

INTECNA srl

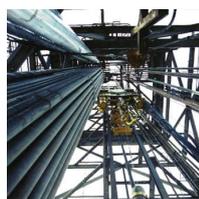
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SLIPPERINESS CONTROL IN POLY-ELECTROLYTES HANDLING

SLY-DEC - A

SLY-DEC - C

PRODUCTS PROFILE



SLIPPERINESS CONTROL IN POLY- ELECTROLYTES HANDLING

Cationic and Anionic poly-electrolytes (poly-acryl amide-based) solutions show a strong slipperiness. This characteristic creates many safety problems especially in areas where these solutions are prepared.

The floor or surface becomes slippery and a simple washing with water does not remove the casual fall risk to the assigned operators.

Similarly, equipment, pipes, stairs, containers, in contact with casual losses has the same problem and washing to remove residual polymers, is very difficult.

Moreover, with the time, a not complete polymer removal gives encrustation hard and difficult

Therefore it is useful to face this problem which until now did not find a definitive solution.

SLIPPERINESS DEFINITION AND STANDARD METHODS

To prevent casual fall risk, some standard measurements and guidelines have been designed to make floors safer to walk on. In the interest of developing a scientific way to determine how slippery a surface is, measurements of slip resistance have been developed. In the United States, slip resistance is determined by measuring the static coefficient of friction (SCOF) of a surface. SCOF is defined as the force required to start relative motion between an object and the surface it is resting on. Europe and Australia have used measurements of the dynamic coefficient of friction — the force required to keep a sliding object in motion once sliding has begun. The most utilized test in the U.S. today is the Horizontal Dynamometer Pull-Meter, known as the drag sled. This test is conducted within the guidelines of ASTM C-1028.

European countries have been using dynamic COF testing devices for several years, but the testing methods are also flawed. The most widely accepted test in Europe is the ramp test (DIN 51130) which was standardized by the Deutsches Institut fur Normung,

Usually the SCOF values are divided in classes with the following interpretation :

VERY SLIPPERY	0,01 - 0,05
SLIPPERY	0,05 - 0,2
UNSURE	0,2 - 0,38
SLIP-RESISTANT	0,4 - 0,5
SAFE	> 0,5

By using the horizontal pull slip-meter (HPS, dynamometer or tribometer, hand pulled as ASTM C-1028), it's possible to do an acceptable measurement of slipperiness.



INTECNA carried out many laboratory test to define the following aspects and to answer to the following questions

- 1) Slipperiness removal for ANIONIC POLY ELECTROLYTES and CATIONIC POLYELECTROLYTES is similar ? **We formulated different products for different Poly-Electrolytes charge**
- 2) To remove the residual Poly-electrolytes , is it more suitable a liquid formulation or solid formulation ? **We found that a solid powdered formulation is easier for residual Poly-Electrolytes solutions spills removal and slipperiness removal**

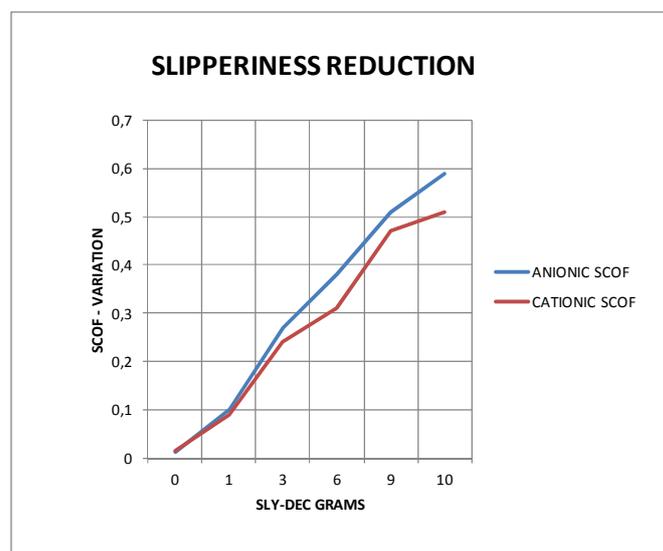
EXPERIMENTAL RESULTS

To achieve reliable results we defined standard experimental conditions.

- 1) Over an Aluminium plate (dimension 40 cm x 50 cm) we poured 50 ml of a solution 0,3 % of ANIONIC POLY-ELECTROLYTE
- 2) We measured the slipperiness. Obtained SCOF value was 0,012
- 3) We covered the liquid part with increasing quantities of the product SLY-DEC A
- 4) We mixed with a little palette knife until a complete absorption
- 5) After removal of the solid lump, we measured again the slipperiness and final value was over 0,5 (Value who meets OSHA Recommendations)

The same we repeated with CATIONIC POLYELECTROLYTE by using the product SLY-DEC C

In the graphic are reported the results (GRAMS OF ABSORBENT vs SCOF VARIATION)



SLY-DEC A

PRODUCT PROFILE

Product is a formulation showing a reactive capacity with ANIONIC POLYELECTROLYTES. Contact with polymer solution generate a lump easy to be removed and final result is a complete slipperiness reduction. Reaction is completed in few minutes.

Product is packed in green bags 10 Kg each
Further information is reported in MSDS

SLY-DEC C

PRODUCT PROFILE

Product is a formulation showing a reactive capacity with CATIONIC POLYELECTROLYTES. Contact with polymer solution generate a lump easy to be removed and final result is a complete slipperiness reduction. Reaction is completed in few minutes.

Product is packed in red bags 10 Kg each
Further information is reported in MSDS