

The STEP-XZ zirconium crosslinked carboxymethylhydroxypropyl guar (CMHPG) produces a high viscosity fluid system that can effectively transport high concentrations of proppant into the formation, while minimizing damage due to its low residue gellant. Zirconium gels can be customized for stability to accommodate large temperature ranges and crosslinked at a low pH. This enables the system to be used in acid fracturing operations in which borate gels would be ineffective.

The fluid system can be pumped on-the-fly by using a gellant loading of 3.0 kg/m<sup>3</sup> and greater. However, by taking advantage of our STEP hydration unit, a 1.8 kg/m<sup>3</sup> gel loading can be used to yield a viscosity in excess of 1000 cP.

**Properties:**

- Low pH crosslinked system
- Can be used for acid fracturing jobs
- Ideal for a large range of temperatures
- High viscosity fluid which provides a high proppant carrying capacity
- Low residue system
- Can be pumped on-the-fly

**Technical Data:**

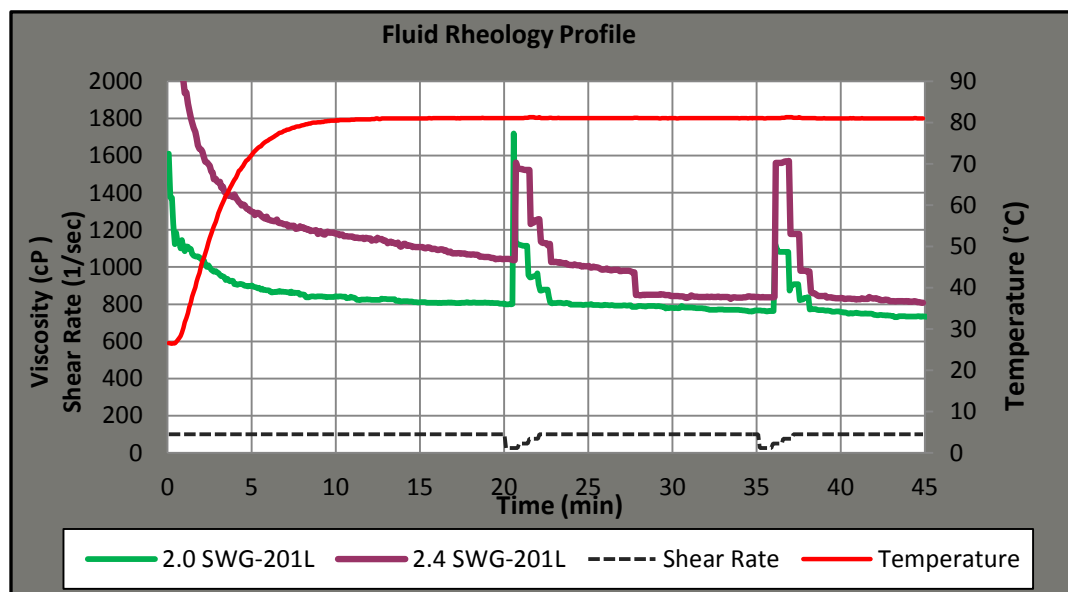


Figure 1: Hydrated (3 minutes) zirconium gel stability test at 80°C

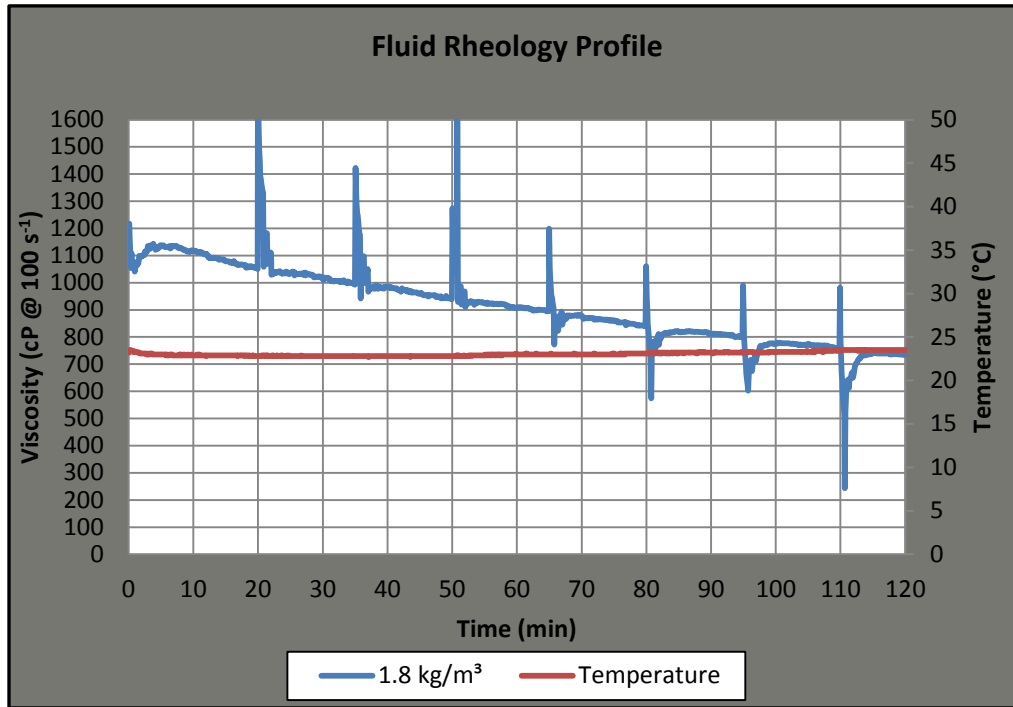


Figure 2: Hydrated (3 minutes) zirconium gel stability test at room temperature