



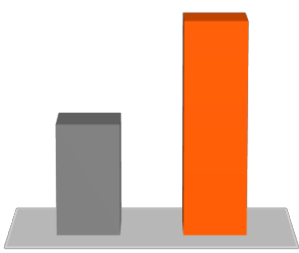
# INNOVATIVE SYSTEMS

## For Premium Cementing

### POWER SPACER

**ABRASIVE FLUID SYSTEM FOR PREMIUM BOREHOLE CLEANING PRIOR TO CEMENTING OPERATIONS**

Standard Spacer      **Power Spacer**



**Mud Removal Capacity**

**P**remium cleaning capacity, proven under lab and field conditions

**O**ptimized fluid design through tests with customized lab instrument

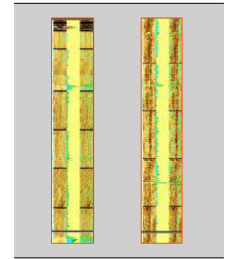
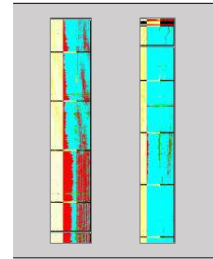
**W**ide application range in oil, gas, and geothermal wells

**E**nhanced mud filter cake erosion via abrasive particles

**R**emarkable cement bond for well integrity

Standard Spacer

**Power Spacer**



**Logging after Cementing**

### HMR+ BLEND

**CHEMICALLY AND PHYSICALLY OPTIMIZED SYSTEM FOR LONG-LASTING, GAS-TIGHT CEMENT SHEATHS, EVEN UNDER HARSH CONDITIONS OF HIGH TEMPERATURE, SALINITY AND PRESENCE OF CO<sub>2</sub>**

	API Class G (wt%)	HMR+ Blend (wt%)
Silicon dioxide (SiO <sub>2</sub> )	23	<b>39</b>
Calcium oxide (CaO)	65	<b>32</b>
SiO <sub>2</sub> / CaO-Ratio	0.4 Excess of Portlandite = Weak Spots	<b>1.2</b> No Excess of Portlandite = No Weak Spots

**Stoichiometrically engineered composition**

Resistance against: Aggressive brines and CO<sub>2</sub>

**Granulometric optimized system**

High compressive strength      70 MPa  
High tensile strength      15 MPa  
Extreme low permeability      < 0.0004 mD  
Low porosity      1.1%

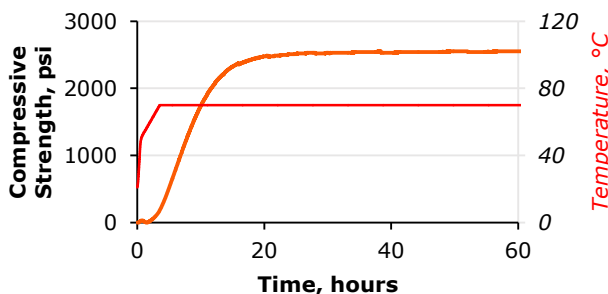
**High content of reactive SiO<sub>2</sub>**

High temperature stability      No strength retrogression

### GT BLEND

**LIGHT-WEIGHT CEMENT SYSTEM WITH EXCELLENT MECHANICAL PROPERTIES**

**GT Blend @ 1.32 kg/L**



### SELFFLEX

**INNOVATIVE CEMENT BLEND SPECIALLY DESIGNED TO ABSORB VARIABLE MECHANICAL LOADS**

**Selfflex**

