TECHNICAL DATA SHEET
WELAN GUM

Product Description:
Welan Gum is a specialty biopolymer polysaccharide produced by microbial fermentation and used as a high-efficiency rheology modifier. It is especially valued for its excellent viscosity retention and suspending power under high temperature, high shear and high pH (alkaline) conditions in cementitious and brine systems.

Compared with conventional thickeners, Welan Gum maintains stable rheology in extreme environments, making it an ideal choice for self-compacting concrete (SCC), oil well cement slurries, drilling fluids, spacer fluids and other high-performance industrial fluids.

- High-temperature stable
- Alkaline stable
- Strong suspending power
- Excellent water retention
- Compatible with cementitious and brine systems

What Makes Welan Gum Unique:
In some formulations, Welan Gum can be used together with or as an alternative to other rheology modifiers such as Xanthan Gum and Hydroxyethyl Cellulose (HEC) to fine-tune viscosity and suspension behavior.

Core Advantages of Welan Gum Products:

- Superior anti-segregation and anti-bleeding
  In self-compacting concrete (SCC) systems, Welan Gum helps “lock” coarse aggregates in place, reduce segregation and minimize bleeding while maintaining excellent flowability.
- Exceptional high-temperature stability
  Welan Gum retains viscosity and suspending power at temperatures up to around 150°C (300°F) in cement and brine systems, outperforming many traditional cellulose ethers and gums under harsh conditions.
- Powerful suspending capability
  It provides very high suspension efficiency even at low shear rates, effectively suspending cement particles, weighting materials, barite and pigments in drilling and industrial fluids.
- Excellent water retention and fluid-loss control
  Welan Gum acts as an efficient water retention agent and fluid-loss reducer in cementitious systems, helping to prevent premature water loss and ensuring full cement hydration.
- Outstanding alkaline and electrolyte stability
  It maintains its structure and rheological performance in highly alkaline cement pastes and salt-containing brine systems, making it suitable for demanding oilfield and construction environments.

Key Application Areas:

Oil & Gas

- As a drilling fluid viscosifier, it provides stable rheology in high-temperature, deep-well drilling operations.
- Used in spacer fluids and cementing operations to control fluid loss and suspend weighting agents.

Construction & Building Materials:

- Self-Compacting Concrete (SCC): The key admixture that enables concrete to consolidate under its own weight without vibration.
- Cement Slurries & Grouts: Used as a cement slurry suspension agent to prevent particle settling and improve pumpability.
- Shotcrete / Spray Mortar: Increases adhesion and reduces rebound, acting as an ideal shotcrete stabilizer.
- Dry-Mix Mortars & Pre-mixes: Improves workability and final strength of the end product