

PIPE-LAX W (EXPORT)

PIPE-LAX* W (EXPORT) stuck-pipe additive is a liquid one-drum product for preparing weighted oil-base spotting fluids.

It contains gellants, emulsifiers, wetting agents and filtercake cracking materials. PIPE-LAX W (EXPORT) spotting fluid can be mixed in diesel oil or mineral oil. Fresh water, seawater or brine may be used for the water portion of the spot. PIPE-LAX W (EXPORT) product dehydrates and cracks filtercakes allowing the spotting fluid to penetrate between the drillstring and the formation, wetting and lubricating the drillstring, reducing the force required to free stuck pipe. PIPE-LAX W (EXPORT) spots are easily and quickly mixed requiring no special rig or mixing equipment.

Typical Physical Properties

Physical appearance	Dark brown, oily liquid
Specific gravity	~0.90
pH (1% solution)	6.5 - 7.5
Flash point	100°F (38°C) (PMCC)

Applications

PIPE-LAX W (EXPORT) stuck-pipe additive has application in all wells requiring a weighted soak solution to free differentially stuck pipe. PIPE-LAX W (EXPORT) spotting fluids can be prepared from either diesel oil or mineral oil using any makeup water. Densities of PIPE-LAX W (EXPORT) spots range from 8 - 18 lb/gal (0.96 - 2.16 sg).

Success in freeing differentially stuck pipe is greatest when the soaking solution is spotted in the minimum amount of time after becoming stuck. A soak solution that can be quickly mixed and spotted will often free the drillstring before fishing operations are required. PIPE-LAX W (EXPORT) stuck-pipe additive, being a single-package liquid blend, allows for ease of mixing and quick preparation.

PIPE-LAX W (EXPORT) spotting fluid gives excellent oil wetting characteristics and is formulated to ensure rapid penetration through the filtercake to the formation. The quantity of the PIPE-LAX W (EXPORT) spotting fluid (50 - 200 barrels [8 - 32 m³]) should be placed in the annulus around the suspected stuck pipe area and one or two barrels of fresh spotting fluid should be pumped every hour. PIPE-LAX W (EXPORT) spotting fluid is designed to withstand contamination by water-base mud and remain effective.

Formulation

The chart below lists the required quantities for formulating one final barrel of PIPE-LAX W (EXPORT) solution in diesel oil with M-I BAR* weighting material. This formulation is designed to produce the minimum viscosity required to support weight material. Should higher viscosities be required or if mineral oil is being used, it is suggested that the concentration of PIPE-LAX W (EXPORT) stuck-pipe additive be increased from 3.5 gal/bbl (83.3 L/m³) to 4.0 - 4.5 gal/bbl (95 - 107 L/m³). If it is necessary to reduce the viscosity of a PIPE-LAX W (EXPORT) solution, dilution with oil or the addition of 0.25 - 0.5 lb/bbl (0.71 - 1.43 kg/m³) VERSAWET* surfactant is recommended.

Example: To mix 120 bbl, 12- lb/gal PIPE-LAX W (EXPORT) spot using diesel oil and M-I BAR weight material:

From the chart calculate:

Diesel Oil: 0.527 x 120 = 63.2 or 63 bbl

Water: 0.226 x 120 = 27.1 or 27 bbl

PIPE-LAX W (EXPORT): 3.5 x 120 = 420 gal or 7.6 drum

Mud Weight (lb/gal)	Diesel Oil (bbl)	PIPE-LAX W (EXPORT)(gal)	Fresh Water (bbl)	M-I BAR (lb)
8.0	0.542	3.5	0.361	20.4
9.0	0.520	3.5	0.347	74.1
10.0	0.498	3.5	0.332	127.7
11.0	0.553	3.5	0.237	186.6
12.0	0.527	3.5	0.226	240.0
13.0	0.502	3.5	0.215	293.3
14.0	0.477	3.5	0.204	346.7
15.0	0.513	3.5	0.128	404.4
16.0	0.484	3.5	0.121	457.5
18.0	0.478	3.5	0.053	567.3
19.0	0.445	3.5	0.049	620.2

NOTE: The effectiveness of 3.5 gal PIPE-LAX W (EXPORT) per barrel of spotting fluid is adequate for all types of base oils. However, when preparing spotting fluid in low-toxicity mineral oils, slightly more PIPE-LAX W (EXPORT) additive may be required to obtain desired rheological properties and gel strengths.

Preparation

Preparation of PIPE-LAX W (EXPORT) solutions is quick and simple. Follow the recommended mixing procedure:

- Clean spotting tank (slug pit or available rig tank) of any drilling mud. Flush mixing lines with water and drain.
- Add the necessary amounts of oil, PIPE-LAX W (EXPORT) product and water, in that order. Shear with centrifugal pump for 30 minutes.
- Add weight material until desired density is achieved. Adjust the viscosity as needed, additional PIPE-LAX W (EXPORT) product to increase viscosity; additional oil or VERSAWET surfactant to reduce viscosity.

Spotting Procedure

Most frequently it is the drill collars that become differentially stuck. The placement of a PIPE-LAX W (EXPORT) spot is relatively simple. The procedure for spotting a PIPE-LAX W (EXPORT) solution is:

- Determine the barrels of PIPE-LAX W (EXPORT) spot required to fill the annular space around the drillstring from the bit to the differentially stuck zone. To this calculated volume, add at least 25%. The extra volume will be left inside the drillstring to allow for the periodic displacement of additional spotting fluid.
- Determine the proper pumping time to spot the fluid across the affected area. Displace, then shut the pumps off.
- Work the pipe regularly. Use jars if possible. Displace 0.5 to 1 barrel of PIPE-LAX W (EXPORT) solution every half hour to keep the pipe covered.
- When pipe becomes free, or if it is desired to circulate the spot out of the hole, the PIPE-LAX W (EXPORT) spot may be incorporated into the drilling mud system. If drilling offshore in an environmentally sensitive area it may be necessary to catch the fluid in an appropriate tank to segregate it from the drilling mud.

Advantages

- Simple, single-drum product does not require other additives
- May be used in diesel oil, crude oil or low-toxicity oil
- Does not require high shear or long mixing time, allowing quick and effective application
- Can be weighted to any desired density

Toxicity and Handling

Bioassay information is available upon request. Handle as an industrial chemical, wearing protective equipment and observing the precautions as described in the Material Safety Data Sheet (MSDS).

Packaging and Storage

PIPE-LAX W (EXPORT) stuck-pipe additive is packaged in 55-gal (208-L) drums.

Store at moderate temperatures in dry, well ventilated area. Keep in original container.



P.O. Box 42842
Houston, Texas 77242-2842
Tel: 281-561-1300
Fax: 281-561-1441
www.miswaco.com
E-mail: questions@miswaco.com

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