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Italian certificates



The continuous search for excellence has led Panariagroup to invest in the latest technology. Amongst the many advantages, the latter has permitted us to reduce emission of gas into the atmosphere to the minimum levels possible: at least ten times lower than the strict thresholds of Italian laws. Emission levels also fulfil the requirements of the Kyoto Protocol for reduction of GHG.



By means of extremely modern plant, Panariagroup can convey the heat produced during the tile firing stage to the equipment used for preparing mixtures. By doing so, the consumption of natural gas is reduced by at least 25%.



All discarded green material - i.e. green material that does not fulfil our high standards of quality - is recycled. Since this materila is not fired, it can be fed back into the initial stages of the production process hence reducing the amount of raw materials needed. Fired rejects that cannot be fed back into the production cycle, since they would adversely affect the characteristics of the mixture, are recycled externally. In other words, they are used for the production of bricks or road substrates thus reducing the natural materials generally used for these purposes.



The tile production process calls for a significant amount of water. To save such an important resource, Panariagroup recycles all the water employed during the production cycle. This reduces the consumption of water by 60%. Furthermore, the water used during the production process is in no manner disposed of in the environment.



All materials used for packing our products (cardboard boxes, plastic, wooden pallets, etc.) can be recycled. As a further environmental guarantee for the forests of countries importing our products, all our pallets are made without bark (in accordance to the IPPC / FAO ISPM 15 standard).



Apart from keeping a constant control on the work environment, Panariagroup invests in training courses for staff concerning the environmental and safety aspects of the production activities. We promote the reduction of noise levels both inside and outside our factories, as established by the laws in force.



To continuously improve its policy, Panariagroup periodically checks its entire environmental protection package by means of Environmental Audits performed by independent certifying bodies and by qualified in-house personnel.





Panariagroup is a member of the U.S. Green Building Council, organisation of the USA demonstrating that a building is environmentally responsible, profitable and a healthy place to live and work. Purpose of LEED (Leadership in Energy and Environmental Design Green Building Rating System™) is assessing the environmental, social and economic sustainability of buildings on the basis of criteria such as energy efficiency, polluting emissions and the use of recycled materials. LEED supplies professionals of the building trade (designers, architects, etc.) the tools needed to calculate the impact of their buildings in terms of ecosustainability.



Emas



EC Regulation no. 1221/2009 of the European Parliament and of the Council introduced the EMAS ecomanagement and audit scheme for organisations. Panariagroup has obtained EMAS Registration for all its production sites: Finale Emilia (MO) (registration n.l-000309 on April 2005), Toano (RE) (registration n.l-000239 on September 2004) and Fiorano Modenese (MO) (registration n.l-000401 on December 2005). This registration is of major importance, since it requires a proper Environmental Management System to be created, based on the continual improvement of environmental performance within organisations. The scheme is based on the creation of an open dialogue with local institutions (Agencies, Authorities, Associations, Trade Union Representatives, Schools, Press) and with the public, and it is expected that all employees will play an active part. The Environmental Statement is the end document that describes the environmental and safety aspects in the workplace, the environmental performance of the site and the environmental targets that the Company sets itself within the framework of continual improvement. The statement is validated by an Accredited Environmental Verifier, following audits carried out in the plant. Panariagroup is one of the very few ceramics companies to have EMAS registration which, together with the ECOLABEL and ISO 14001 quality certification, bear witness to the management's utmost commitment and readiness to engage with the ethical, environmental, safety and quality issues. The Environmental Statements of all company's sites are available on the web site www.panariagroup.it.

UNI EN ISO14001



ENVIRONMENTAL CERTIFICATION FOR PRODUCTION SITES

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Ecolabel



THE ECOLOGICAL QUALITY MARK OF THE EUROPEAN UNION

PRODUCTION PROCESSES WITH A LOWER CONSUMPTION OF ENERGY

LESS EMISSIONS IN AIR AND WATER

IMPROVED CONSUMER INFORMATION AND WASTE MANAGEMENT

Ecolabel is a product certification scheme, created by the European Community (EC Regulation n°1980/2000), to enable consumers to choose and purchase "green", environmentally-compatible products. These products conciliate quality and a higher standard of living with respect for the environment. The flower logo is easily identifiable and certifies the ecological excellent of Panariagroup tiles. The lifecycle of products with this logo has been accurately analysed, in terms of eco-compatibility, from every point of view and throughout all stages of production. From the origin of raw materials to disposal of the product, the following aspects are all taken

saving, protection of the ozone layer and impact on biodiversity. For information about the Ecolabel, see: www.ecolabel.eu

into account: the quality of air and water of production facilities, preservation of surrounding soil, reduction of by-products, energy

CE

EN 14411

The European Union specifies the Guidelines to protect the safety and health of people and property in building works by the Directive 89/106/EEC. Within this context, the building materials must feature certain safety requirements to bear the CE mark; since 1st December 2005, such mark is compulsory for ceramic tiles, too (European Norm EN14411).

Indian certificates







Cleaning

"AFTER-INSTALLATION" CLEANING

- 1. "After-installation" cleaning is compulsory, both for glazed and non-glazed tiles.
- 2. An after-installation cleaning carried out not accurately, or not carried out at all, often results in halos preventing the floor to be kept clean despite of a careful daily cleaning.
- 3. To ensure an optimal cleaning, the use of a single brush with suitable disks (green for structured/anti-slip surfaces, red for the others) is recommended.

4. CEMENTITIOUS GROUTS MIXED WITH WATER

To ensure an optimal cleaning, the use of a single brush with suitable disks (green for structured/anti-slip surfaces, red for the others) is recommended.

| Residue to be removed | Cementitious grouts, slurry, cement, lime | | | | | |
|-----------------------|---|----------------|----------|----------------|--|--|
| Detergent type | Acid-based | | | | | |
| Detergent name | KERANET | CEMENT REMOVER | DETERDEK | LITOCLEAN PLUS | | |
| Manufacturer | MAPEI | FABERCHIMICA | FILA | LITOKOL | | |

For the use, follow the specific instructions by the manufacturers.

After performing the washing described above, it is necessary to wash with a basic or alkaline product, namely a degreasing detergent (see point 5 of table). Acid washing can leave greasy marks on the floor, which tend to withhold dirt.

NOTE: for cementitious grouts with additives (latexes, resins, etc.), remove immediately with sponge and plenty of water. Then, treat the floor according to the instructions in points 3 and 4.

Always make preventive tests before the use (on a tile not laid yet), above all on lapped or polished products.

Do not carry out the "after-installation" cleaning if the tile temperature is high; in summer, clean during the fresher hours of the day.

5. EPOXY GROUTS

The removal must be carried out immediately and carefully with sponge and plenty of water, as these grouts harden very fast, even in a few minutes. The following day carry out a thorough cleaning with alkaline detergents; a few of them are indicated in the table below.

| Operation | Thorough cleaning | | | | | |
|----------------|-------------------|-------|--------------------------------|---------|--|--|
| Detergent type | Alkali-based | | | | | |
| Detergent name | WAX REMOVER | PS 87 | CIF Degreaser with bicarbonate | LITONET | | |
| Manufacturer | FABERCHIMICA | FILA | UNILEVER ITALIA | LITOKOL | | |

For the use, follow the specific instructions by the manufacturers.

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Cleaning

6. ANTI-SLIP SURFACES

Due to their special features, rough or structured anti-slip surfaces are harder to clean. After the grouting, it is important to remove the excesses in a short time and by frequent washing with sponge and water, till the floor is perfectly clean. Then, carry out an acid washing using a single brush with green disks.

DAILY CLEANING

Carry out the daily/routine cleaning with neutral detergents or degreasers, diluted in warm water, following the procedures indicated on the packages. The following products, which can be easily found on the market, are recommended.

| Operation | Daily cleaning | | | | | |
|----------------|----------------------|-------------------------|-----------------------------------|------------------|-----------------|--|
| Detergent type | Neutral or degreaser | | | | | |
| Detergent name | GLASSEX degreaser | SMAC ULTRA degreaser | CIF Degreaser with bicarbonate | FLOOR CLEANER | FILA CLEANER | |
| Manufacturer | RECKITT BENCKISER | BOLTON MANITOBA | UNILEVER ITALIA | FABERCHIMICA | FILA | |

EXTRAORDINARY CLEANING

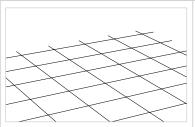
It is carried out to remove very old or resistant stains or residues. The table below indicates detergents suitable for the stain type.

| Residue to be removed | Coffee, coke, fruit juices, waxes, greases, etc | | Wine | Calcareous deposits | Rust | Inks, felt pens | | Tyres, rubber marks, suckers, metal or pencil marks | | | | |
|-----------------------|--|-------|-------------------------------------|------------------------|---------------------|---------------------------------|---|---|---------------|--------------------------|----------------|---|
| Detergent type | Neutral or degreaser | | Oxidizing | Acid-based | Acid-based | Thinner-based | | Abrasive paste | | | | |
| Detergent name | Colou - red Stain Remover | PS 87 | CIF Degrea - ser with bicar- bonate | OXIDANT | VIAKAL | Diluted hydrochloric acid | Nitro thinner, trichloro- ethylene, turpentine | Coloured Stain Remover | VIM CLOREX | POLI - SHING CREAM | DETER - GUM | Eraser (for pencil marks only) |
| Manufacturer | RECKITT BENCKI - SER | FILA | UNI - LEVER ITALIA | FABER- CHIMICA | PROCTER & GAMBLE | Several manufacturers | Several manufacturers | FABER- CHIMICA | GUABER | FABER- CHIMICA | ZEP ITALIA | - |

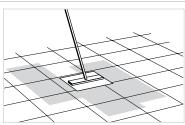
IMPORTANT: always make preventive tests before the use (on a tile not laid yet), above all on lapped or polished products.

REMOVAL OF WAXES OR POLISHING COATS

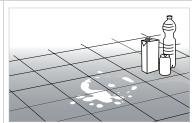
Do NOT use waxes on floor and wall tiles.



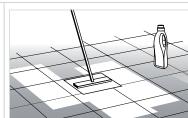




Detergents for routine cleaning that contain wax tend to deposit on the floor and create glossy films.



Simple substances (Coca Cola, wine, water, etc.) will remove this glossy film and give the floor its initial matt appearance.



To remove the glossy film, use a suitable detergent (undiluted Tile Cleaner by Faber). Daily cleaning should be performed using a detergent that does not contain wax.

Often, the standard detergents available on the market contain waxes or polishing additives that, washing after washing, deposit glossy coats on the floor causing halos and problems. This kind of coats can be deposited even by some grouts for joints. Simple agents such as coke, wine, water, etc... falling on the floor remove this glossy coat and restore the original duller look of the tiles. Amid a glossier floor, the areas without wax look like dull halos: instead, they are the only clean floor areas. In these cases, first of all the whole floor must be dewaxed, following the indications of the table below. Then, use the detergents of the table besides for the routine cleaning.

| Residue to be removed | Glossy coats left by detergents | | | | |
|-----------------------|---------------------------------|---------------------|--|--|--|
| Detergent type | Acid-based | | | | |
| Detergent name | VIAKAL* | Pure TILE CLEANER * | | | |
| Manufacturer | PROCTER & GAMBLE | FABERCHIMICA | | | |

(*) Do not follow the indications on the package, rather apply the pure detergent, leave it for 15-30 minutes, rub with soft or lightly abrasive pads (white, yellow, red), then rinse thoroughly with water.

USEFUL REFERENCES

MAPEI Spa, via Cafiero 22, 20158 Milano – ITALY - Tel. +39 02/37673 – www.mapei.it

FABERCHIMICA Srl, via G. Ceresani 10 – località Campo d'Olmo 60044 Fabriano (AN) – ITALY - Tel. +39 0732/627178 www.faberchimica.com

FILA Industria Chimica Spa, via Garibaldi 32, 35018 S. Martino dei Lupari (PD) - ITALY - Tel. +39 049/9467300 – www.filachim.it

ZEP Italia Srl, via Nettunese Km 25,000 – 04011 Aprilia (LT) – ITALY - Tel. +39 06/926691 – www.zepitalia.it