

# Millennium One Step System

## Application manual

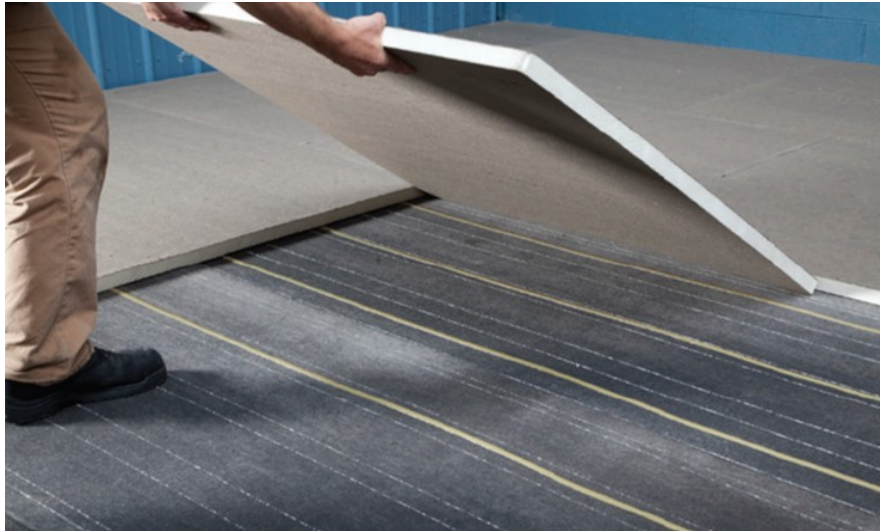
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1. Electric extruder with Millennium ONE STEP cartridges



2. Application of the adhesive Millennium ONE STEP and the creation of the grid.



3. Laying after a few seconds of the insulating boards



4. Laying the insulation board applying a small pressure on it to ensure effective bonding with the substrate.

## APPLICATION

Remove the cap of the mixing head One Step™ and store it for later use.

Screw the One Step™ mixing nozzle to the threaded mixing head.

Insert the cartridge into the One Step™ extruder.

**Warning:** the adhesive must be spreaded immediately after inserting the cartridge into the applicator to prevent the adhesive from hardening in the nozzle skim mixer.

Apply Millennium One Step foamable Adhesive directly on the support, along parallel tracks. Separate the curbs by 0.6-1.3 cm, spaced 30 cm minimum one from the other to obtain a correct

bonding of the panel to the substrate.

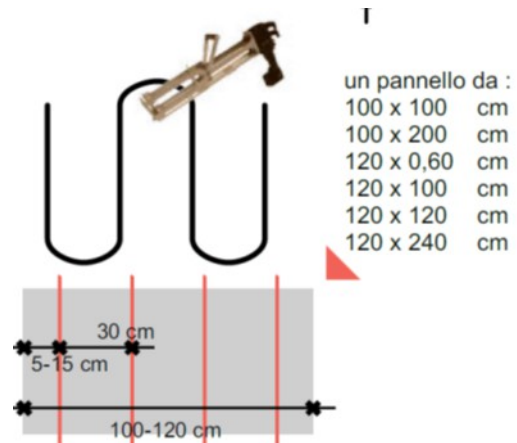
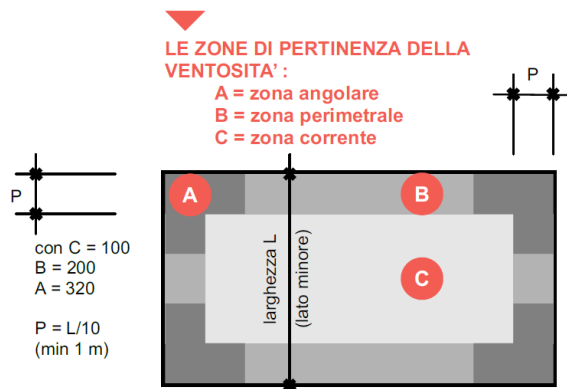
Few seconds after the application of the adhesive immediately place the insulation board.

Do not let the adhesive forms a surface film.

Smooth out the uneven surface to ensure complete contact between the insulation board and substrate. Unused material can be stored for later use: just remove the used mixing nozzle, clean the cartridge neck with a towel and put back on the cartridge tip the stopper supplied.

**Warning:** Millennium One Step foamable Adhesive reacts quickly in hot and humid environments. In these cases positioning of the insulation boards must be executed very quickly.

#### LA RESISTENZA AL VENTO UNA COPERTURA PIANA



The evaluations of the extraction tests have led to the consideration that the bonding values of Millennium One Step are, although depending on the nature of the abutment surface, very high in any case. The operating maximum extraction value, providing a high safety coefficient of 3, of around 650 kg per sqm, expecting 4 tapes of 15 mm to about 1m, placed in parallel rows, at a distance of 30 cm.

#### ADVANTAGES OF "MILLENNIUM SYSTEM ONE STEP"

Ready for use adhesive.

No mixing required. It reduces operating costs. Preparation very quickly, in just a few minutes. Intended use in any weather conditions or temperature. Easy to use. VOC-free solvents (volatile organic compounds), no odor, non-flammable. More flexible Elastomeric mass, it absorbs any stress. Low modulus Polyurethane foam. Regulates every minimal surface irregularities. Replaces mechanical fixing.

#### DESCRIPTION

Millennium One Step is a foamable single-component adhesive with high elastomeric properties. Millennium One Step does not contain solvents, becomes operational in a few minutes, it covers most of the possible application cases, eliminates any improper mixing error. The application is very fast and results in a significant saving of time and labor. Millennium One Step is designed to be a reference adhesive for an extensive series of supports and decks, eliminating the need for mechanical fastening solutions that often lend the triggering of damage to the waterproofing system. **Millennium One Step** is designed to be in line with the most environmental regulations and can therefore become a part of each "green" housing project .

## **COMPOSITION**

Polyurethane polymer: 40-60%. Diisocyanate polymethylene Polyphenyl: 10-30%. Diphenylmethane diisocyanate (MDI): 10-30%. Dimethyl silicone polymer with silica: 1-5%. This preparation has been classified for the European CE market, in accordance with Annex VI to Directive 67/548 / EEC and 1999/45 / EC.

## **APPLICATIONS**

Millennium One Step is designed to ensure the bonding of insulation boards on approved structural supports, intermediate layers and preparation, other insulation boards and various surfaces properly prepared. A non-exhaustive list, of compatible support: high density wood fiber, plaster panels , PIR (polyisocyanurate) panel, polyurethane PUR panels, cementitious wood fiber, expanded perlite panels (min cm 2), medium-high cell densities concrete, wood or metal , extruded polystyrene foam or EPS or XPS, polymer-bitumen membranes (mbdp) standard or self-protected (Mineral finishings) for renovations, concrete.

To analyze a complete list of compatible materials and insulating panels or to request additional information, contact our technical service

## **SAFETY**

Refer to the instructions given on the label and on the dedicated MSDS.

## **WARNINGS**

Do not apply on damp surfaces. Do not use for the laying of insulation panels with dimensions in excess of 1.20 x 1.20 meters. Do not use in the presence of curved or warped insulating panels. The panels must be plain and adhere perfectly to the surface of the roofing system. The application of Millennium One Step on a plastomeric APP membrane with smooth or sandblasted finish requires a pre-treatment with Millennium Surface Treatment. For further information contact our technical service.

## **PRESERVATION AND STORAGE**

Maintaining the product temperature between 18°C to 29° C for the 24 hours prior to operational use. Do not store in direct sunlight or at temperatures exceeding 32 ° C.

## **SURFACE PREPARATION**

All work surfaces should be clean, dry and free from dirt, dust, non-adherent parts, traces of oil, gravel, debris and other contaminants.

For applications on plain bitumen membranes, non oxidized bitumen, bitumen or membrane coupled to plastic film: Use Millennium Surface Treatment prior the application of Millennium One Step.

**Applying insulating panels on vertical support**



**Applying insulating panels on inclined supports**





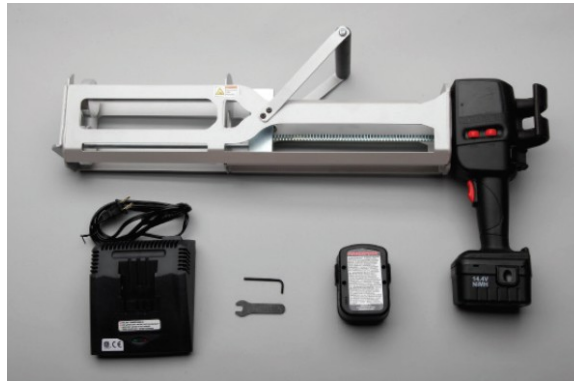
## Installation Equipment

The recommended installation equipment is : a battery powered Millennium One Step extruder, which has been specifically designed for use the wide family of ROYAL adhesives and sealants.

The body of this extruder is extremely solid and allowing the applicator to work in a standing position, thus eliminating unnecessary physical fatigue.

The electrical extruder is powered by a 14.4 volts rechargeable battery.

The electric motor is designed to operate at a less amperage than conventional cordless tools, increasing battery life and reducing the charging time.



Electric Extruder

## OPERATING USE

Attach the handle of the trolley to the applicator and tighten screws and nuts with the included equipment. Unlock the clutch lever to allow movement of the rack. Roll back the rack by pulling the carrying handle to the outside. Prepare the adhesive cartridge by removing the cap / stopper and inserting the nozzle mixer.

**Note:** Follow the instructions provided by the adhesive manufacturer during the preparation of cartridge. Insert the cartridge and align it for correct positioning. Push the handle forward, in order to align the pistons with the cartridge openings. Lock the clutch lever to activate it. Connect the battery to the handle of the applicator making sure it is properly engaged.

Set the output switch to the desired speed. The maximum speed is shown on the selector from the largest "bubble".

**Note:** For most applications you will have to set the switch to maximum speed and hold the button to start the adhesive dispensing.

Note: the button must be pressed 2 times before to power up the extruder after a period of inactivity. It is a power saving function integrated into the tool. After completing the application, or finishing the cartridge, release the button, release the clutch and pull the rack back. Remove the cartridge.

## **SAFETY**

Use safety devices such as goggles and gloves, to wear during the operation or maintenance of the extruder.

It should not be used when the cartridge outlet nozzle is blocked or partially blocked.

Not polymerize in contact of any object or body parts. Before working with any Millenium product consult the product label and MSDS for the necessary precautions for health and safety.

## **MAINTENANCE**

Keep handles clean, dry and free of oil or grease. Wipe with a damp cloth and mild detergent. Do not use solvents or detergents that can damage plastic components. Follow the instructions for cleaning and maintenance instructions in the charger manual as the attached battery. Regularly remove adhesive residue from the rack and from the pistons (if necessary) Apply a light coat of oil to lubricate the rack as needed. For internal lubrication, and for all other maintenance operations (except for the exterior cleaning and battery charging) and for any type of repair, bring the extruder to a service center, distributor or manufacturer. If the extruder is not working properly, make sure the battery is fully charged and that the contacts on the battery are clean. If necessary, clean them very gently using an eraser.

## **PRECAUTIONS**

The technical assistance of the extruder should be performed only by skilled personnel. The service or maintenance performed by unqualified personnel may result in injury or, at worst, the tool damage.

At the end of the use remove the battery from the extruder. For the maintenance of the unit: Use only original spare parts. The use of non-original parts or failure to follow maintenance instructions may create a risk of electric shock or personal injury.

## **PACKAGING**

The electric extruder One Step includes: 2 rechargeable NiCd batteries, 1 charger and 1 removable carrying handle

