



PRE-TREATMENT & FWA's

TANNEX[®] GEO

Multi-purpose and versatile
compound

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TANNEX® GEO

Special multipurpose versatile compound for wet processing of textile goods made of natural and synthetic fibres

TANNEX® GEO, a natural clay based product, has many outstanding properties, which can be successfully applied in textile processing.

The ability to absorb many organic substances makes it a very good scouring agent for many fibres, such as cotton, synthetic fibres and their blends.

It also provides lubrication to the goods while processing, thereby avoiding crease and crack marks and ensuring an even level end-result. In addition to that TANNEX® GEO wets out the fabric and demonstrates an excellent dispersing performance for impurities in the water as well as on the goods. Its composition makes it an outstanding bleaching stabilizer for bleaching with hydrogen peroxide. TANNEX® GEO is globally regarded as the best product for discontinuous bleaching. Ecologically it offers a number of advantages over existing standard product-concepts.

A number of very interesting new applications, which are now successfully applied in the textile industry, will be outlined in this brochure. Others are very likely to follow.

TANNEX® GEO really is a multipurpose all-in-one product.

Deactivating Fluorocarbon and Silicone finishes

When, during final fabric inspection, stains, off-shade colour or unlevel dyeing has been found, the fabric has to be repaired.

Repair procedures for fabrics on which finishes with fluorocarbon chemicals have been applied are very difficult as the fabric has become water- and oil-repellent. Less hydrophobic but also difficult to remove are most amino-modified silicone softeners.



TANNEX® GEO enables the easy repair of fabrics treated with cationic fluorocarbon finishes as well as weakly cationic silicone softeners, using the procedure in the next column.

In principle this procedure can be used on all fibres and blends, except protein fibres like wool and silk.

Very positive experiences in bulk have been made on PES/PA micro, PES/PES micro, woven 100% PES, 100% PA and blends of CO/PA and PA/CO.

- Load the fabric into the machine
- Add the following products and chemicals
 - 1 ml/l TANATERGE® N-EW Conc.
 - 3-5 ml/l TANNEX® GEO
 - 3-5 ml/l Caustic Soda 50%
- Treat for 40-50 min at 90°C -100°C, liquor ratio 10:1
- Rinse thoroughly with warm and cold water
- Start repair- or re-dyeing-procedure depending on the type of fibre or blend.

Washing Elastane blends

The absorption of oil onto the clay is nowadays used whilst cleaning Elastane-blends, like PA/EL, PES/EL CV/EL and Cotton/EL during scouring and dyeing operations.

The use of TANNEX® GEO is very beneficial in obtaining maximum cleaning and in achieving level dyeing results. This application has become an important application for this compound. The application is mostly done as follows:

Washing

- 1 – 2 ml/l TANNEX® GEO
1 ml/l TANATERGE® LFN
1 – 2 g/l Sodium Carbonate
- 10 minutes at 30° - 40°C (higher temperatures possible)
- Rinse at 30° - 40°C

For cotton blends a bleaching operation using TANNEX® GEO is required as a preparation before dyeing

Dyeing

Dyeing is carried out by the normal method. It is recommended to use an addition of 0,5 ml/l TANNEX® GEO for optimum results.



Excellent level dyeing results can be obtained by using TANNEX® GEO as an addition to the pre-scour and the dye bath.

Cleaning effects on the machinery



In all wet processing operations where TANNEX® GEO is used very positive side effects with regard to maintaining the cleanliness of the machines have been observed.

As no oil or other staining residues are left behind, safer processing conditions can be achieved.

Fewer stains on the fabrics mean less rejects, which are very expensive.

An important number of customers use small amounts of TANNEX® GEO (e.g. 0,5 ml/l) in the dye bath for polyester, polyamide and cotton and their blends to avoid the deposition of oils, waxes and silicones.

The number of machine cleaning operations can drastically be reduced.

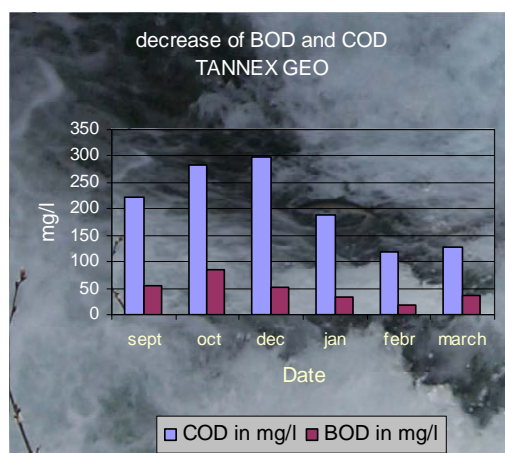
Positive issues in waste water treatment

The application of TANNEX® GEO in bleaching operations not only has the benefit of excellent bleaching results but because of the low COD value of the product and the additional absorption of organic substances, a lowering of the organic load of the effluent can be achieved.



In fact this means that additional cost savings are possible, as the total COD, BOD values and total solids are decreased if TANNEX® GEO is used in the bleaching process.

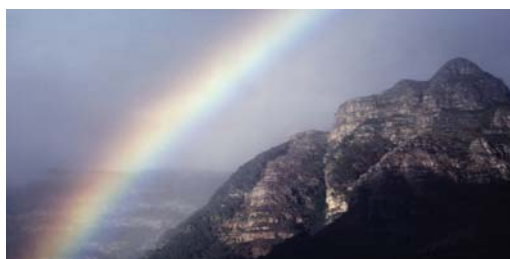
Below is a practical example from a textile factory which clearly shows the decrease of COD and BOD figures. The use of TANNEX® GEO started in January.



- Average reduction of COD values: 25%
- Average reduction of BOD values: 53%

The organic substances, as soluble or dispersed substances, are absorbed by the clay of TANNEX® GEO and thus removed from the water. Of course biodegradation will continue on the clay. But the cost for discharging this effluent water into communal effluent streams will be reduced drastically.

Ecological Bleaching procedure



Bleaching cotton was the first very successful application of TANNEX® GEO. Meanwhile it is globally used for all kinds of cotton fabrics to achieve the best possible whites, using only this on clay chemistry based concept. For knitted and woven fabrics as well as yarn.

The following procedure is recommended:

- Start with 1,5 – 2 ml/l TANNEX® GEO
- Load Fabric into the machine
- Run for approximately 10 min. to wet out the fabric and to distribute the clay all over the fabric
- Add 2 – 3 g/l NaOH 100% and 4 – 8 ml/l H₂O₂ 35%
- Raise the temperature to the boil and treat for 30-60 min.
- Bleaching at high temperature (110 - 120°C) is also possible (without negative influence on DP-values). The caustic and peroxide can be reduced by 30 – 50%
- Hot and warm rinsing and neutralization with TANACID® NAC

TANNEX® GEO helps you to respond on environmental issues in a simple way



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