NeoProducts & HPI cement systems have been run in 100,000+ wells over the last 33 years. NeoFlex is one of numerous NeoProducts cement systems. NeoProducts cement kits are Global Benchmarks.

**NeoSuperSlurry - NeoFlex Dump Bailer Cement Kits**

- 17 ppg High Shear Bond Expanding Flexible Cement
- Service Temperature Range: 70° - 350° F (21° - 177° C)
- P/N E0101-350-017-Cefas

**NeoFlex is a Flexible Expanding Cement System (FECS)**

FECS have unique physical properties that prevent gas migration and sustained casing pressure (SCP).

**NeoFlex Dump Bailer Cement Kits** are off-the-shelf ready-to-go cement kits that contain components needed to build a high-tech high-ΔP cement plug. Easy to follow mixing instructions are contained in each kit. NeoFlex Kits are available in 5 gallon batches and bulk volume.

**Features**

- FECS abate gas migration and the occurrence of sustained casing pressure,
- Ultra-low permeability prevents gas migration,
- Flexibility eliminates the occurrence of micro-cracking and micro-annuli, ensuring long-term well integrity,
- Flexibility abates de-bonding between cement and casing and also between cement and earthen formation,
- FECS expand during curing for hydraulic bonds and continue expanding for months, and
- FECS block hydrocarbon migration and incorporate enhanced bonding properties for lifelong zonal isolation.

**NeoFlex Dump Bailer Cement Kits** generate plugs that anchor and seal for the lifetime of the well.

**Continue to page 2 for more technical information.**
Flexible Expanding Cement Systems (FECS)

FECS abate the occurrence of Sustained Casing Pressure (SCP)

FECS have physical properties that are unique amongst themselves; extremely low permeability, sustained long-term elasticity, high strength flexible shear bonds with casing and earthen formation, high fracture toughness, flexible solid state expansion, low elastic moduli, and unique Poisson’s effect.

NeoFlex is an industry leading plug-back cementing system designed to eliminate the occurrence of gas migration and SCP.

Numerous oil companies and service companies have conducted internal studies and large-scale field testing of FECS relative to stopping gas migration, eliminating the occurrence of SCP, and blocking gas migration to the surface.

The list of references below describe applications and attributes of FECS relative to; gas migration, the occurrence of longitudinal micro-cracking, radial micro-cracking in cement sheaths, de-bonding of cement from casing and earthen formations, and sustained casing pressure.

References

FECS Block the Occurrence of Gas Migration and SCP

SPE – 89622
Utilizing Innovative Flexible Sealant Technology in Rigless Plug and Abandonment

CSUG/SPE - 149440
Flexible, Expanding Cement System (FECS) Successfully Provides Zonal Isolation across Marcellus Shale Gas Trends

SPE/IADC – 173065 – MS
A Case Study of Flexible/Expandable and Self-Healing Cement for Ensuring Zonal Isolation in a Shallow, Hydraulically Fractured Gas Well, On-shore Thailand

SPE – 186930 – MS
Flexible Cement Extends Wellbore Life with an Integrated Approach to Zonal Isolation

SPE – 156501
Nano-engineered Oil Well Cmt Improves Flexibility and Increases Compressive Strength: A Laboratory Study

IADC/SPE – 112715
Innovative Hydraulic Isolation Material Preserves Well Integrity

SPE – 92361
Using a Flexible, Expandable Sealant System to Prevent Micro-annulus Formation in a Gas Well

SPE – 131568
Cementing in HPHT Gas Environment Using a Novel Flexible and Expandable Cement Technology to Withstand Pressure and Temperature Cycles
NeoFlex plugs may be pressure tested 18 – 24 hrs after the last bailer run.

Early high compressive strength reduces rig non-productive time waiting on cement.

The double hump SBS curve is related to the complex interactions of transient cement silicate phases and retarder concentrations.

NeoProducts prudently recommends;
“never dump less than 10 ft of cement slurry when a long-term high ΔP plug is desired”.