



Lubra-Glide “CE” Co-Polymer Beads Casing Application

Summary:

The use of Lubra-Glide “CE” Co-Polymer Beads to assist in running casing is a primary performance application. The procedure is neither difficult nor complicated but does require preplanning and equipment considerations available on location. The following will provide you with obtaining optimum results.

Determination of required quantity of Lubra-Glide “CE” Co-Polymer Beads:

The optimum concentration of Lubra-Glide beads is ten (10) pounds per barrel. The volume of fluid to be treated is calculated based on the volume necessary to cover the open hole from the bottom of the hole to a point approximately two hundred (200) feet above the kick off point in the open hole. If the kick off point is already behind casing, then the entire open hole volume should be treated.

Example: In a 12 ¼ hole the approximate volume would be 150 bbls per 1000 feet. At a minimum, a 10% allowance for washout is included. A minimum volume therefore of 165 bbls treated at 10 ppb would require 1650 pounds (33 sacks) of product per thousand feet. If you are aware of that being a larger per cent based on well site information, adjust the volume accordingly.

Preparation of treated fluid for placement:

It is critical that the treated fluid be isolated. This can be accomplished through the use of a slugging tank. If the volume required is greater than available in isolated tanks on location, the Lubra-Glide can be added as the fluid is being pumped. The addition will depend on the rate at which you are able to pump. The addition of beads in this manner requires planning on having sufficient beads near the suction tank in order to cut and dump the required 10 ppb (2 sacks per minute if pumping 10 bbl/min). In most cases where total isolation is not possible, a combination of both methods is used whereby the volume in the slugging tank is pumped first then the remainder is added via the suction tank.

Lubra-Glide is readily wettable, rapidly dispersible and requires no special pre-treatment when being added to the fluid. Adding the product at the suction is a common “pump & dump” practice. The key to this method lies in the personnel keeping a steady pace with the addition.

Determining Placement of Lubra-Glide “CE” Co-Polymer Beads:

The placement of the Lubra-Glide beads is obviously critical to them providing the significant reduction in drag/friction when running casing. The optimum placement of the uppermost level of the treated fluid is about 200 feet above the kick off point (from vertical) in the hole. This assumes that the resistance to the casing in the vertical hole is minimal and no “tight spots” or ledges exist.

Placement of treated fluid inside the previous casing string where the angle has been built is highly recommended. The benefit of the Lubra-Glide inside casing is maximized since the beads will always work in their roller ball bearing configuration. This minimization of drag through existing casing allows for more weight to be applied in the lower sections of the pipe making it easier to get the pipe to bottom.



Method of Placement of Lubra-Glide “CE” Co-Polymer Beads:

The pumping of the Lubra-Glide treated fluid should be performed as the last function before the drill pipe is removed from the hole and casing is to be run. It is recommended that the fluid be pumped with the drill pipe in place and not in a “slug & pull” approach. A straight pumping displacement has historically provided a better placement of the Lubra-Glide and eliminates any inconsistent dispersion of product down hole.

Work sheet:

| | | | |
|--|---------|---|---------------------------------------|
| Open hole volume per foot | _____ | | |
| Open hole footage | X _____ | = | _____ Gauge hole volume |
| Add Per cent washout allowance (min. 10%) | _____ | = | _____ Total volume to be treated |
| Treatment rate in pound per barrel | X _____ | = | _____ Pounds of Lubra Glide required. |
| Lubra Glide is packaged in 50 lb sacks | | | ÷ 50 |
| Total number of sacks required for the application | | | _____ |

Each application of Lubra-Glide “CE” Co-polymer beads is unique, but similar. If you have any questions regarding these recommendations please contact Sun Drilling Products Corp.