HEATING
WHEN WE WANT
WHERE WE WANT
AS WE WANT

THERMAL COATINGS SYSTEMS

MICROCEMENT
Floors, walls, & furniture

TILING
Floors & walls

RG EN 13888 ACCORDING TO EUROPEAN NORM
C2TE EN 12004 ACCORDING TO EUROPEAN NORM
S1 EN 12002 ACCORDING TO EUROPEAN NORM
CG2 WA EN 13888 ACCORDING TO EUROPEAN NORM
EN 13813 ACCORDING TO EUROPEAN NORM
DIN 18560 ACCORDING TO EUROPEAN NORM
EN 62233 ACCORDING TO EUROPEAN NORM
EN 60335 ACCORDING TO EUROPEAN NORM

CE SPECIFICATIONS & APPLICATION CHARTS
WHAT WE HAVE TO KNOW
See inside

novamix ADVANCED BUILDING MATERIALS

AHT ADVANCED HEATING TECHNOLOGIES

EN 60335 ACCORDING TO EUROPEAN NORM

Not another underfloor heating system...

We all know the typical underfloor heating systems where thermal energy is transferred through water pipes, inside a special concrete floating slab. This construction functions as a big heating panel.
The advantages of these systems are:
• Ideal conditions of 'thermal comfort'
• Easier design of the area decoration due to lack of heating panels
• Energy saving due to low temperature function

In all these 'conventional' underfloor heating systems, the presence of boiler room and a network of pipes inside a floating concrete slab are required. The problem is that this "therma" floating concrete slab requires a remarkable floor thickness and, in many cases, room for boiler is not available. Also, today a big part of the construction industry is dealing with renovations, where the floor thickness has to be as small as possible and the space is limited.
The solution comes from modern heating systems which combine many advantages:

• Application on all structural elements of the construction, in example floors, walls, bathrooms even on furniture
• Low application thickness in just few mm
• Compatibility with high performance decorative coatings like microcement, resin floorings, low thickness ceramic tiles
• Lack of boiler room
• The possibility of heating specific areas (in example only the bedroom or a bathroom wall) by means of a room thermostat
• Faster heating process with reduced heating losses, comparing to conventional heating systems

NOVAMIX in cooperation with **Advanced Heating Technologies** International Group (**AHT**) studied together and developed THERMAL COATINGS SYSTEMS based on the know how obtained from the vast application experience and years of practice.

Hotel Le Meridien Excelsior Gallia, Italy

Olympic Residence, Cyrpus

Main characteristics of NOVAMIX & AHT Thermal Coatings Systems

The **AHT** heating system is based on the "Advanced Amorphous Metal Ribbon Technology" which is an uprising heating system on both Europe and US markets. The combination of **AHT** heating system together with **NOVAMIX** microcement coatings or tile adhesives, create high performance coverings with low installation and maintenance cost.

Comparing with the conventional underfloor heating systems, where the floor functions as a big heating source, the **NOVAMIX** & **AHT** system transforms almost all construction elements (floor, wall even furniture) to heating panels according to the requirements of each application. Typical applications are areas with narrow space like WC or wet areas like steam baths, where often exists the requirement of having heating on horizontal or vertical surface.
The whole heating process becomes 'intelligent' since we can heat even specific areas, by means of room thermostat.
Owners of summer houses, seafront hotels who want to heat few rooms during winter for a limited period, don't have any more to maintain boiler rooms, transport petrol or to operate the heating system of the whole building.
These advanced systems have the ability within 40 - 60 minutes to heat areas which conventional systems require hours or even days to heat.

EN 13813 ACCORDING TO EUROPEAN NORM

EN 12004 ACCORDING TO EUROPEAN NORM

EN 60335 ACCORDING TO EUROPEAN NORM

• **Installation**: The **NOVAMIX** & **AHT** heating coverings can be applied in new constructions and also on renovations over existing coverings such as ceramic tiles, marble, terrazzo, wood. The total cost can be even 50% lower than in conventional underfloor heating systems with water and it is faster due to the absence of floating thermal screed and boiler room.
• **Application thickness**: The small thickness of the **AHT** ribbons (2mm) and the compatibility with **NOVAMIX** flexible microcement coatings and tile adhesives, raise the floor or wall surface from 8 - 10mm (combination with **PREMIUM 2K** microcement coating) or 14mm + tile thickness (tilling jobs).
• **Zero maintenance**:The **AHT** heating system doesn't require any maintenance and doesn't create any malfunction or loss of heating ability in the long ran.
• **High heating performance**: The **AHT** ribbons provide a constant high heating performance with fast 'response' and it is considered as one of the most efficient heating systems.
• **Safety**: it is a totally safe system for both domestic and industrial use thermal system. The high construction quality of the **AHT** ribons is certified for its operational safety by internationally recognized organizations such as NEMKO (European Union) and UL (America).
• **Low consumption**: The **AHT** underfloor heating requires less power, comparing to the conventional systems, providing also a strong and direct heating without idle time.
• **Ease of use**: The room temperature is regulated by means of room thermostat. In this way the temperature is regulated automatically according to the actual needs and therefore the minimum energy use is achieved.
• **Low floor temperature**: The **AHT** ribbons, comparing to the conventional heating systems with water pipes and typical wire heating systems, operate in the temperature of only +30^{0}C. In this way the floor temperature is not noticeable by the user, on the contrary there is a uniform pleasant and warm feeling.
• **Healthy atmosphere**: Unlike conventional heating systems, it does not cause air drying or air streams in the room, keeping the space clean, free of suspended particles.

We describe here two thermal coating systems:

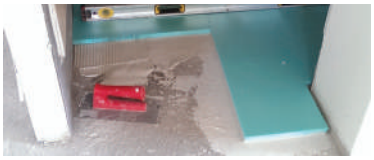
One system refers to tile and natural stone coverings and the second, with the minimum of thickness (<10 mm) uses as final covering the **PLANOCOLOR PREMIUM 2K** or **SP** microcement coatings.
Both systems can be applied on floors, walls, benches or other building moisture and heat stable, structural elements, according to the requirements of each specific project.

Villa Rossa hotel, Parga

Offices in the tower of Eiffel

Application under tiles
Thickness: 14 mm + tile thickness

• Preparation of the surface with good cleaning. Existing coverings like tiles is recommended to receive a thorough cleaning with **ACID CLEAN** or **ALCALINE CLEANER**, depending on the previous use of the surface and type of dirt existing on the surface.
• When the application is done over cement-based surface the later should be compact and flat with a minimum of 25,0N/mm² compressive strength and 1,0N/mm² superficial tensile strength. Existing residual humidity shouldn't exceed the 4%. Existing cracks should be bonded with **EPO FLUID**.
• Non-absorbent substrates (like ceramic tiles or terrazzo coatings) have to be primed with **PLANO CONTACT**. Absorbent substrates (like cement screeds, gypsum boards) should be primed with **NOVAPRIMER** or **WATERPRIMER EPX** (the latter if in depth consolidation is required).
• Bonding of thermal insulation panel board **EPS 200** or **XPS 200** with the minimum of thickness (1cm) by means of **NOVABOND PS FLEX** C1TE S2 (Pic. 1).
• Application of the **AHT** ribbons over the thermal heating panels continuous coating bonded with **NOVABOND PS FLEX**.
• Connection of all ribbons (**AHT** Mats) inside the relevant junction boxes placed on the walls in a height of approx. 40 cm from the floor level.
• Bonding of tiles and incorporation of the **AHT** ribbons inside the compatible tile adhesive. (Pic. 2 & 3).
• The tile adhesive to be used has to be deformable (S1 or S2 according to EN 12004). The final choice depends on the type of covering, the size and the type of application. For dimensions up to 60 x 60 cm² a C2TE S1 like **NOVACOL FLEX** is recommended. For small thickness tiles (6mm) the **NOVACOL FINE FLEX** C1TE S2 is recommended. For large sizes and/or natural stones the used of **MARMOFLEX** C2FTE S2 or **NOVACOL 2K ELASTIC** is recommended (Pics. 4, 5 & 6).
• The final step is the tile joints grouting. The choice of grouting material depends on the use of area. The minimum requirement is CG2/WA (like **NOVAGROUT**, **NOVACOLOR GLASS**) recommended for bedrooms or normal use areas or RG (like **NOVAGROUT EPOXY** or **DECO EPOXY**) recommended for bathrooms and wet areas.


pic.1


pic.2

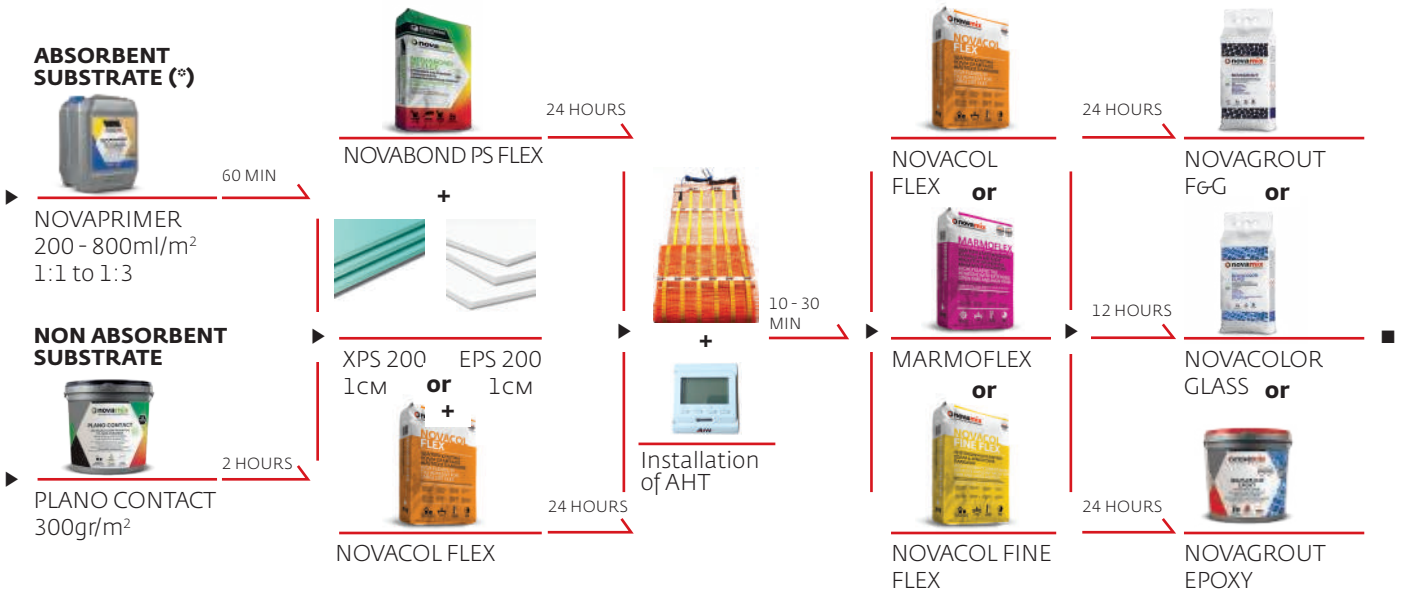

pic.3


pic.4


pic.5


pic.6

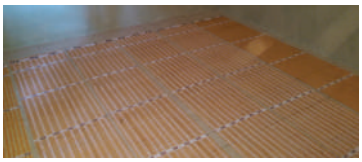
HEATED FLOORS & WALLS (TILES)



(*) In cases where in depth consolidation is required, apply WATERPRIMER EPX and follow the procedure of PLANOCOLOR S 500 sand scattering.

Application under MICROCEMENT coatings
Thickness: 8 – 10 mm

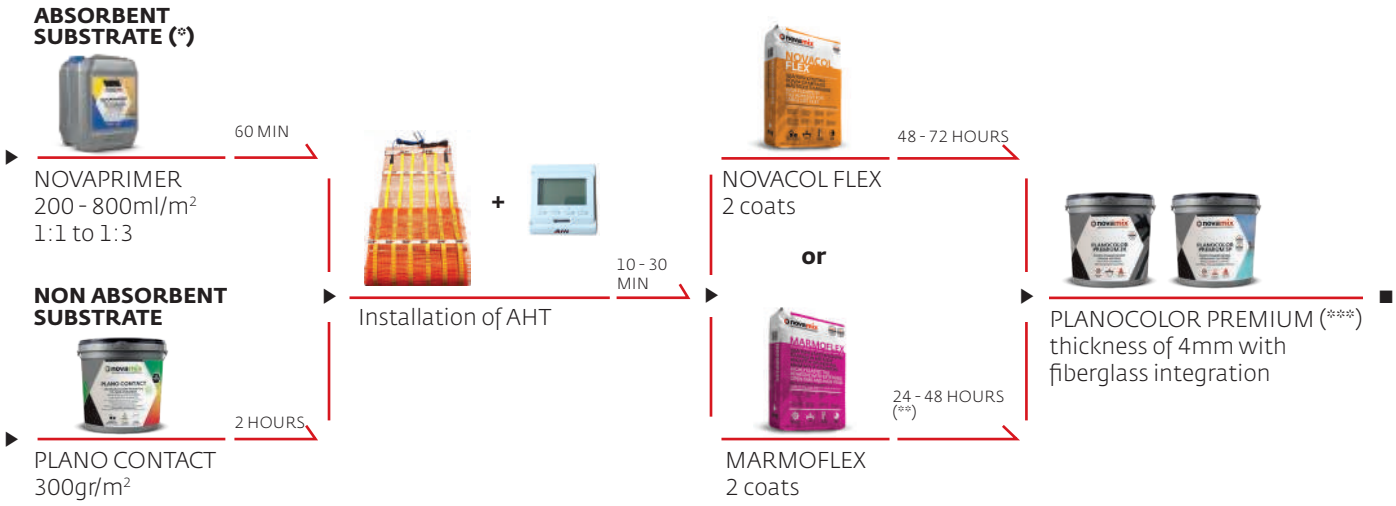
• Preparation of the surface with good cleaning. Existing coverings like tiles is recommended to receive a thorough cleaning with **ACID CLEAN** or **ALCALINE CLEANER**, depending on the previous use of the surface and type of dirt existing on the surface.
• When the application is done over cement-based surface the later should be compact and flat with a minimum of 25,0N/mm² compressive strength and 1,0N/mm² superficial tensile strength. Existing residual humidity shouldn't exceed the 4%. Existing cracks should be bonded with **EPO FLUID**.
• Non-absorbent substrates (like ceramic tiles or terrazzo coatings) have to be primed with **PLANO CONTACT**. Absorbent substrates (like cement screeds, gypsum boards) should be primed with **NOVAPRIMER** or **WATERPRIMER EPX** (the latter if in depth consolidation is required).
• Connection of all ribbons (**AHT** Mats) inside the relevant junction boxes placed on the walls in a height of approx. 40 cm from the floor level. (Pic. 7).
• Incorporation of the **AHT** ribbons inside the flexible tile adhesive **MARMOFLEX** C2FTE S2.
• Application of an additional coat of **MARMOFLEX** in order to create a level substrate for the application of the microcement coating. (Pic. 8).
• Application of the first **PLANOCOLOR PREMIUM 2K** coat with the incorporation of **NOVAMIX THERMONET**. (Pic. 9). The procedure to follow is the same as with the **PLANOCOLOR PREMIUM** microcement coatings on floors, even if the application is for a horizontal or vertical surface.
• Treatment of the final surface with a suitable varnish of the **PLANOCOLOR MICROCEMENT** system.


pic. 7


pic.8


pic.9

HEATED FLOORS, WALLS & FURNITURE (MICROCEMENT)



(*) In cases where in depth consolidation is required, apply WATERPRIMER EPX and follow the procedure of PLANOCOLOR S 500 sand scattering.
(**) Depending on the desired application thickness.
(***) For additional information refer to the relevant Technical Data Sheets.

EN ISO 9001:2015 ISO 14001:2015

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