



Flexible Expanding Cement Systems (FECS)

NeoProducts Technical Team has developed cement kits that have been successfully run in over 100,000 wells over the last 30+ years. Our cement kits are Global Benchmarks:

- Off the shelf, self-contained cement kits that reduce waiting on cement time,
- Easy mixing and deploying on location.

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,
- 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.

Refer 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 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. NeoFlex is a FECS designed to eliminate the occurrence of gas migration and sustained casing pressure.

Numerous operations and service companies have conducted internal studies of FECS and published their findings related to stopping or abating gas migration events.

The list of references below describe the 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 Mitigate the Occurrence of Gas Migration and Sustained Casing Pressure

CSUG/SPE 149440

Flexible, Expanding Cement System (FECS) Successfully Provides Zonal Isolation across Marcellus Shale Gas Trends

SPE-186930-MS

Flexible Cement Extends Wellbore Life with an Integrated Approach to Zonal Isolation

IADC/SPE 128226

Self-Healing Cement System – A Step Forward in Reducing Long-Term Environmental Impact

SPE 116757

Responsive Cementing Material Prevents Annular Leaks in Gas Wells

SPE/IADC 105781

Self-Healing Cement – Novel Technology to Achieve Leak-Free Wells

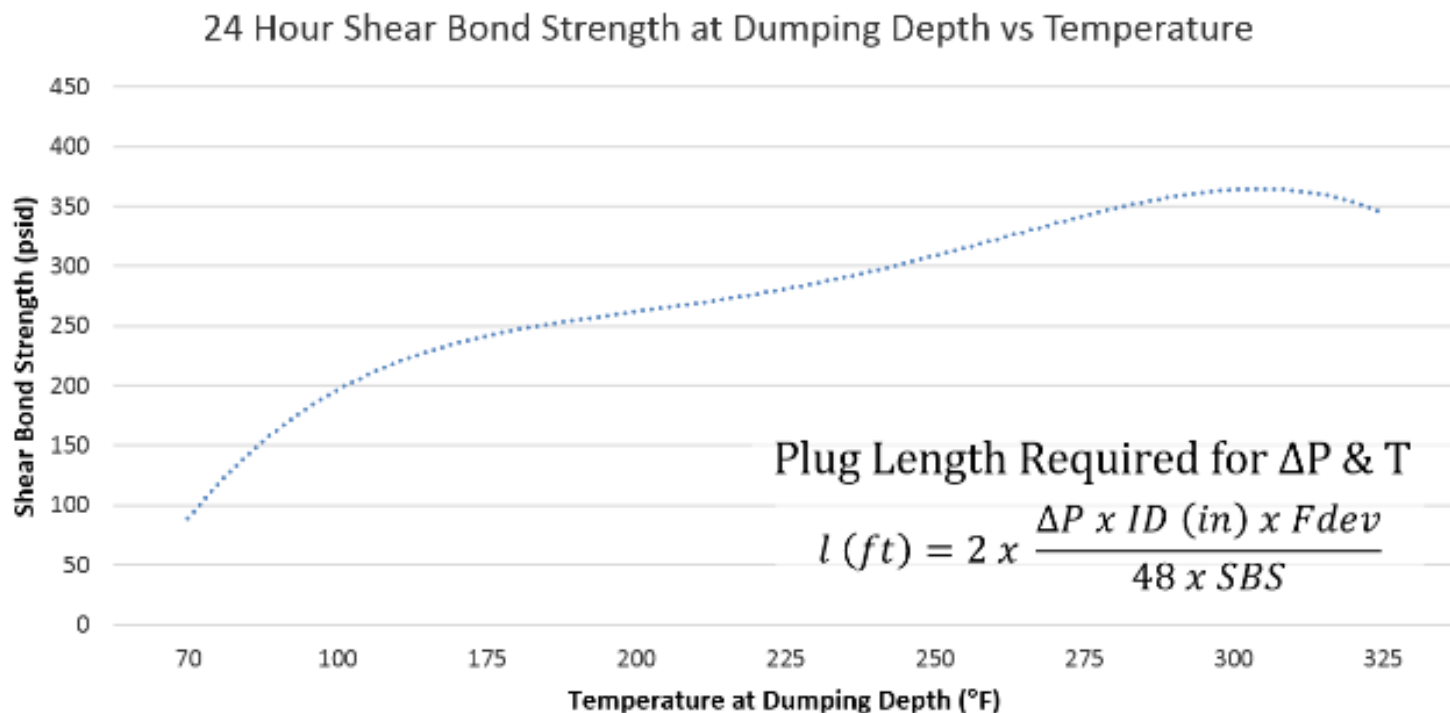
SPE 156501

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

IADC/SPE 112715

Innovative Hydraulic Isolation Material Preserves Well Integrity

FECS Eliminate Gas Migration & SCP



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.

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