

Construction Technologies Civil Engineering, Drilling & Tunnelling

VINILMUD P40®

VINILMUD P40® is a vinylic synthetic totally water-soluble polymer and it is mainly used for the preparation of stabilizing and lubricating muds in drilling and civil engineering application. The VINILMUD P40® drilling fluid is easy to prepare and easy to dispose after usage. Its main characteristics are its stabilizing and lubricating properties and the possibility to be recycled many times. The rheologic and stabilizing properties of the drilling fluids prepared with VINILMUD P40® are easily to detect during the usage and through easy tests which can also be performed directly on job site.

Appearance	Opaque to White granular solids
Specific Gravity:	1.00-1.01)
Density	0,6 – 0,7 g/cm3
Filtration properties	medium – low

In water solutions
(tap water, salt water and hard water)

Marsh Viscosity:	45 – 55 sec (sol.0,03%)
Marsh Viscosity:	55 – 65 sec (sol.0,05%)
Marsh Viscosity:	65 – 70 sec (sol.0,07%)
Marsh Viscosity:	80 – 100 sec (sol.0,1%)
Marsh Viscosity:	120 – 160 sec (sol.0,15%)

PREPARATION

In order to prepare VINILMUD P40® based fluids, it is not necessary to have special equipments such as it is needed for the preparation of bentonite based fluids. The complete hydration of the polymer is realized in approximately half an hour.

The long chain of vinyl polymers such as VINILMUD P40® case, requires to the operators a strict care on the agitation speed and in particular on the kind of pump to be used for the mud injection. A volumetric pump is preferable to a centrifuge.

DOSAGE

The VINILMUD P40® dosage generally varies according to the lubricating and stabilizing characteristics needed by the operators, but above all varies according to the soil condition on which the job is performed. The dosage of polymer suitable for low permeability and clayey soils is around 0,3 Kg of product for one cubic meter of fresh water up to a dosage of 1,5 Kg/m3 for jobs on high permeability soils. While using the fluid, it is extremely important to keep the pH level not lower than 10 because in this way there might be a risk of losing all stabilizing and lubricating characteristics of the fluid itself. The way to keep the pH level over the above said value, is to add sodium hydroxide in a quantity of around 20% on polymer weight.

DISPOSAL

After usage VINILMUD P40® muds, before disposal, can be treated with oxidizing agents in order to be sure that any trace of active material has been eliminated. The most popular products used for treatment of the vinyl polymer muds, are sodium hypochlorite (bleaching agent) and oxygen peroxide

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