

Friction and Wear, Including Mechanisms, Modeling, Characterization, Measurement and Testing (Bangladesh Case)

Authors : Gor Muradyan

Abstract : The paper is about friction and wear, including mechanisms, modeling, characterization, measurement and testing case in Bangladesh. Bangladesh is a country under development, A lot of people live here, approximately 145 million. The territory of this country is very small. Therefore buildings are very close to each other. As the pipe lines are very old, and people get almost dirty water, there are a lot of ongoing projects under ADB. In those projects the contractors using HDD machines (Horizontal Directional Drilling) and grundoburst. These machines are working underground. As ground in Bangladesh is very sludge, machine can't work relevant because of big friction in the soil. When drilling works are finished machine is pulling the pipe underground. Very often the pulling of the pipes becomes very complicated because of the friction. Therefore long section of the pipe laying can't be done because of a big friction. In that case, additional problems rise, as well as additional work must be done. As we mentioned above it is not possible to do big section of the pipe laying because of big friction in the soil, Because of this it is coming out that contractors must do more joints, more pressure test. It is always connected with additional expenditure and losing time. This machine can pull in 75 mm to 500 mm pipes connected with the soil condition. Length is possible till 500m related how much friction it will had on the puller. As less as much it can pull. Another machine grundoburst is not working at this soil condition at all. The machine is working with air compressor. This machine are using for the smaller diameter pipes, 20 mm to 63 mm. Most of the cases these machines are being used for the installing of the house connection pipes, for making service connection. To make a friction less contractors using bigger pulling had then the pipe. It is taking down the friction, But the problem of this machine is that it can't work at sludge. Because of mentioned reasons the friction has a big mining during this kind of works. There are a lot of ways to reduce the friction. In this paper we'll introduce the ways that we have researched during our practice in Bangladesh.

Keywords : Bangladesh, friction and wear, HDD machines, reducing friction

Conference Title : ICCESE 2015 : International Conference on Civil and Earth Science Engineering

Conference Location : Paris, France

Conference Dates : July 20-21, 2015