CMC-HV vs CMC-LV: Which Grade for Your Freshwater Mud System?

Both grades are standard sodium carboxymethyl cellulose for freshwater WBM, a cost-effective alternative to PAC for less demanding wells. The difference is whether you need viscosity building alongside fluid-loss control, or fluid-loss control alone.

Grade	Product Code	Primary Function	Best-Fit System
CMC-HV (High Viscosity)	PZT-CMC-HV	Fluid-loss control + meaningful viscosity build	Freshwater WBM needing both properties from one additive
CMC-LV (Low Viscosity)	PZT-CMC-LV	Fluid-loss control with minimal added viscosity	Freshwater WBM that already has enough viscosity and just needs fluid-loss control

When to reach for CMC-HV

Standard-grade, high-viscosity CMC providing both fluid-loss control and meaningful viscosity build in freshwater WBM at lower cost than PAC. The right call when a freshwater system needs a viscosity boost alongside fluid-loss control, and salinity/temperature demands don't require PAC's higher thermal stability or salt tolerance.

When to reach for CMC-LV

Standard-grade, low-viscosity CMC delivering fluid-loss control with minimal added viscosity, at CMC's characteristic lower cost versus PAC. Choose this grade when the system is already at or near its target viscosity and any further thickening would be unwelcome.

When neither CMC grade is the right choice

CMC has poor tolerance of divalent ions (calcium/magnesium) and high salinity: it flocculates and loses efficiency in salt-saturated systems, and it has lower thermal stability than PAC. For salt-saturated or higher-temperature wells, PAC is the better-suited chemistry despite the higher cost.

Frequently Asked

What is the difference between CMC-HV and CMC-LV?

CMC-HV (High Viscosity) is dosed specifically to build viscosity in addition to controlling fluid loss, while CMC-LV (Low Viscosity) controls fluid loss with minimal added viscosity. Choose HV when the system needs both properties, and LV when you need fluid-loss control without thickening the mud further.

When should I use CMC instead of PAC?

CMC is a cost-effective, well-understood alternative to PAC in freshwater systems with standard-duty requirements. It performs poorly in high-salinity or high-divalent-ion (calcium/magnesium) environments and has lower thermal stability than PAC. For salt-saturated or higher-temperature systems, PAC is the better fit.

Source: https://petriz.co/insights/cmc-grade-comparison/ | Full TDS and SDS documentation for every product referenced here is available on request from sales@petriz.co, in English, Spanish, and Portuguese. This brief is general technical guidance, not a substitute for product-specific TDS data or well-specific engineering judgement. Confirm dosing and compatibility against the current TDS and your own testing before field application.