



IQ COLOUR

COLOUR CHANGE – ALLOWS TO CONTROL
THE PROGRESS OF THE WORK



ATLAS MMS 60 contains an indicator that changes the colour* of the screed as it dries. This makes it easier to assess the structural moisture content of the screed and to estimate when subsequent work can begin.

Immediately after pouring and until drying begins, the screed has a dark* colour. During the drying process, the colour gradually lightens*. The visible marbling is a natural phenomenon. A uniform, light* colour that does not change further indicates that the screed is dry and subsequent work can begin.

The drying speed of the screed (and thus the associated colour change of the screed) depends on the thickness of the screed layer and the temperature and humidity in the room. Other "humid" indoor processes that increase the relative humidity, e.g. plastering the walls, painting, etc., prolong the time after which the screed reaches a light colour – the signal for the floor covering works to begin.

Once the screed has reached a uniform light colour over the entire surface, its moisture content is suitable for laying ceramic or stone tiles. For screed thicknesses up to 40 mm this takes approx. 14 days and for screed thicknesses over 40 mm approx. 21 days. For other types of floor coverings (wood-like panels, floorboards, textile floor coverings, PVC rolled goods and panels, etc.) this time is longer by a further 7 days.

Detailed information on the curing process of the screed ATLAS MMS 60 before applying subsequent coats is provided on the last page of the Technical Data Sheet.

ATLAS MMS 60

Hybrid, self-levelling floor screed

- as substrate for tiles, laminate flooring, wooden floorboards, carpet and PVC flooring
- for all rooms with underfloor heating, including "damp" rooms
- high thermal conductivity for improved heating system efficiency
- perfectly smooth surface, no sanding required
- IQ colour – the colour changes and makes it possible to check the progress of the work



Properties

ATLAS MMS 60 is a **hybrid screed** – a mixture of mineral binders activated with special chemical additives during the curing phase.

WARM FLOOR – INCREASED THERMAL CONDUCTIVITY

ATLAS MMS 60 is an ideal material for all types of screeds, including screeds with water-based underfloor heating, capillary tube mats:

- it has very good thermal conductivity, better than cement-based products,
- it heats up quickly once the heating system is in operation,
- it completely encloses the embedded heating pipes, preventing the occurrence of air pockets.

GRAPHENE TECHNOLOGY – IDEAL FOR UNDERFLOOR HEATING SYSTEMS

The addition of graphene improves the thermal conductivity of the screed itself. The heat from the heating system is thus transferred more quickly directly to the screed surface and then into the room. In heating systems laid directly on the screed, the high thermal conductivity ensures that the screed heats up quickly and stores the heat. This heat is then transferred to the room through the thermal inertia of the system. In this way, the efficiency of the heating system improves.

The mixture of mineral binders and the addition of graphene ensure:

- a fast heat transfer from the heating system to the screed,
- heat storage in the screed,
- the maintenance of a high level of thermal comfort in the room.

Thanks to a structural 3D reinforcement, the screed can be laid on areas of up to 70 m² without expansion joints. However, it is essential to create expansion joints at wall junctions and thresholds.

Perfect flow the screed spreads easily and quickly even in large rooms and forms an even and smooth surface without the use of guide strips or levelling boards.

The screed dries quickly and can be walked on just 8 hours after laying.

Compression strength: $\geq 20 \text{ N/mm}^2$.

Bending strength: $\geq 4 \text{ N/mm}^2$.

Can be laid manually or mechanically – the material can be laid easily and quickly both manually and with screw pump devices and offers high efficiency during application.

Intended use

MMS 60 is to be used for:

- self-supporting screeds laid directly on the substrate,
- screeds on a separating layer of PE foil,
- floating screeds on a thermal insulation layer or floors with underfloor heating.

It is the ideal material for embedding underfloor heating, electric or water-based, and for heating systems installed on the screed surface – it has very good thermal conductivity, better than cement-based products; and completely envelops the heating pipes. It heats up quickly after the heating system is switched on.

MMS 60 is also suitable for levelling existing screeds with unevenness of 20-60 mm – both if the substrate only has local irregularities and if it has already formed a continuous slope.

Raising of the floor level in the whole room – e.g. in order to level two adjacent rooms.

Recommended as a substrate for floor coverings and carpets in offices, kindergartens, schools, flats, etc.. – thanks to the smooth surface created by the fine aggregates contained in the screed.

Suitable for dry and "damp" rooms (as defined by the Polish Building Research Institute (ITB): *Technical Conditions for the Execution and Acceptance of Construction Work. Part C – Protection and insulation, Volume 6 – Waterproofing of damp rooms*)), such as bathrooms and kitchens in:

- residential buildings (single and multi-family houses),
- service buildings
- office buildings,
- public buildings.

If the screed is used in "damp" rooms, the quick-drying liquid foil ATLAS FAST DRYING LIQUID FOIL WODER E must be laid under the tile covering for waterproofing.

Types of coverings – ceramic and stone tiles, carpet and PVC flooring, wood-like laminate, prefabricated floorboards, hard and soft PVC panels, cork boards, etc.

Possible screed systems:

- **bonded to the substrate – thickness 20-60 mm** – on substrates of good concrete, cement or anhydrite screed (with or without underfloor heating)
- **on a separating layer – thickness 30-60 mm** – if the substrate is of poor quality and does not provide adequate adhesion, such as dusty, cracked, oily, dirty or highly absorbent substrates; the separating layer can, for example, consist of a 0.2 mm thick PE film;
- **floating – thickness 35-60 mm (recommended from 40 mm)** - on a thermal or sound insulation layer of polystyrene boards of appropriate hardness, floor boards, hardened mineral wool boards, etc.
- **with underfloor heating** – the thickness of the layer over the heating system should be **at least 35 mm**.

Technical data

Bulk density (of dry mix)	approx. 1.4 kg/dm ³
Mixing ratios of water / dry mix	0.15-0.17 l / 1 kg 3.75-4.25 l / 25 kg
Min. / max. screed thickness	20 mm / 60 mm
Aggregate maximum diameter	2 mm
Linear expansion/shrinkage:	< 0,05%
Ambient and substrate temperature during mixing	from +5 °C to +25 °C
Pot life (from mixing to completion of the works)**	approx. 45 minutes
Walkability – light pedestrian traffic**	approx. 8 hours

** Recommended times for application at about 20 °C and 55-60 % humidity.

Technical requirements

The product complies with PN-EN 13813.

ATLAS MMS 60 (2022) Declaration of performance no. 279/CPR. EN 13813:2002	
Intended use: EN 13813 CA-C20-F4 Self-levelling screed based on calcium sulphate for interior use	
Reaction to fire	A1 _{f1}
Release of corrosive substances	CA
pH	≥ 7
Mechanical strength: - compression strength - bending strength	C20 F4

Application of the screed

Substrate preparation

The substrate must be stable and sufficiently firm. Due to the risk of leaking, the screed should be poured on trough-shaped surfaces. Requirements for substrates:

- cement substrates – more than 28 days old,
- concrete – more than 3 months old,
- anhydrite screed – mechanically sanded and dust-free.

Substrate-bonded screed.

Unevenness in the substrate (holes and defects) must be filled with the mortar ATLAS ZW 330 (cement substrates only).

Then the repaired and dry substrate must be dusted and primed (if absorbent) with one of the following emulsions:

- ATLAS GRUNT NKP (ready-for-use – without thinning),
- ATLAS UNI-GRUNT,
- ATLAS UNI-GRUNT ULTRA.

Non-absorbent substrates must be primed with ATLAS ULTRAGRUNT. All steel parts that come into contact with the screed should be protected against corrosion, e.g. with the mortar ATLAS ADHER S.

Screed on a separating layer. The separating layer, e.g. made of PE foil, must be laid tightly (with overlaps, underlaps) and without folds and reach above the height of the screed layer on the wall.

Floating screed. The insulation boards must be laid tightly, on a level substrate and with staggered edges. A separating layer of PE foil (as above) must be laid on top of the boards and reach up the wall.

Screed with underfloor heating.

The heating system must be carefully installed and checked. It is advisable to fill the system with heating medium to charge/vent the system in order to prevent uncontrolled lifting of the pipes during the laying of the screed. The screed should be laid in one layer. During all the works, please follow the data specified in the technical design and adhere to the instructions of the heating system manufacturers.

The screed can be used with **prefabricated plastic slab underfloor heating systems**. In the case of prefabricated slabs or mats laid directly on the existing underlay, the mats and slabs should be fixed to the substrate using PLUS S2 HYDRO adhesive. Then lay the heating pipes between the pedestals (max. pipe diameter 20 mm). Pour the primer over the pipe with a minimum height of 35 mm above the pipe.

Expansion joints

The screed must be separated from the walls and other elements by means of an expansion joint. Intermediate expansion joints are not required for areas up to 70 m² and for areas with a diagonal of less than 12 m. All expansion joints in previously laid layers must be transferred to the screed. Expansion joints must be made at door thresholds, around pillars, pipes, columns and other structural elements of this type.

Preparation of the material

Machine application – pour the dry mix into the mixing and pumping device and set a constant dosage of water to achieve the correct consistency of the mass coming out of the hose.

Manual application – pour the material from the bag into a container with an appropriate amount of water (mixing ratios are given in the technical data) and mix, preferably with a slow-speed stirrer, until a uniform consistency is achieved. The mix is suitable for use immediately after mixing and keeps its properties for approx. 45 minutes.

In both cases, check that the consistency is correct by pouring the mortar from a 1 litre container onto a flat, non-absorbent surface (e.g. building foil). After 1 minute, the mortar should form a "pancake" with a diameter of approx. 45-50 cm.

Laying the screed

Before starting work, determine the future thickness of the screed (on the walls and in the pouring area), e.g. with a spirit level and portable height measuring equipment. For machine application, use a mixing and pumping device with constant water dosage. Manual application is only recommended for working sections of up to 15 m² (because of the slower working pace).

Spread the prepared mass evenly up to the specified height, avoiding interruptions. Immediately after pouring each working section, the material must be de-aerated, e.g. with a spiked roller, a light horizontal bar made of aluminium, a dapple bar or a brush with long, hard bristles. Run the roller both transversely and longitudinally over the entire screed surface. The dapple bar (recommended for thicker screeds) should be used in the same way as the roller in both directions, dynamically lifting it vertically and immersing it completely in the freshly poured screed, inch by inch. In this way, the mass is de-aerated, better distributed and levelled. The individual working sections must be poured, levelled and de-aerated within approx. 45 minutes.

Maintenance

The optimal curing conditions for the screed are at a temperature of 10-25 °C. The fresh screed must be protected from curing too fast, from direct sunlight, low humidity and draughts. The drying time of the screed depends on the layer thickness as well as the ambient temperature and humidity conditions. It is possible to walk on the screed after approximately 8 hours.**

Note. Do not use dehumidifiers during the application and curing of the screed. Switch off any air conditioning systems that may already have been installed.

Underfloor heating – tips (for maintenance)

The underfloor heating can be put into operation 14 days after the screed has been laid. When putting the heating into operation, please observe the following rules:

- On the first two days, the temperature of the water in the system should not be more than 5 °C above the room temperature and a maximum of 20 °C.
- In intervals of 2 days the water temperature can be increased by 5 °C until the maximum water temperature is reached, but not to more than 50 °C,
- Maintain the maximum temperature of the water in the heating system for a maximum of 4 days and then cool the screed to a heating medium temperature of 20 °C, lowering the temperature by 5 °C at intervals of 2 days.

You can start laying the floor covering 2 days after the screed has cooled down.

Laying the top layers

If a milky liquid has formed on the screed surface due to spilled water or in case of unevenness due to errors in compaction during laying (insufficient de-aeration), the surface must be sanded and dusted before laying the top layers or pouring another layer of ATLAS MMS 60.

Detailed information on the curing process of the screed ATLAS MMS 60 before applying subsequent coats is provided on the last page of the Technical Data Sheet.

Consumption

The average consumption is 18 kg of the product per 1 m² for each 10 mm layer thickness.

Packaging

Plastic bags of 25 kg

Safety information

Safety information is provided on the product packaging and in the Safety Data Sheet available at www.atlas.com.pl.

Storage and transport

Information on storage and transport is provided on the product packaging and in the Safety Data Sheet available at www.atlas.com.pl.

The shelf life of the product (use-by date) is 9 months from the date of manufacture on the packaging.

Important additional information

It is essential to add the correct amount of water during the preparation of the screed, otherwise the strength of the screed may be reduced, and the individual components may separate. During the works, control the mixing and texture of the mix.

Tools must be cleaned with clean water immediately after use. The use of dirty tools (with hardened screed on them) can cause the material to harden more quickly (which shortens the open time for the application).

The information in the Technical Data Sheet constitutes basic guidelines concerning the use of the product and does not release from the obligation to conduct work according to the best construction practices and health and safety at work regulations. As at the issue date of this Data Sheet, any previous data sheet becomes invalid.

The content of the Technical Data Sheet as well as the symbols and trade names used in it are the property of Atlas sp. z o. o. Their unauthorized use will be sanctioned.

Updated on: 2024-06-17

Detailed information on the curing of the screed ATLAS MMS 60 (without underfloor heating) before laying the next layers

Type of subsequent layer over the screed	Curing of the screed before laying the respective covering**	Preparation of the screed before laying the respective covering***
levelling/filling ATLAS MMS 60	Required screed moisture 1.0 % CM - after approx. 14 days for a screed thickness of 2.0-4.0 cm - after approx. 21 days for a screed thickness of 4.0 cm	Priming: ATLAS GRUNT NKP (ready for use) ATLAS UNI-GRUNT ATLAS UNI-GRUNT ULTRA
ceramic tiles	Required screed moisture 1.0 % CM - after approx. 14 days for a screed thickness of 2.0-4.0 cm - after approx. 21 days for a screed thickness of 4.0 cm	Priming: ATLAS GRUNT NKP (ready for use) ATLAS UNI-GRUNT ATLAS UNI-GRUNT ULTRA
Waterproofing: - ATLAS FAST DRYING LIQUID FOIL WODER E - ATLAS LIQUID FOIL WODER W	Required screed moisture 0.5 % CM - after approx. 21 days for a screed thickness of 2.0-4.0 cm - after approx. 28 days for a screed thickness of 4.0 cm	Priming: ATLAS GRUNT NKP (ready for use) ATLAS UNI-GRUNT ATLAS UNI-GRUNT ULTRA
- PVC flooring - carpet flooring - laminate flooring	Required screed moisture 0.5 % CM - after approx. 21 days for a screed thickness of 2.0-4.0 cm - after approx. 28 days for a screed thickness of 4.0 cm	According to the instructions of the flooring manufacturer.

Note. In the case of a screed with underfloor heating, the covering layers can only be laid after the screed has been heated up - see section **Underfloor heating – Notes (on maintenance)**.

*The colour of the screed shown on the packaging and in the technical data sheet refers to the drying of the product at a temperature of 20 °C and a humidity of 55 % (according to PN EN 13813). The colours shown on the packaging and in the technical data sheet during the drying phase of the screed are for illustration purposes. The colours shown in printed form may differ from the natural colour of the drying screed. Possible colour deviations between the colour of a given working phase and its simulation on the packaging can in no way constitute grounds for claims against ATLAS.

**Recommended times for application at about 20 °C and 55-60 % humidity.

*** Observe the technical data sheet of the selected primer.