PRODUCT BULLETIN

SEPA 1335

Reagent for fine wet screening of iron ore concentrate

SEPA 1335 is being developed to prevent screen media blinding and increase the throughput of fine wet classification units processing iron ore concentrate. The product is intended for use on high-frequency screens.

Process challenge

During fine wet screening, particles and slime deposits can block the openings in the screen media. This reduces the effective open area, hinders the passage of particles of the required size and lowers screen throughput.

A high proportion of fine slimes, particle aggregation and increased structural viscosity of the slurry can intensify this effect. Under these conditions, the classification unit limits process line throughput and requires more frequent cleaning of the screen media.

Product action

SEPA 1335 is intended to reduce the tendency of particles and slimes to accumulate in the openings and on the surface of the screen media. The proposed mode of action involves changes in interparticle interactions and slurry flow conditions in the screening zone. This facilitates particle passage through the openings and helps maintain the available open area.

Expected process benefits

- Reduced blinding of screen media openings.
- Higher screening throughput by keeping the screen openings clear.
- More stable operation of the unit and potentially longer intervals between screen media cleaning.

The magnitude of the effect depends on feed composition, slime content, slurry solids content, screen media condition and equipment operating parameters.

Application and operating conditions

SEPA 1335 is supplied ready for dosing and requires no preliminary preparation.

The reagent is dosed continuously into the screen feed or into a sump upstream of the fine classification unit. The dosing point is selected to ensure distribution of the reagent in the slurry before it reaches the screen media.

An indicative range for initial dosage selection is 40–80 g per tonne of dry material. The operating dosage and dosing method are determined for the specific slurry and equipment.

Performance evaluation

When comparing operation with and without the reagent, monitor screen throughput on a dry solids basis, the extent of screen media blinding, cleaning intervals and the particle size distributions of the classification products. Iron distribution between the products and the performance of downstream stages are evaluated at the same time.

Comparisons are made under comparable feed composition, solids content, water flow rate, screen media condition and screen settings. The main criteria are a sustained reduction in screen media blinding and increased throughput while maintaining the required separation quality.