiency of the mill and separator and thus increases the production rate with a corresponding reduction in grinding energy consumption. Cements produced with OPTEVA™ ESE®942 have a lower packset tendency and hence can provide advantages during loading and unloading operations.

OPTEVA™ ESE® 942 improves the particle size distribution and activates the hydration kinetics, and thus increases the strength of the treated cement.

The formulation of OPTEVA™ ESE®942 is based on selected alkanolamines and other raw materials, and permits increases of the compressive strength at the medium to later ages.

OPTEVA™ ESE® 942 modifies the rheology, improves the mortar flow and reduces the concrete water demand and can provide higher strength at the same slump or better workability under the same mix conditions.

The resulting enhanced performance can be used to meet specific market needs or, if desired, to reduce cement fineness and lower unit production costs, or to reduce the clinker factor, by using increased levels of supplementary cementitious material, while retaining the previous cement performance characteristics.

Certification

OPTEVA™ ESE® 942 meets the requirements of EN 197.

Typical Applications

OPTEVA™ ESE® 942 can be used for the grinding of most cements in all types of grinding systems, including those with ball mills, open and closed circuit, roll press, horizontal roller and vertical roller mills.

Main applications are:

- Portland cements
- Portland blended cements

OPTEVA™ ESE® 942 has particular benefit in the production of limestone blended cements because of its good grinding efficiency and improvement to the late strength.

How to Use

OPTEVA™ ESE® 942 should be added on to the feed belt or injected pure or diluted (also with the cooling water) into the mill. For an accurate proportioning of OPTEVA™ ESE®942 a volumetric metering pump is suitable. GCP personnel are available for assistance.

Packaging and Storage

OPTEVA™ ESE® 942 is supplied in 205 litre drums, in 1000 litre plastic containers or bulk.

OPTEVA™ ESE® 942 does not require particular precaution for storage. However it should be protected from freezing or excessive hot conditions. For tanks and containers placed outside in cold conditions a heating system or a re-mixing device is recommended. It is also advisable to insulate exposed pipelines.

Shelf life is at least 12 months if stored in sealed manufacturer's containers.

Handling Precautions

OPTEVA™ ESE® 942 does not require particular precaution for health and safety. For further advice please read the Safety Data Sheet. Accidental release or spillage to be absorbed with an inert, non combustible material, such as sand or sawdust. Tanks and container can be cleaned with water.

REACH

All of our products sold in the EU comply with REACH obligations. Our customers, as manufacturers or downstream users may sell their products utilizing GCP Applied Technologies with confidence that the substances in them may be placed on the market in compliance with REACH.

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