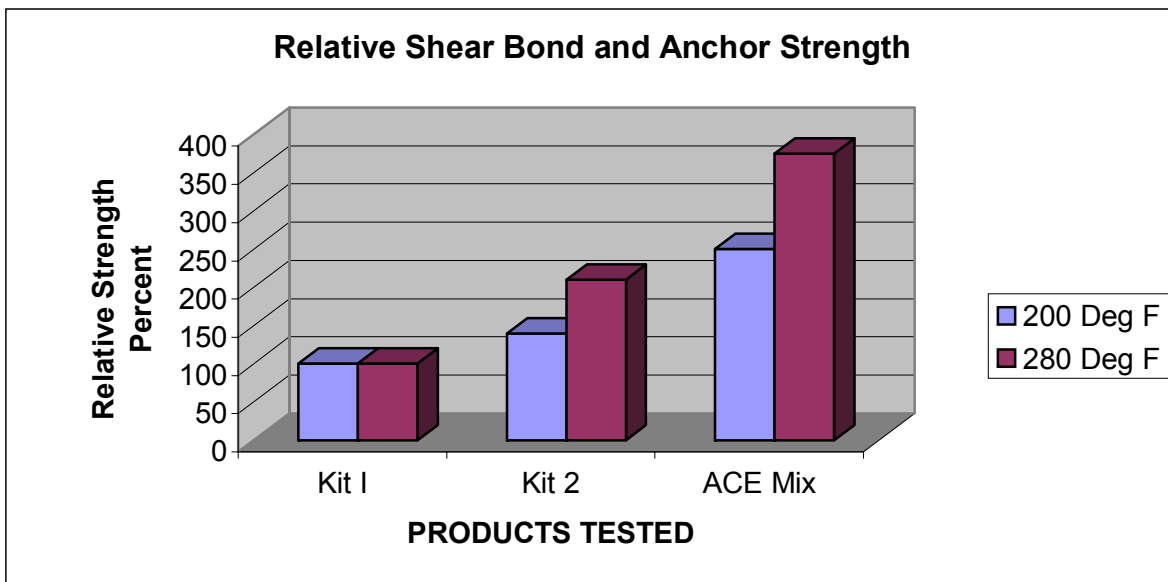




ACE Mix™ High Shear Bond Cement Kits are designed to maximize bonding and sealing ability under harsh down-hole conditions. They provide sufficient fluid time to “round-trip” a bailer, while maintaining reasonable initial set times and excellent API fluid loss properties as well.

The ACE Mix™ kit is packaged in two pails (dry blend and mix water) to yield 6 gallons of cement slurry for BHT 100°F – 300°F (a single pail kit without water is available for export or remote locations). The dry blend portion of the kit is divided and packaged into two separate 3 gallon bags inside the dry blend pail. This allows the kit to be mixed and used as two - 3 gallon batches, if preferred.

The ACE Mix™ product line is organized around a single base cement kit that provides a high density (16.6 ppg), high shear bond, expanding cement slurry. This expanding, High Shear Bond formula is now available as the “standard” kit, not special order. The performance of ACE Mix™ exceeds performance of other standard kits available in head to head tests (see chart below).



Base Mix	
Part Number	Description
ACE-MIX	Ace Mix Cement Kit, (100F-300F)

Wild Card Add-ins	
Part Number	Description
ACE-HTE	High Temp Extender (300F-400F)
ACE-LTX	Low Temp Expansion (100F-200F)
ACE-LTC	Low Temp Cure (60F-100F)
ACE-SSW	Saturated Salt Water
ACE-ETT	Trip Time Extender
ACE-LCM	Lost Circulation Material
ACE-HD	High Density (ppg)



The base ACE Mix™ kit is also designed to allow for the addition of specific application add-ins or “*wild cards*”. These add-ins specially enhance the performance of the kit for the unique condition. In this manner, the base cement kit adapts to the unique application requirement eliminating the need for numerous specialty kits. Simply select the proper *Wild Card* for the application and add to the base kit. For example, if the application is for 350°F, add the HTE wild card for Hi-Temp applications. There is no need to carry multiple kit versions and increase the amount of inventory. *Wild Card* add-ins are available for a wide variety of applications, with more being developed as more customer needs and requirements are encountered.

Description of *Wild Card* Add-ins Available:

- **HTE – High Temp Extender; Additives for extending operating temperature range from 300° F to 400°F.**
- **LTX – Low Temperature Expansion - Standard expansion agents require minimal temperature of 200° F to cause expansion of cement during cure cycle. This patented additive causes ACE Mix to expand at low temperatures from 100° F to 200° F.**
- **SSW – Saturated Salt Water; certain brine and bromide fluids can cause problems for cement bailing or curing. This additive prevents flash set in the bailer and regulates cure time in a high salinity environment.**
- **ETT – Extended Trip Time; provides extra rig-up and/or run time by delaying initial set of cement.**
- **HD-* - High Density; increases the slurry density above its standard 16.6 ppg. The “*” represents the density in ppg (e.g., HD-17).**
- **LCM – Bridging Material (Lost Circulation Material) is added to the kit to assist bridging in slotted liners, etc.**
- **LTC – Low Temp Cure; enables curing of slurry at BHT of 60°-100°F.**

Kits are manufactured using strict acceptance criteria for all material components. Each acceptance criteria is verified by laboratory testing and documented. Additionally, each batch of cement kits is manufactured according to specific quality controls for the manufacturing process. Again, laboratory testing of each manufacturing lot is performed and documented. Kit performance numbers (fluid time, initial set, 12 hr and 24 hr compressive strength and API fluid loss) are included in each kit.