POLITECT®

LINEA RESTAURO

New line of water-based compounds for the cleaning of works of Art in the field of Restoration and Conservation of Monumental, Cultural and Architectural Heritage.

PATENTED PRODUCTS

WWW.POLITECT.IT

OVERVIEW

- POLITECT LINEA RESTAURO is a new line of medium viscosity water-based compounds, fluid during application and ready to use.

- The simultaneous presence of film forming polymers and chemical additives performs a mechanical and chemical cleaning on a wide range of surfaces.

- Once dry, the resulting film is easily peelable as a single sheet, without leaving any residue and guaranteeing an homogeneous removal of dirt.

- All products are environmentally friendly and not harmful for the end user.

OVERVIEW

POLITECT

Politect is a unique mixture of:

- Water
- PVA
- Plasticizer
- Solvents
- Preservatives
- Anti-foam
- Rheology modifiers

WHY PVA

POLIVYNIL ALCHOOL (PVA)

- PVAs are very common polymers because of their exceptional chemical and physical properties, biocompatibility and stability to temperature variation.
- They are currently applied in the industrial, commercial, medical and food sectors (FDA approved).
- PVA is a widely used thermoplastic polymer that is harmless and nontoxic.
- PVA, due to its chemical inertness, doesn’t interfere with other chemical substances or with the substrate onto which it is applied.

WHY PVA

- Purity (99,5%)
- Low emissions (VOC= 1% Max)
- pH (4,5 – 6,5)
- High water solubility
- High transparency
- Stability to temperature and light
- Chemical inertness
- High surface tension

CURRENT CLEANING TECHNIQUES

- **MECHANICAL:** The main mechanical cleaning techniques include cleaning with water at high pressure, hydro-sanding, sanding, micro-sanding, micro-chisels, scalpels, scrapers and brushes;
- **These cleaning techniques are certainly fast but they have many drawbacks, such as the possibility of damaging the material by traces of the mechanical activity (scratches etc.) and the large quantity of dust produced, which can be dangerous for the health of the workers and the public, particularly if the work is being done on siliceous stone.**

CURRENT CLEANING TECHNIQUES

- **CHEMICAL:** Chemical cleaning techniques involve the use of products such as detergents, sequestrants, alcaline salts, quaternary ammonium salts, surfactants, enzymes etc. in aqueous solution.
- For physical reasons, they tend to slide down vertical surfaces, considerably reducing the **duration** of contact with the surface and their **penetration**. These difficulties of application reduce the effectiveness of the treatment, thus making subsequent applications necessary, increasing times and costs.
- To overcome these problems, treatments with solvents or biocides are presently done using a support, which makes it possible reduce the evaporation of the solvent, increasing the duration of contact with the surface, the depth of penetration and therefore the effectiveness.

CURRENT CLEANING TECHNIQUES

The substances most commonly used as support mediums are:

- **INERT OR ACTIVE ABSORBENT POWDERS**, siliceous powders (talc, infusorial earths etc.), clay (sepiolite) and organic absorbent powders (celluloses);
- **FIBROUS MATERIALS**, natural cellulose fibres (absorbent cotton, wood pulps) and artificial fibres (polyester fibres);
- **GELS** (agar, methylcellulose, carboxymethylcellulose etc.);
- **EMULSIONS**, liquid-liquid heterogeneous systems or mixtures of wax and water.
- These are certainly gentler cleaning techniques than the mechanical ones already mentioned but they are decidedly **slower and more laborious**, since they require the application of a layer of Japanese paper to facilitate removal of the support medium, and final washing with water to eliminate residues.
- Moreover, since those substances are not transparent (except for the gels) **they do not allow visual control of the operation and are therefore not controllable.**

PEELING

Around the nineties a new cleaning technique came on the scene just described, based on the use of substances capable of polymerizing, forming a film that once removed performs a mechanical cleaning (**peeling).**

- **The products thus far available on the market are principally based on latex**, and their main limitations are related to:

- ✓ **Bi-Component products;**
- ✓ **Bad smelling (Ammoniacal Odour);**
- ✓ **High light sensitivity;**
- ✓ **Hard to remove;**

- **What is more, the residues of latex that can remain on the surface are extremely instable; Over time they tend to yellow the surface onto which they have been applied, causing stains hard to remove.**

CLEANING WITH POLITECT

POLITECT LINEA RESTAURO

- The products are easy to apply and capable of filming when the water contained in the formula has evaporated; They create an elastic and resistant film, applicable in several superimposed layers, which is easy to remove and exercises the peeling effect on the surface without doing any damage to the original material and without leaving residues.

- Politect Linea Restauro employ only those chemical substances already in use in the Restoration field, approved by Restorers and Institutions worldwide for their effectiveness, such as:
- Ammonium Citrate Tribasic.
- Ammonium Carbonate.
- Benzalkonium Chloride.

- No need for support mediums.

- Treatments might be repeated according to the required cleaning degree.

- All products are water soluble.

AVAILABLE PRODUCTS

POLITECT BASE
Mechanical cleaning of stone, marble, gypsum, terracotta and wood.

POLITECT AMMONIO CARBONATO
Contains Ammonium Carbonate (4-8%)
Mechanical and chemical cleaning of stone surfaces and wall paintings.

POLITECT BIOCIDA
Contains Benzalkonium Chloride (5%)
Mechanical and chemical removal of biological patinas.

POLITECT CITRATO
Contains Ammonium Citrate Tribasic (4%)
Mechanical and chemical cleaning of stone surfaces.

ADVANTAGES

- Ready to use (no manipulation of toxic or hazardous substances)
- Easy to apply with a spatula or brush.
- **Synergic action of mechanical and chemical cleaning.**
- Surfaces can be monitored during treatment, thanks to the product's transparency.
- Easy to remove as a single sheet, leaving no residues.
- **Enhanced contact time of the chemical agents on the substrates.**
- Homogeneous cleaning on a wide range of surfaces.
- Eco friendly and safe products.
- No soil pollution.

POLITECT BASE

- **NO CHEMICALS ADDED.**
- **PERFORMS A MECHANICAL CLEANING (PEELING) ON A WIDE RANGE OF SURFACES.**
- **CAN BE CUSTOMIZED ACCORDING TO THE RESTORER'S NEEDS USING THE CHEMICALS CONTAINED IN TUBES SOLD SEPARATELY.**
- **CAN BE APPLIED ON STONE, MARBLE, GYPSUM, TERRACOTTA, METAL, ALLOYS AND WOOD.**
- **DUE TO ITS ELASTICITY AND MECHANICAL AND CHEMICAL RESISTANCE, IT ALSO CAN BE USED AS A TEMPORARY PROTECTION OF VALUABLE MATERIALS (MOSAICS AND ARCHAEOLOGICAL FINDS).**

POLITECT CARBONATO

- **CONTAINS AMMONIUM CARBONATE IN A STABLE FORM (4-8%).**
- **BESIDE THE CLEANING ACTION, IT IS WIDELY USED IN THE "DESCIALBO" TECHNIQUE, PERFORMING A CONTROLLED REMOVAL OF OLD LAYERS OF GYPSUM, PAINT, RESIN AND MORTAR OVER EXISTING FRESCOES AND WALL PAINTINGS.**
- **IT'S A SAFE PRODUCT BECAUSE IT DOESN'T INTERFERE WITH THE LOWER SUBSTRATES, ENSURING A CONSTANT HUMIDITY DEGREE AND CHEMICALLY AND MECHANICALLY ATTACKS ONLY THOSE LAYERS TO BE REMOVED.**
- **THANKS TO ITS TRANSPARENCY, IT ALLOWS THE SURFACES TO BE MONITORED DURING TREATMENT, RETAINING THE REMOVED LAYERS IN THE POLYMERIC FILM.**

POLITECT CITRATO

- **CONTAINS AMMONIUM CITRATE TRIBASIC (4%), A WELL KNOWN CHELATING AGENT.**
- **HIGH EMULSIFYING AND TENSIOACTIVE PROPERTIES.**
- **PERFORMS A MECHANICAL AND CHEMICAL CLEANING ON STONE SURFACES.**
- **THANKS TO ITS TRANSPARENCY, IT ALLOWS THE SURFACES TO BE MONITORED DURING TREATMENT, RETAINING THE CHELATED SUBSTANCES IN THE POLYMERIC FILM.**

POLITECT BIOCIDA

- **CONTAINS BENZALKONIUM CHLORIDE (4%), A QUATERNARY AMMONIUM SALT.**
- **BENZALKONIUM CHLORIDE IS WIDELY USED FOR THE REMOVAL OF BIOLOGICAL PATINAS.**
- **POLITECT BIOCIDA ENHANCES THE BENZALKONIUM CHLORIDE'S CONTACT TIME ON THE SUBSTRATE, ENSURING A DEEP PENETRATION AND A PROLONGED AND MORE EFFICIENT BIOCIDAL ACTION.**
- **NO HAZARDOUS EMISSIONS FOR THE END USER.**
- **SPORES ARE RETAINED IN THE POLYMERIC FILM. NO NEED TO RINSE, NO FOAM, NO SOIL POLLUTION.**
- **CUTS TIME AND COSTS (ONE SINGLE APPLICATION AGAINST REPEATED ONES OVER TIME FOR THE SAME RESULTS).**

TUBES

- **EVERY RESTORATION PROCESS IS UNIQUE, AND SO ARE SURFACES. ONE SINGLE PRODUCT MIGHT NOT WORK PROPERLY, REQUIRING INSTEAD A MIXTURE OF SEVERAL DIFFERENT CHEMICALS TO ACHIEVE THE DESIDERED RESULTS.**
- **EVERY RESTORER PREFERS OR USES "DIY" SOLUTIONS, MANIPULATING DIFFERENT CHEMICALS.**
- **THE PERCENTAGE OF THOSE SOLUTIONS MAY VARY ACCORDING TO THE CLEANING DEGREE REQUIRED.**

POLITECT LINEA RESTAURO, BESIDE THE READY TO USE PRODUCTS, OFFERS ALL AFOREMENTIONED CHEMICAL AGENTS IN 300 ML. TUBES.

- **RESTORER CAN DECIDE WHAT CHEMICAL TO USE, ITS PERCENTAGE AND/OR MAKE A MIXTURE OF SEVERAL DIFFERENT CHEMICALS.**
- **CUSTOM MADE PRODUCT, SPECIFICALLY DESIGNED FOR A PARTICULAR WORK.**
- **EASY TO MIX WITH POLITECT BASE.**
- **ENHANCED SHELF LIFE.**

TUBES

PRODUCT	Conc. 2%	Conc. 3%	Conc. 4%	Conc. 5%
Ammonium carbonate	20 gr. (*)	30 gr.	50 gr.	1oo gr.
Ammonium citrate	10 gr.	25 gr.	50 gr.	100 gr.
Biocide	……	……..	……..	50 gr.

*** Quantities referred to 1 Kg. of Politect Base**

OTHER PRODUCTS

- **POLITECT GRAFFITI REMOVER – WORK IN PROGRESS**
- **POLITECT DEWAXER – WORK IN PROGRESS**
- **POLITECT MEK (CLEANING OF METALS AND ALLOYS) - AVAILABLE**
- **POLITECT ACQUA OSSIGENATA (CONTAINS HYDROGEN PEROXIDE) – AVAILABLE**
- **POLITECT WOODWORM REMOVER – WORK IN PROGRESS**

WORKS

APOLLO CITAREDO, VATICAN GARDENS

Apollo Citaredo before the cleaning work

After cleaning with Politect Citrato + Biocida

WORKS

COAT OF ARMS, PRIVATE BUILDING (ROME)

BEFORE CLEANING

CLEANING WITH POLITECT AMMONIO CARBONATO 4%

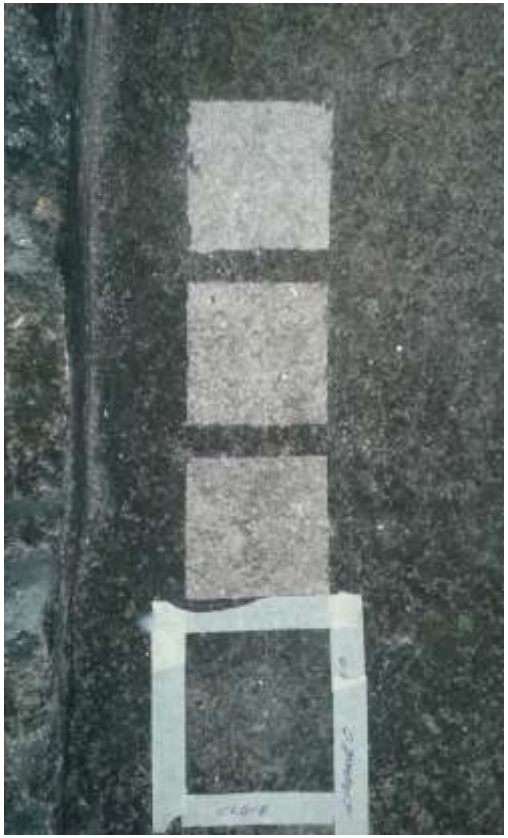
AFTER CLEANING

WORKS

ARCHEOLOGICAL SITE, THAILAND

WORK SITE

ALL PRODUCTS COMPARISON



AFTER CLEANING

WORKS

PRIVATE BUILDING, FLORENCE

WORKS

PRIVATE BUILDING, FLORENCE

WORKS

PRIVATE BUILDING, FLORENCE

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PRIVATE BUILDING, FLORENCE

WORKS

PRIVATE BUILDING, FLORENCE

WORKS

CLEANING WITH POLITECT BIOCIDA

**REMOVAL (NOTICE THE SPORES RETAINED IN THE POLYMERIC FILM)
BEFORE RINSE**

WORKS

WORKS

POLITECT

FOR ANY ADDITIONAL INFORMATION, VISIT OUR WEBSITE

WWW.POLITECT.IT

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THANK YOU!