

Subject: Wire rope incidents note

Six incidents related to wire rope ruptures happened within the company during the last four months.

Most of them were classified as near misses or equipment damage since no one was hurt when the wire rope broke.

One serious accident occurred on August 20th 2017, in our Vietnamese subsidiary when the bucket of a piling machine dropped on the foot of a worker.

The investigation of these events is still ongoing.

The purpose of this note is to remind you the necessary inspections and preventive measures to apply on wire ropes of all cranes and piling rigs.

We also include group best practices on exclusion zones and collective protections to avoid exposure to rotating parts and drilling tools.

Latest incidents within the group:

Vietnam – Lost Time Accident

- On August 20th 2017, was performing drilling operations with a Soilmec SR70. The pile was in progress with the drilling team (Drilling operator and Kelly man).
At that time, the rig was in waiting position in order to prepare for the next pile, the bucket was suspended at 1.6m high from the ground.
The Kelly man stepped his left foot under the bucket of the machine to take a rope laying on the ground. Suddenly, the Kelly bar's cable broke down and the bucket fell down on his foot.
The emergency team immediately rescued the Injured Person (IP) and transferred him to hospital for further treatment. Four toes from his left foot were cut off and could not be reconnected with surgery.



Figure 1 - Figure 2 - Victim's position at the time of the accident

Singapore – Near Miss

- Cable rupture on the T212 job site
- Investigation is still in progress.

Hong Kong - Near Miss

- Cable rupture on the C3205 job site
- Incident caused by corrosion with sea water on cable.
- Cable non-compliant with the required protection specifications.

Dubai - High Potential Near Miss

- Cable rupture on the hydro fraise while doing some tests.
- Possibly due to corrosion. Investigation is still in progress.

Peru – Loss Time Accident

- The operator was on the side of the machine cleaning the mud that was accumulated, when suddenly he hears a loud sound and instantly feels that the main cable that holds the Kelly falls down and rebounds impacting his body at his right leg, causing a swelling, as well as a small scratch on the face.
- Root cause analysis shows a lack inspection and preventive maintenance on the rope

France – Equipment damage

- Severe degradation of the suspension cable of HC05 (no complete rupture)
- Most likely cause: extreme lateral twisting of the fraise body when cutting a middle bite causing inappropriate friction with the cable guides.

Immediate preventive actions

On equipment:

Review of instructions manuals of equipment and check the following points:

- Cables in use are conforming to specifications of instruction manual
- Execution of periodic controls and replacement
- Condition of cable (wear or damages). Instruction manuals contain guidelines for that.
- Existence of certificate of conformity

Extend inspection to:

- Neighboring pieces of equipment
- Swivels
- Anti-two blocks on mast or booms
- Unexpected contact or friction of cable

Analyze the risk of corrosion due to specific environmental conditions.

On site installation:

Example of group best practices:

SEGROATION OF WORKING AREA

Always demarcate slewing plant & equipment to prevent striking of pedestrians or equipment



EXCLUSION ZONE NEAR THE CRANE

Flashing light for night works



Slewing radius protection for cranes and excavator



Pile covers to protect from falls into the pile shaft or excavation



**PILE
COVERS**

