G® MIX

MORE THAN 1.000.000 m² INSTALLED

THE NEW ERA OF ECOFRIENDLY INSULATING SCREED

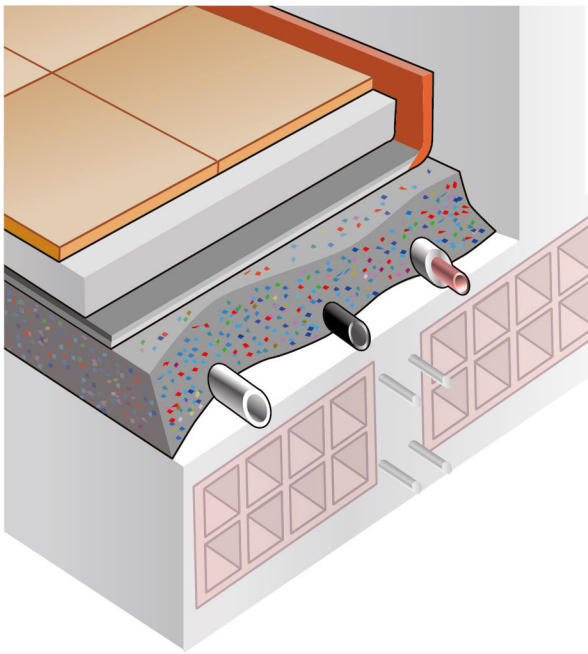
LIGHT, RESISTANT, THERMAL AND ACOUSTIC INSULATION

TECHNOLOGICAL RESEARCH AND ENVIRONMENTAL SUSTAINABILITY FOR ULTRA-HIGH PERFORMANCE CONSTRUCTION WORK

Building in the World, a leading Italian company with consolidated experience in the fields of innovative materials and construction quality, presents **G MIX: a granular polymeric blend for lightweight substrates which boasts high thermal and acoustic insulation performance**. The fruit of many years of scientific research and industrial development, it is ideally suited to satisfying the latest legislative and market requirements in terms of energy conservation, acoustic comfort and environmental protection.

G MIX®

λ = 0.066 W/mK
ΔL_w = oltre 20 dB
Values certified by the University of Perugia

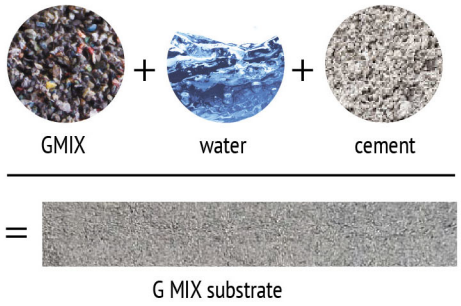


AN INNOVATIVE PRODUCT Description

The product consists of a granular blend of polymers with a unique particle size distribution curve, obtained by the post-consumer **recycling of non-hazardous plastic materials**, to be used in cement mortar as a substitute for natural aggregates such as sand, expanded clay, etc.
Guaranteeing the high technical and environmental quality of G MIX is its **full compliance with UNI 10667-14**, a stringent technical standard which prescribes the characteristics and requirements of the blend, which it designates as R-PMIX-CEM.

PREPARATION AND LAYING Instructions for use

The screed is **prepared by simply mixing G MIX with water and cement** until a semi-dry consistency is obtained. The typical recommended proportions for 1 m3 of polymers is 80/150 kg cement and 80/150 lt water. The product has an indicative consumption of 5 kg/m2 per 1 cm layer thickness.
It is blended, transported and laid in the same way as traditional substrates (manually, using a site mixer or pneumatic pump). Thanks to its lightweight and workable nature, it dramatically reduces the time and cost of laying compared to a traditional substrate.



10 reasons to use it

1) **Quick and easy to lay**. With a consistency of damp clay, the product is prepared and laid like a traditional substrate, without the need for dedicated machines or specialised manpower.
2) **Lightweight**. The weight of the finished substrate when in place is around 600 kg/m3, far lighter than traditional sand-and-cement screed (around 2,000 kg/m3).
3) **Thermal insulation**. The product's thermal conductivity of **λ = 0.066 W/mK** is in fact comparable to that of an insulating panel. **8 cm of G MIX** produces a level of thermal insulation which **would require approx. 25 cm of expanded clay, 13 cm of aerated concrete, or 4 cm of polystyrene.**
4) **Acoustic insulation**. G MIX is the only elastic cement-based screed to counteract sound and vibrations, and is capable of reducing the impact sound levels of floors by **over 20 dB** both in the lab and in the field.
5) **High compression resistance**. The product has obtained the highest compressibility level (CP2) under the maximum test load of **5.000 kg/m²**.
6) **Ecologically sustainable**. The product is 100% derived from the post-consumer recycling of non-hazardous plastic materials, and does not involve the extraction of new, non-renewable raw materials.
7) **Cost competitive**. It has the lowest cost of any product in its category.
8) **Hassle-free delivery** in the most suitable and convenient form for the type, location, and size of the site through a fast and wide-reaching commercial service.
9) **Long shelf life** for storage and preservation, even outdoors.
10) **Easy to move around the site**, allowing the re-use of any surplus product.

APPLICATIONS How it is used

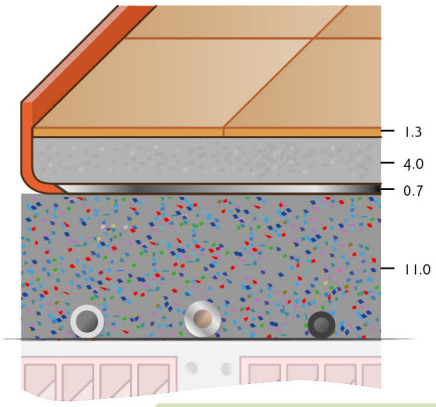
Thanks to its **lightness and elasticity**, significant powers of **thermal and acoustic insulation**, and very high **compression resistance levels**, G MIX lightweight substrate is ideal for making:

- Lightweight substrates for filling, covering and levelling sites, on slabs of all types (reinforced concrete and masonry, wood, metal, etc.), whether new or to be restructured.
- Thermal insulating substrates in interfloor slabs, against the ground, towards the outdoors (e.g. slabs upon pilotis) or unheated areas (e.g. garages).
- Insulation and gradient formation for flat and pitched roofs, rooftop terraces and roofing in general, whether new or to be restructured.
- Thermal insulation substrates below the level of underfloor heating.
- Acoustic insulation substrates in residential environments or to dampen vibrations in workshops and industrial environments.
- Insulation for the base and walls of heated pools.
- Filling for recesses and hollows.
- Car-friendly substrates for inside and out - squares, parking lots, etc.
- Bedding and backfill for underground utility trenches.

Some examples of use (on 20 + 4 cm reinforced concrete and masonry slabs)

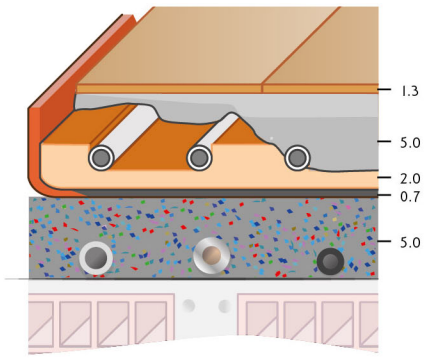
"Cold" slab (e.g. garages)

Overall thickness of finishing **17 cm**
Thermal transmittance U-value = 0.32 W/m²K
Impact Sound L'nw = 55 Db



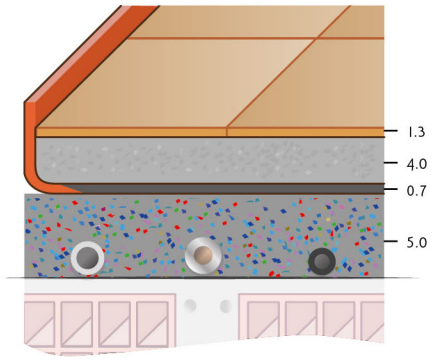
Heated floor

Overall thickness of finishing **14 cm**
Thermal transmittance U-value = 0.40 W/m²K
Impact Sound L'nw = 57 dB



"Warm" slab (e.g. interfloor)

Overall thickness of finishing 11 cm
Thermal transmittance U-value = 0.73 W/m²K
Impact Sound L'nw = 57 dB



ENVIRONMENTAL VALUE... ADDED VALUE!

The polymer granules are obtained **100% from the RECYCLING** of post-consumer plastic materials through a **processing cycle with a very low energy consumption and environmental impact.** Its use **avoids unnecessary landfilling of non-hazardous materials and the extraction of new non-renewable raw materials.**

It is ideal for green procurement by Public Administrations as it complies with the mandatory "CAM" (Minimum Environmental Criteria of Ministerial Decree 11/10/2017) under the new Procurement Code, points 2.4.1.1 (disassembly) and 2.4.1.2 (recovered or recycled materials). This compliance is guaranteed by A+ Remade in Italy certification, the highest existing class, thanks to its 100% recycled composition.

It also allows **investors and developers** to:

- attain **high scores in sustainable building rating systems (ITHACA, LEED, etc.)** thanks to criteria promoting the use of recycled and recyclable materials, as well as the thermal and acoustic insulation of the envelope;
- **qualify for volume bonuses and reduced permit fees and contributions** based on current local (regional, provincial, etc.) regulations
- gain higher scores in tenders and give their buildings great added commercial value.

BREEAM – CODE FOR A SUSTAINABLE BUILT ENVIRONMENT – BRE GLOBAL

PROTOCOLLO ITACA

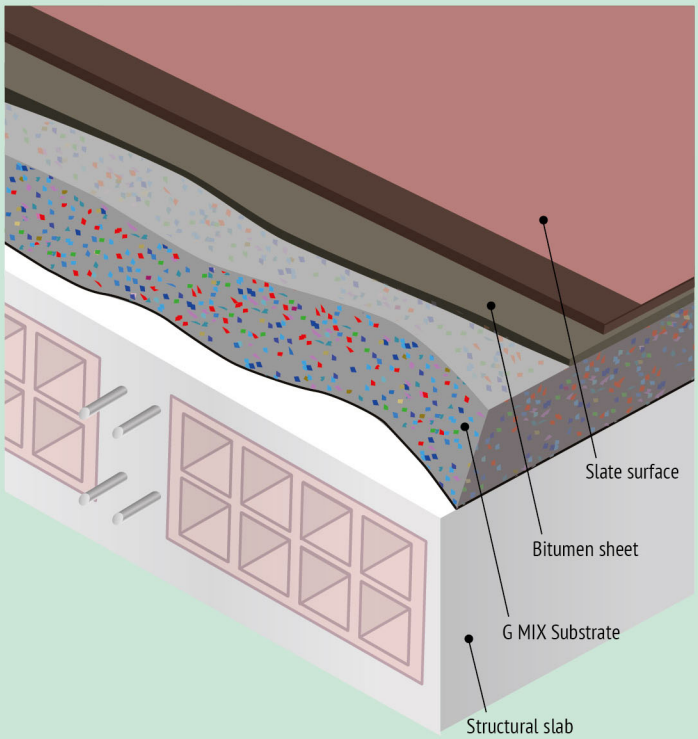
U.S. GREEN BUILDING COUNCIL – LEED CERTIFIED – USGBC

CASBEE – Comprehensive Assessment System for Built Environment Efficiency

G® LIGHT

INSULATION, WATERPROOFING AND GRADIENT FORMATION FOR FLAT AND PITCHED ROOFING IN A UNIQUE SYSTEM WHICH IS FAST, LIGHTWEIGHT AND SECURE.

Also suitable for application directly over existing waterproofing. No need to remove and dispose of material.



Laying G MIX

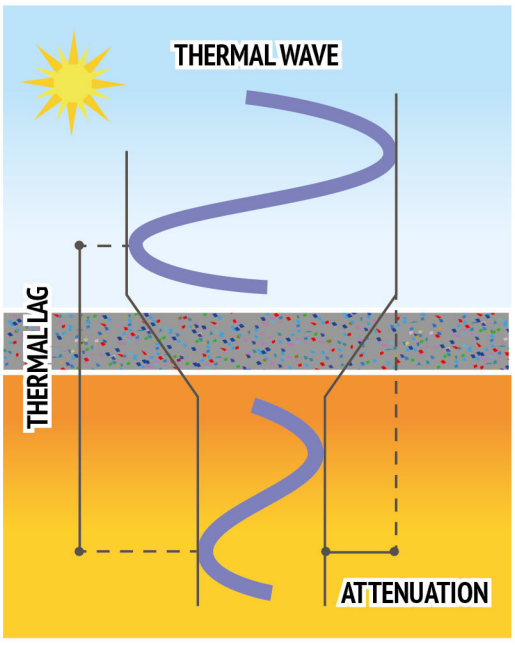
Bitumen sheet welding

G LIGHT is the **lowest-cost and quickest-application solution** for the thermo-acoustic insulation and waterproofing of flat and pitched roofing, obtained by laying the ecofriendly insulating substrate G MIX either on new slabs or on existing layers of screed and waterproofing which require an upgrade. The new bitumen sheet can be welded directly onto this in order to complete the waterproofing.

A **single quick and low-cost operation** can produce a **lightweight thermal and acoustic insulation** package which is fully free from thermal bridges, stable and compression-resistant, also used to **form drainage gradients without requiring more screed**.

In particular, **the G LIGHT system revolutionises traditional processes of renovating existing roofing, with significant time and cost savings**. This is because it can be laid directly upon old screed and waterproofing which require upgrades without removing, dismantling or disposing of existing materials

Under identical thermal wave ATTENUATION (U-value thermal transmittance), **roofing insulated with the G MIX substrate can SLOW THERMAL LAG BY UP TO TWICE AS MUCH** as traditional light insulation, **which allows unparalleled energy conservation and comfort for building occupants.**



G COMFORT

INSULATION, WATERPROOFING AND GRADIENT FORMATION FOR FLAT ROOFING IN A UNIQUE SYSTEM WHICH IS FAST, LIGHTWEIGHT AND SECURE – IDEAL FOR THE DIRECT APPLICATION OF FLOORING.

G MIX + GEODRY

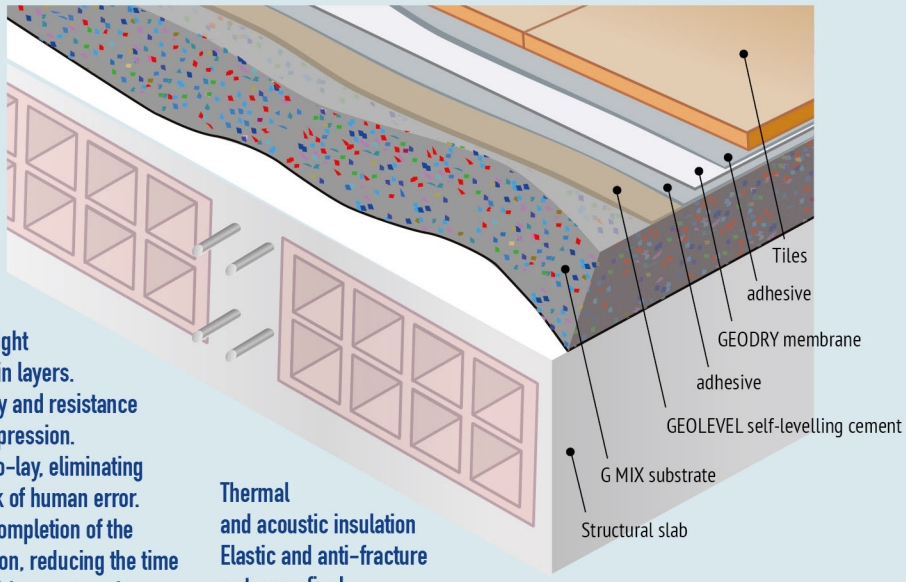
Laying G MIX

Laying GEOLEVEL self-levelling cement

Application of GEODRY

Application of tiles

Also suitable for application directly over existing waterproofing. No need to remove and dispose of material.



ightweight with thin layers. Stability and resistance to compression. Easy-to-lay, eliminating the risk of human error. Swift completion of the operation, reducing the time needed for construction.

Thermal and acoustic insulation Elastic and anti-fracture waterproofingL

G COMFORT is a finishing system for flat roofing obtained by combining **G MIX and GEODRY** technologies. The G MIX ecofriendly insulating substrate, once laid, is given a surface finishing of special GEOLEVEL self-levelling cement and GEODRY waterproof polymeric membrane, **over which the final flooring can be installed directly, without requiring more screed.**

G COMFORT is an innovative solution to the thermo-acoustic insulation and waterproofing needs of flat roofs, all in a single, reduced-thickness package.

G MIX forms a stable, lightweight and compression-resistant substrate which allows the formation of drainage gradients as well as high-performance insulation, without weighing down the supporting structure.

Thanks to its high levels of resistance and elasticity, GEODRY guarantees completely waterproof roofing, eliminating the risk of human error during laying and **allowing the flooring to be installed directly upon the very thin layers**.

SUPPLY

Delivery can be carried out in the mos suitable and convenient form for the typ location, and size of the site.

Big bags Gmix from 2 or 2,5 mc

Bag Gmix from 20 kg

Double Bag Gmix S + cement 15 Kg

loose in tanks

ITEM SPECIFICATIONS

A thermal and acoustic insulating screed substrate called G MIX, consisting of a lightweight cement mix containing 100% recycled polymer granules, with class A+ REMADE IN ITALY® certification.

The granular blend is labelled as R-PMIX-CEM-BTM, in conformity with standard UNI 10667-14. It is mixed to a unique particle size distribution curve and has VOC emission certification.

The substrate is packaged with 150/200 kg of type 325 cement per m^3 of granular blend and when cured it has an approximate density of 650-700 kg/m^3, a thermal conductivity of 0.066 W/mK and a CP2 compressibility level.

This building component meets the technical requirements of the Minimum Environmental Criteria (CAM) for public buildings adopted by the Ministerial Decree of 11 October 2017 under points 2.4.1.1 (disassembly) and 2.4.1.2 (recovered or recycled materials).

To be used for substrates, levelling, backfilling, paving, etc., compacted or levelled, and also on gradients.

A breakdown of unit prices for various types of applications, including elements of analysis, descriptions and explanations, is available upon request.

TECHNICAL DATASHEET

Specific weight (granulated blend only)	m'	500/550 kg/m^3
Yield	-	>95 %
Thermal conductivity G MIX 066 UNI EN 12664:2002 University of Perugia report n. T01/2019	λ	0,066 W/m K
Thermal conductivity G MIX S UNI EN ISO 8990:1999 University of Perugia report n. T011/2010	λ	0,076 W/m K
Specific heat UNI EN ISO 10456:2008	c_p	1000 J/kg K
Water vapour diffusion resistance UNI EN ISO 10456:2008	μ	15/10 (secco/umido)
Compressibility UNI EN 12431:2000 University of Perugia proof of 21/11/2008	classe	CP2
Laboratory measurements of impact sound insulation of floors UNI EN ISO 140-6:2000 University of Perugia report n. 031/08	$L_{n,w}$	55 dB
Field measurements of impact sound insulation of floors UNI EN ISO 140-7:2000	$L'_{n,w}$	47 dB
Field measurements of airborne sound insulation between rooms UNI EN ISO 140 4:2000	R'_w	53 dB

RECOMMENDATIONS

Store the packaged material away from sunlight and exposure to weather conditions to prevent deterioration of the packaging. It is recommended to saturate pneumatic pump pipes thoroughly with water before pumping the material.
Take care to adequately tamp down and compress the substrate when laying. Do not use the product as a screed bedding for flooring or other directly applied finishes.
If laid outdoors, the substrate must be protected from weather conditions.

G® MIX

www.gmix.it

GMIX massetto ecoisolante

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