

HydroStar[®] 10

HydroStar 10 is a modified natural polysaccharide. It is characterized as a low viscosity, highly soluble, non-ionic polymer.

HydroStar 10 is an effective polymer smoothing agent for electroplating and electro-winning operations. It has exhibited improved cathode density and higher purity of the base metals at higher current densities.

Application Properties

- Smoothing Agent
- Cold water soluble
- Electrolyte soluble
- Copper, Nickel and other EW metals
- Shear stable

Main Applications

- Electroplating
- Electro-winning

Appearance

HydroStar 10 is supplied as off-white, granular powder. Aqueous solutions are translucent and demonstrate excellent stability.

Solution Preparation

The granular form of HydroStar 10 makes it easy to disperse and solubilize in water with minimal agitation. To avoid potential lumping of the polymer, preparation of aqueous solutions requires the addition of HydroStar 10 to the vortex of mechanically agitated water. Maintain agitation for a period of about 30 minutes to ensure complete hydration of the granular particle.

Any agglomerates that initially form will break down with normal agitation and time. The character and amount of agitation required will vary with polymer concentration and water temperature. High solids and cold water make-up may necessitate longer agitation time.

Solution Preservation

Extended storage of aqueous HydroStar 10 solutions could result in viscosity reduction due to microbial or enzymatic attack. Stored solutions should be protected by the use of a preservative. HydroStar 10 is also available with a preservative treatment.

Storage, Handling and Safety

HydroStar 10 exhibits good storage stability if kept dry in its original package. Shelf life can be affected by storage conditions such as temperature, humidity and overall surroundings of the storage area. A Safety Data Sheet is available from Chemstar and should be consulted prior to handling or use.

Generalized Mechanism of HydroStar 10 Smoothing

HydroStar 10 promotes smooth plating by temporarily blocking the peaks of the growing nodules, therefore promoting copper to deposit in the valleys. By promoting smooth deposition of copper onto the cathode, HydroStar 10 increases the quality of copper harvested. In addition, site engineers have been able to increase copper production at higher current densities while improving overall harvested copper quality.



Availability

HydroStar 10 is available in 25 and 50 lb multi-wall poly-lined paper bags or 2,000 lb super sacks for truckload and LTL shipments. For additional information, samples or technical assistance in using HydroStar 10 or any other Chemstar product please contact 1-800-328-5037 or info@chemstar.com.

Typical Analysis

HydroStar 10	
Viscosity (cP), 5% Solids LVT, 60 RPM, #2 Spindle	100 – 600
pH (5% Solids)	7.0 – 10.0
Percent Moisture (%)	10 max
Bulk Density (lb/ft ³)	25 – 35
Particle Size (% thru)	85 min (-) 600 micron
Ionic Character	Nonionic

General HydroStar 10 Dosage Rate

Amperes per Square Meter	Amperes per Square Foot	Grams of HydroStar 10 per Ton of Copper
160 – 270	15 – 25	100 – 250
270 – 375	25 – 35	250 – 400
375 – 485	35 – 45	400 – 600

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