

**Description:**

**PGC-11** is a borate cross-linker. It easily forms the cross-link networks in water gel systems. Cross-linked guar and hydroxypropyl-guar (HP Guar) systems have high viscosity which ensures effective propping agent transferring.

**Application & Features:**

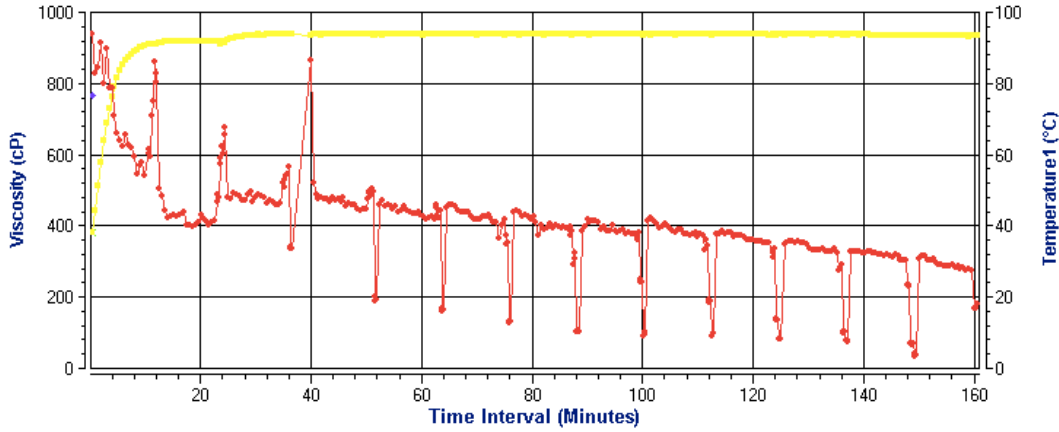
**PGC-11** is a dry granulated cross-linker. Its unique structure allows to get stable gel at high temperatures without any additives controlling the pH level, which makes it quite accessible and cost-efficient.

As a part of a PGC-11 there is a temperature stabilizer which ensures safety of large-tonnage fracturing job.

**Typical Properties:**

	<b>Specification</b>
Color, Physical State	White solid granules without impurities
Moisture content, % (Sartorius MA45, MA160, @ 150°C, 2min), less than	14
Free-flow time, less than	5
<b>Screen (U. S. Mesh)</b>	<b>Sample Retained ( % ) max/ min</b>
> 50	5 – max
between 50 and 200	85 – min
<200	10 – max

**Stability test**



**Fresh Water:**

T=25 °C  
 pH=6,30

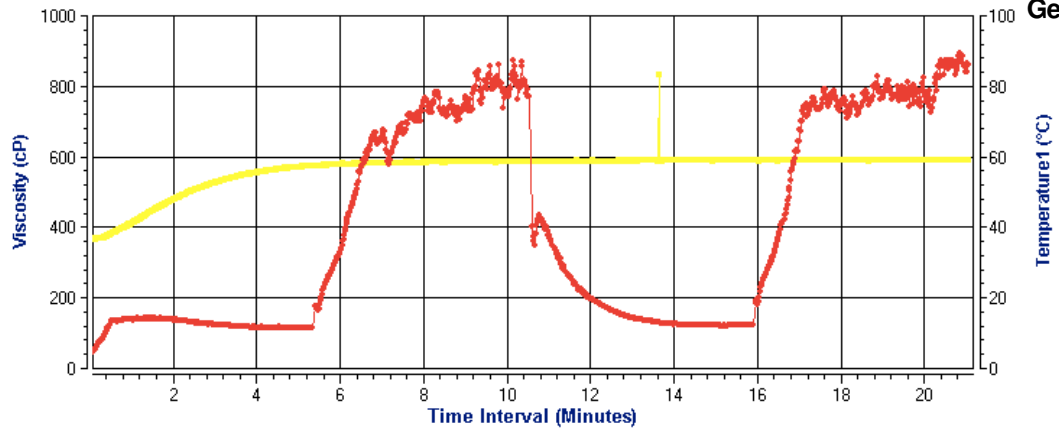
**Concentration:**

Gellant (guar) - 25 lb/1000gal  
 (3,0 kg/m<sup>3</sup>)  
 PCG-11 - 12.5 lb/1000gal (  
 1,5 kg/m<sup>3</sup>)

**Cross-linked gel:**

pH-8,80 (25,0 °C)  
 VC - 15s  
 XL - 60s

**Shear test**



**Geometry (Brookfield Rheometer):**

R1/B5  
 100c<sup>-1</sup> = 117,0rpm  
 511c<sup>-1</sup> = 601,1rpm

**Conditions:**

T – 60-90°C (140-194 °F)  
 P – 400 psi