# GYPSUM PRODUCTS

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## Gypsum in construction

• Appreciated by contractors

Both experienced contractors and individual users like gypsum products because of great ease of mix preparation, application and workability as well as relatively fast process of setting, which speeds up renovation works. Wide range of gypsum products allows execution of small and large scale projects with a single product, which is extremely significant, especially when durability of applied coats is concerned.

• Liked by investors

Investors decide to apply gypsum top finishes mainly because of aesthetic reasons. Wall with gypsum finish is perfectly white and smooth. It is impossible to reach this effect with other products, even fine aggregate cement plasters. The coat smoothness and whiteness allow further reduction of time and material costs during painting. Due to significant porosity, gypsum regulates climate in a room, absorbs excessive humidity or releases it into a room when air is dry. It is fully safe for people susceptible to allergy. Content of approx. 20% of water makes the coat inflammable. Moreover, gypsum is a great acoustic insulation. Being nice in touch, it gives rooms atmosphere of warmth and coziness.

## GIPSAR line of products

It consists of two products:
- GIPSAR UNI – gypsum finishing coat
- PLUS GIPSAR – gypsum top finish

## Gypsum finishing coat

Gypsum finishing coat forms top smoothing coat made of gypsum compound applied upon previously installed cement, cement-lime, gypsum or gypsum-lime plaster. Plaster must be even as gypsum finishing coat, although applied with two coats, is relatively thin (total coats thickness – up to 3-5 mm). After setting and hardening the coat is grinded with fine sand paper or special polishing mesh. Gypsum finishing coats are recommended for dry rooms, where wall smoothness is supposed to offer aesthetic result itself.

## ATLAS GIPS line of products

It consists of five products:
- ATLAS GIPS RAPID – ready-to-use polymer top finish
- ATLAS GIPS OPTIMUS – white cement top finish
- ATLAS GIPS SOLARIS – hand-applied gypsum plaster
- ATLAS GIPS BONDER – gypsum adhesive
- ATLAS GIPS STONER – jointing compound for filling joints without tapes

## TABLE 14.1

| PRODUCT |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| | GIPSAR UNI | PLUS GIPSAR | ATLAS GIPS OPTIMUS | ATLAS GIPS RAPID | ATLAS GIPS SOLARIS | ATLAS GIPS BONDER | ATLAS GIPS STONER |
| | White gypsum finishing coat | Gypsum top finish | Cement top finish | Ready-to-use polymer finishing coat | Hand-applied gypsum plaster | Gypsum adhesive | Jointing compound for filling joints without tapes |
| Reference document | PN-EN 13279-1:2009 | | PN-EN 998-1:2012 | PN-EN 15824:2010 | PN-EN 13279-1:2009 | PN-EN 14496:2007 | PN-EN 13963:2008 |
| **TECHNICAL DATA** | | | | | | | |
| Binder | gypsum and polymer | gypsum and polymer | white cement | resin | gypsum | gypsum | gypsum |
| Mixing ratio water/dry mix [l/kg] | 0.39-0.40 | 0.35-0.45 | 0.28-0.32 | ready-to-use mass | approx. 0.60 | approx. 0.50 | approx. 0.50 |
| Pot life [min] | 90 | 60 | 120 | whole shelf life | 30 | 45 | 60 |
| Bonding [N/mm$^2$] | ≥ 0.5 | ≥ 0.5 | ≥ 0.5 | ≥ 0.3 | ≥ 0.1 | ≥ 0.06 | ≥ 0.25 |
| Max. single coat thickness wall/ceiling [mm] | 2/2 | 3/3 | 5/5 | 3/3 | 30/15 | 20/- | 15/15 |
| **APPLICATION** | | | | | | | |
| Manual | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Machine | | ✓ | | ✓ | | | |
| **USE** | | | | | | | |
| Finishing coats | ✓ | ✓ | ✓ | ✓ | | | |
| Rooms with constant high humidity | | | ✓ | | | | |
| Plasters indoors | | | | | ✓ | | |
| Plasterboards fixing | | | | | | ✓ | |
| Plasterboards jointing | | | | | | | ✓ |
| Small gypsum elements fixing | | | | | | ✓ | ✓ |
| Installation of wiring elements | | | | | ✓ | ✓ | |
| Manual grinding | ✓ | ✓ | ✓ | ✓ | | | |
| Machine grinding | | ✓ | ✓ | ✓ | | | |


# GIPSAR UNI

## white gypsum finishing coat

- reinforced with polymers
- optimum hardness
- perfect spreadability
- well coated with paints
- snow-white colour

DOUBLE BOND
GYPSUM + POLYMERS


## Use

**Application of gypsum finishing coats upon walls and ceilings.**
**Filling small gaps in walls and ceilings** – can be used for surface repairs before gypsum top finish application.

**Types of substrates –** concrete, aerated concrete, cement-, cement-lime- and gypsum plasters.
**Types of finishing coats** – paint coats and wallpapers.

## Properties

**Double bond** - two parallel processes - resin netting and gypsum crystalline net formation - reinforce uniformly whole top finish coat, improve its strength parameters and improve bonding to substrates.
**Reinforced with polymers** - addition of up-to-date polymers (redispersible powder resins) allows to apply top finish characterised by high bonding to substrates and strong, tight internal structure.
**Enables more effective coating with paint** – owing to enhancement with polymer additives, forms perfect substrate for modern paints.
**Forms uniform, strong and smooth surface for painting and wallpapering.**
**Resistant to cracking resulting from contraction during setting.**
**High water retention** – keeps appropriate amount of water in the mass, which is necessary for proper coat setting.
**Snow-white top finish** – enables effective coating with paints and reduces their consumption.

## Technical data

GIPSAR UNI is manufactured as a dry mix of anhydrite powder, lime fillers and modifiers.

| | |
|---|---|
| Bulk density (of dry mix) | approx. 1.06 kg/dm$^3$ |
| Mass bulk density (after mixing) | approx. 1.43 kg/dm$^3$ |
| Dry density (after setting) | approx. 1.42 kg/dm$^3$ |
| Mixing ratio (water / dry mix) | 0.39 ÷ 0.40 l / 1 kg<br>1.95 ÷ 2.00 l / 5 kg<br>3.90 ÷ 4.00 l / 10 kg<br>7.80 ÷ 8.00 l / 20 kg |
| Maximum single coat thickness | 2 mm |
| Bonding | min. 0.5 MPa |
| Mass preparation temperature, substrate and ambient temperature during work | from +5°C to +25°C |
| Maturing time | 5 minutes |
| Pot life | min. 90 minutes |

## Technical requirements

GIPSAR UNI conforms to PN-EN 13279-1:2009 standard. EC Declaration of Performance No. 042/CPR.

| | |
|---|---|
| CE | PN-EN 13279-1:2009<br>(EN 13279-1:2008) |
| Thin-coat gypsum plaster C6/20/2 | for application of top finishes indoors, upon walls, partition walls, ceilings |
| Content of gypsum binder per $CaSO_4$ | 50% |
| Grain size: screening on sieve with square mesh side - 1500 µm | 0% |
| Beginning of the setting | > 20 minutes |
| Flexural strength | > 1.0 N/mm$^2$ |
| Compressive strength | > 2.0 N/mm$^2$ |
| Reaction to fire - class | A1 |
| Release/content of hazardous substances | See: Safety Data Sheet |

The product has been given the Radiation Hygiene Certificate.

## Top finish application

**Substrate preparation**
The substrate should be:
- **stable** – sufficiently rigid and sufficiently long stabilized. The assumed stabilization time for substrates is respectively:
  - new cement plasters made of ATLAS mortars - min. 1 week for each 1 cm of thickness,
  - concrete walls – min. 28 days,
- **dry,**
- **even –** maximum GIPSAR UNI single coat thickness is 2 mm,
- **clean -** free from layers which would impair the mass bonding, especially dust, dirt, lime, oil, grease, wax, residues of oil and emulsion paints; substrates infected by biological corrosion must be cleaned with ATLAS MYKOS agent,
- **primed**
  - with ATLAS UNI-GRUNT emulsion – in case of excessively absorptive substrates (gypsum plasters and prefabricated gypsum units do not require priming),
  - with ATLAS GRUNTO-PLAST mass – when substrate is of low absorptiveness or is coated with layers limiting bonding.

Moreover, any steel elements which may come in contact with top finish must be protected against corrosion.

**Mass preparation**
Pour the mortar from the bag into a clean container with the suitable amount of water (see Technical Data for ratio) and mix manually or mechanically (with a mixer with a drill for gypsum) until homogenous and free of lumps. Leave the mass to rest for 5 minutes and remix. So prepared mass must be used up within approx. 90 minutes.

**Top finish application**
Apply the mass uniformly with a smooth stainless steel float, successively smooth the finish surface. Apply mass upon walls with strips, start from floor and move towards ceiling, move the float upwards. In case of ceilings, apply mass in strips starting from window and moving inwards, move the float towards yourself.

**Grinding**
When dries, the mass can be grinded by hand with appropriate sand paper or polishing mesh. Any irregularities should be re-coated with thin mass layer and grinded.

**Finishing works**
Painting and wallpapering can start when top finish coat dries. Acrylic paints (e.g. ATLAS ecoFARBA) or latex paints (e.g. ATLAS optiFARBA or ATLAS proFARBA) can be used. Before painting, prime the top finish with primer recommended by the paint manufacturer, e.g. ATLAS BASE COAT PAINT. Before fixing the cladding, prime surface with ATLAS UNI-GRUNT emulsion.

## Consumption

Average consumption is approx. 1.0 kg of mass/ 1 $m^2$ / 1 mm of coat thickness.

## Important additional information

- Mass must be prepared in clean containers (residues of set gypsum reduce the time of setting of freshly mixed gypsum mass).
- Mass consistency must be thicker for intended gaps filling (in comparison to consistency for top finish application).
- Top finish must not be applied upon surfaces directly exposed to humidity.
- Do not apply gypsum top finish in bathrooms, laundries or other premises with relative air humidity exceeding 75% over extended periods of time.
- During setting, do not expose top finish to direct sunlight and draughts, provide proper room ventilation and airing.
- The tools must be cleaned with clean water directly after use. Difficult to remove residues of the set mortar can be removed with ATLAS SZOP agent.
- Contains cement. Causes serious eye damage. May cause an allergic skin reaction. Keep out of reach of children. Avoid breathing dust. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or a rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Follow the instructions of the Safety Data Sheet.
- The product should be transported and stored in tightly sealed bags, in dry conditions (preferably on pallets). Protect against humidity. Shelf life in conditions as specified is 9 months from the production date shown on the packaging.

## Packaging

Foil bags: 5, 10, 20 kg.
Pallet: 1,100 kg in 5 kg bags 1,100 kg in 10 kg bags 1,080 kg in 20 kg bags.

*The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.*
*At the time of publication this product data sheet all previous ones become void.*
*Date of revision: 2015-06-08*


# PLUS GIPSAR

## gypsum top finish

- reinforced with polymers
- maximum single coat thickness – 3 mm
- possibility of machine application
- for machine and manual grinding


## Use

**Application of gypsum top finishes upon walls and ceilings.**
**Filling small gaps in walls and ceilings** – can be used for surface repairs before gypsum top finish application.

**Types of substrates –** concrete, aerated concrete, cement-, cement-lime- and gypsum plasters.
**Types of finishing coats** – paint coats and wallpapers.

## Properties

**Improved hardness** – strength of gypsum intercrystalline bonds was improved with addition of modified polymers - redispersible powder resins - therefore PLUS GIPSAR forms uniform, firm and smooth surface for further painting and wallpapering.
**Possibility of machine and manual grinding** – after drying the mass can be processed with professional grinders with appropriate sanding discs. Due to improved set product hardness, there is no risk of irregular machine grinding. Top finish can also be processed manually, where slight irregularities can be removed by hand with appropriate sand paper or polishing mesh.
**Forms strong and stable substrate** – surface can be easily grinded and resulting dust does not block mesh or sand paper.
**Possibility of spray application** – accelerates coat application in comparison to traditional methods.
**Very good workability** – gypsum mass is plastic, does not form "bubbles", roll and break during application, keeps easy to smooth.
**Very smooth surface** – aesthetic, uniform and smooth, forms excellent surface for painting or wallpapering.
**Perfect coating with paints** – addition of polymers makes the top finish surface absorbable for paints, therefore facilitates and accelerates finishing works.
**Resistant to cracking resulting from contraction during setting.**

## Technical data

PLUS GIPSAR is manufactured as a dry mix of synthetic gypsum, mineral fillers, modifiers and adjusters of time of setting.

| | |
|---|---|
| Bulk density (of dry mix) | approx. 1.00 kg/dm$^3$ |
| Mass bulk density (after mixing) | approx. 1.70 kg/dm$^3$ |
| Mixing ratio (water / dry mix) | 7.0 ÷ 9.0 l / 20 kg |
| Maximum single coat thickness | 3 mm |
| Maximum top finish thickness | 5 mm |
| Mass preparation temperature, substrate and ambient temperature during work | from +5°C to +25°C relative air humidity up to 70% |
| Maturing time | 5 minutes |
| Pot life | min. 1 hour |

## Technical requirements

PLUS GIPSAR conforms to PN-EN 13279-1:2009 standard. EC Declaration of Performance No. 195/CPR.

| CE | PN-EN 13279-1:2009 (EN 13279-1:2008) |
|---|---|
| Finishing gypsum plaster C7/50/2 | for application of top finishes indoors, upon walls and ceilings |
| Reaction to fire - class | A1 |
| Airborne sound insulation | NPD |
| Thermal resistance | NPD |
| Release/content of hazardous substances | See: Safety Data Sheet |

The product has been given the Hygienic Attest.

## Application

**Substrate preparation**
The substrate should be:
- **stable** – sufficiently rigid and sufficiently long stabilized. The assumed stabilization time for substrates is respectively:
  - new cement plasters made of ATLAS mortars - min. 1 week for each 1 cm of thickness,
  - concrete walls – min. 28 days,
- **dry,**
- **even –** maximum PLUS GIPSAR single coat thickness is 3 mm, maximum top finish thickness – 5 mm,
- **clean** – free from layers which would impair the mass bonding, especially dust, dirt, lime, oil, grease, wax, residues of oil and emulsion paints; substrates infected by biological corrosion must be cleaned with ATLAS MYKOS agent,
- **primed**
  - with ATLAS UNI-GRUNT emulsion – in case of excessively absorptive substrates (gypsum plasters and prefabricated gypsum units do not require priming),
  - with ATLAS GRUNTO-PLAST mass – when substrate is of low absorptiveness or is coated with layers limiting bonding.

Moreover, any steel elements which may come in contact with top finish must be protected against corrosion.

**Mass preparation**
Pour the material from the bag into a container with water (see Technical Data for ratio), consider intended method of top finish application when adding water (mass for machine application should be prepared with maximum amount of water listed). Leave the mix for 5 minutes, so gypsum automatically soaks with water. Stir the mix manually or mechanically (using a mixer with a drill for gypsum) until homogenous and free of lumps. So prepared mass must be used up within approx. 1 hour.

**Top finish application**
Apply the mass manually or mechanically. Use a smooth stainless steel float for hand application, successively smooth the finish surface. Apply mass upon walls with strips, start from floor and move towards ceiling, move the float upwards. In case of ceilings, apply mass in strips starting from window and moving inwards, move the float towards yourself. In case of machine application the mass is sprayed. Lead the equipment lance 1-1.5 m from substrate, apply the mass in horizontal overlapping strips. Recommended nozzle – HDA651. In case of breaks over 1 hour long, the hopper and coils must be thoroughly cleaned and rinsed with clean water. Level top finish with a steel float immediately after spraying. For both types of application, thickness of a single coat should not exceed 3 mm.

**Grinding**
When dries, the mass can be grinded with professional grinders with appropriate sanding discs. Top finish can also be processed manually, where slight irregularities can be removed by hand with appropriate sand paper or polishing mesh. Any irregularities should be re-coated with thin mass layer (upon previously moistened substrate) and grinded.

**Finishing works**
Painting and wallpapering can start when top finish coat dries. Acrylic paints (e.g. ATLAS ecoFARBA) or latex paints (e.g. ATLAS optiFARBA or ATLAS proFARBA) can be used. Before painting, prime the top finish with primer recommended by the paint manufacturer, e.g. ATLAS BASE COAT PAINT.

## Consumption

Average consumption is approx. 0.8 kg of mass/ 1 $m^2$ / 1 mm of coat thickness.

## Important additional information

- Mass must be prepared in clean containers (residues of set gypsum reduce the time of setting of freshly mixed gypsum mass).
- Hygienic attest accepts the product for use not only in residential buildings, but also in public access, healthcare, educational and care buildings, e.g. hospitals, surgeries, nurseries, kindergartens, schools.
- Mass consistency must be thicker for intended gaps filling (in comparison to consistency for top finish application).
- Top finish must not be applied upon surfaces directly exposed to humidity.
- Do not apply gypsum top finish in bathrooms, laundries or other premises with relative air humidity exceeding 75% over extended periods of time.
- During setting, do not expose top finish to direct sunlight and draughts, provide proper room ventilation and airing.
- The tools must be cleaned with clean water directly after use. Difficult to remove residues of the set mortar can be removed with ATLAS SZOP agent.
- The product, because of its form (fine powder) can mechanically irritate eyes and respiratory system, even in short-term contact, for long-term exposure - can mechanically irritate skin.
- The product should be transported and stored in tightly sealed bags, in dry conditions (preferably on pallets). Protect against humidity. Shelf life in conditions as specified is 12 months from the production date shown on the packaging. Non-compliance with the guidelines above may affect the properties of the product.

## Packaging

Foil bags: 20 kg.
Pallet: 1,080 kg in 20 kg bags.

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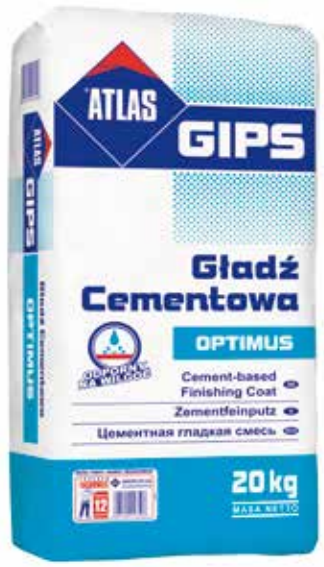
*At the time of publication this product data sheet all previous ones become void.*
*Date of revision: 2016-05-06*




# ATLAS GIPS OPTIMUS

## cement top finish

- for indoor and outdoor use
- resistant to damp
- resistant to mould and fungi
- can be processed wet
- snow-white
- coat thickness 1-5 mm

FOR WALLS AND CEILINGS · INDOORS AND OUTDOORS · EASY IN USE · FROST AND WATERPROOF · APPLY WITH FLOAT · 1-5 mm LAYER THICKNESS

## Use

**Recommended for application of top finishes upon walls and ceilings in rooms, where use of gypsum finishes is not advisable** - in bathrooms, kitchens, laundries, etc.
**Enables smoothing traditional and thin-coat external plasters and renders.**

**Types of substrates –** cement and cement-lime plasters, concrete, impregnated plasterboards.

## Properties

**High strength** – actual compressive strength 7.5 N/mm$^2$.
**Smooths walls** – fine aggregate (up to 0.1 mm) allows for smooth surface formation.
**White colour** – manufactured on basis of fine white cement type, perfectly replaces gypsum top finishes.
**Resistant to micro-cracks** – contains special microfibres, which strengthen its structure.
**Resistant to damp** – can be used in rooms with high humidity (bathrooms, pools, sauna).
**Easy to apply** – mixed mass is plastic, easy in use and forming.
**Easy to paint** – uniform, snow-white top finish colour facilitates coating with paints, reduces paint consumption and cost.

## Technical data

ATLAS GIPS OPTIMUS is manufactured as a dry mix of white cement, improvers and quartz fillers of 0.1 mm maximum grain size.

| | |
|---|---|
| Bulk density (of dry mix) | approx. 1.25 kg/dm$^3$ |
| Mass bulk density (after mixing) | approx. 1.3 kg/dm$^3$ |
| Dry density (after setting) | approx. 1.3 kg/dm$^3$ |
| Mixing ratio (water/dry mix) | 0.28 ÷ 0.32 l/1 kg<br>5.60 ÷ 6.40 l/20 kg |
| Min./max. top finish thickness | 1 mm / 5 mm |
| Mortar preparation temperature, substrate and ambient temperature during work | from +5°C to +25°C |
| Maturing time | approx. 5 minutes |
| Pot life | approx. 2 hours |
| Open time | approx. 25 minutes |

## Technical requirements

ATLAS GIPS OPTIMUS conforms to PN-EN 998-1 standard. EC Declaration of Performance No. 142/CPR.

| | |
|---|---|
| CE 0767 | PN-EN 998-1:2012<br>(EN 998-1:2010) |
| Factory made, one coat plastering mortar (OC) | for outdoor use, on masonry walls, ceilings, posts, partition walls |
| Reaction to fire - class | A1 |
| Water absorption – category | W1 |
| Bonding after required freeze-thaw cycles | ≥ 0.3 N/mm$^2$ - FP:B |
| Water vapour permeability coefficient (tabular value μ) | 15/35<br>(EN 1745:2002 tab. A.12) |
| Thermal conductivity coefficient (average tabular value P=50%) | 0.83 W/mK ($\lambda_{10, dry}$)<br>(EN 1745:2002 tab. A.12) |
| Gross dry mortar density | ≤ 1800 kg/m$^3$ |
| Durability. Bonding after required freeze-thaw cycles | ≥ 0.3 N/mm$^2$ - FP:B |
| Durability - water permeability after required freeze-thaw cycles | ≤ 1 ml/cm$^2$ after 48 h |
| Release/content of hazardous substances | See: Safety Data Sheet |

## Top finish application

**Substrate preparation**
The substrate should be dry, stable, even and structurally sound, i.e. strong enough, free from layers which would impair mortar bonding, in particular dust, dirt, lime, oil, grease, wax, remains of anti-adhesion agents and paints. Hack off poorly bonded elements and remove loose pieces with a steel brush. If necessary, use ATLAS optiGRUNT priming emulsion to reduce substrate excessive absorption.

**Mortar preparation**
Pour the mortar from the bag into a clean container with the suitable amount of water (see Technical Data for ratio) and mix using a mixer with a drill for mortars until homogenous. Leave the mortar to rest for 5 minutes and remix. The mortar is ready to use after remixing and should be used up within approx. 2 hours.

**Top finish application**
Apply the mortar evenly with a steel float. Smooth the applied mass as plastering progresses. It is advisable to fill any large substrate defects before application of the finishing coat. Surface can be finished by light floating with a felt float or with sand paper after drying. Open time of the mass (between mortar application and floating) depends on substrate absorptivity, ambient temperature and mortar consistency.

**Maintenance**
During drying, ensure appropriate room ventilation and protect from drying too quickly, e.g. sprinkle with water.

**Painting**
Depending on location, top finish can be painted with any interior and façade paint. Prime top finish with ATLAS UNI-GRUNT or ATLAS optiGRUNT prior to application of acrylic paints (e.g. ATLAS ecoFARBA) or latex paints (e.g. ATLAS optiFARBA or ATLAS proFARBA).

## Consumption

The average conusmption is approx. 1.5 kg of mix/ 1 $m^2$ / 1 mm of coat thickness.

## Important additional information

- Use of inappropriate amount of mix water results in deterioration of strength parameters of the top finish.
- Tools must be cleaned with clean water directly after use. Difficult to remove residues of the set mortar can be removed with ATLAS SZOP agent.
- Contains cement. May cause respiratory irritation. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. Keep out of reach of children. Avoid breathing dust. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or a rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Follow the instructions of the Safety Data Sheet.
- The mortar must be transported and stored in tightly sealed bags, in dry conditions (most preferably on pallets). Protect against humidity. Shelf life in conditions as specified is 12 months from the production date shown on the packaging. Content of soluble chromium (VI) in ready-to-use mix - ≤ 0.0002%.

## Packaging

Paper bags: 20 kg
Pallet: 1,080 kg in 20 kg bags

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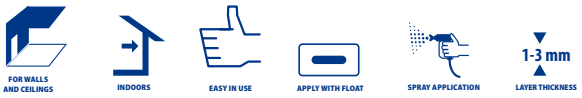
*At the time of publication of this product data sheet all previous ones become void.*
*Date of update: 2015-02-10*


# ATLAS GIPS RAPID

## ready-to-use polymer top finish

- ready-to-use
- maximum single coat thickness – 3 mm
- optimum hardness
- for machine and manual application
- snow-white




## Use

Application of top finishes upon walls and ceilings indoors.
For machine and manual application.

**Types of substrates** – concrete, cement-, cement-lime- and gypsum plasters, plasterboards.
**Types of finishing coats** – paint coats and wallpapers.

## Properties

**Can be applied with very thin coats** – therefore amount of applied material can be adjusted to substrate properties and actual consumption reduced.
**Very fine grain size** – very smooth surface, perfect for painting and wallpapering can be formed.
**Excellent bonding** – owing to appropriate content of polymers.
**Flexible and crack-resistant** – top finish is resistant to cracking during mass setting and drying, and in further operation.
**Easy to paint** – uniform, snow-white top finish is easily coated with paints and guarantees reduced paint consumption and lower cost of painting.
**Convenient to use** – material is ready-to-use, therefore any unused material can be left in bucket and used up within product shelf life, i.e. 12 months from the manufacturing date.
**TIXOTROPIC EFFECT** - thick in packaging, plasticized during application.

## Technical data

ATLAS GIPS RAPID is manufactured as a ready-to-use mass based on resin binders, mineral fillers and modifying agents.

| | |
|---|---|
| Maximum single coat thickness | 3 mm |
| Mass preparation temperature, substrate and ambient temperature during work | from +5°C to +25°C<br>relative air humidity up to 70% |
| Drying time | approx. 6 hours<br>(for coat 1 mm thick, in temperature +20°C and 50% air humidity) |

## Technical requirements

ATLAS GIPS RAPID conforms to PN-EN 15824:2010 standard. EC Declaration of Performance No. GIPS 109/CPR.

| CE | PN-EN 15824:2010<br>(EN 15824:2009) |
|---|---|
| Dispersion internal plaster, dilutable with water (polymer top finish) | for indoor use, on ceilings and walls |
| Reaction to fire - class | C |
| Bonding to concrete | ≥ 0.3 N/mm$^2$ |
| Thermal conductivity coefficient (average tabular value P=50%) | 1.28 W/mK ($\lambda_{10,dry}$) |
| Release/content of hazardous substances | See: Safety Data Sheet |

## Top finish application and substrate repairs

**Substrate preparation**

The substrate should be:

- **sufficiently sound,**
- **stabilized to air-dry state** – - the assumed stabilization time for substrates is respectively (in standard conditions, i.e. temperature approx. +20°C and humidity 55% - in other conditions the time of drying can extend):
  - new gypsum (e.g. ATLAS GIPS SOLARIS), cement and cement-lime plasters - min. 1 week for each 1 cm of thickness,
  - concrete walls – min. 28 days,
- **cleaned -** of any materials which would impair bonding of top coat, especially dust, dirt, lime, oil, fats, wax, residues of paint coats and anti-adhesion agents,
- **primed**
  - with ATLAS UNI-GRUNT emulsion – in case of excessively absorptive substrates,
  - with ATLAS GRUNTO-PLAST mass – when substrate is of low absorptiveness or is coated with layers limiting bonding.

**Mass preparation**

ATLAS GIPS RAPID is manufactured ready-to-use. It must not be mixed with other materials, thinned or thickened.

**Top finish application**

The mass is applied with a smooth stainless steel float firmly pressed towards substrate. Start application from ceilings, apply mass in strips starting from window and moving inwards, move the float towards yourself. Apply mass upon walls with strips, start from floor and move towards ceiling, move the float upwards. Subsequent coat can be applied when the previous one fully hardens. In case of machine application float the mass with a float, collect excessive material and put back into packaging. Grinding can commence when finish fully dries. Avoid contamination of material kept in packaging as it would affect its properties. Cover unused material with plastic foil and tightly seal the packaging.

**Finishing works**

On commencement of finishing works the top finish surface should be appropriately dry and dusted. Top finish can be coated with paints:

- acrylic paints, e.g. ATLAS ecoFARBA
- latex paints, e.g. ATLAS optiFARBA or ATLAS proFARBA

Painting and wallpapering should be preceded by substrate priming led according to paint or wallpaper manufacturer's guidelines.

## Consumption

Average consumption is approx. 1.0 kg of mass/ 1 $m^2$.

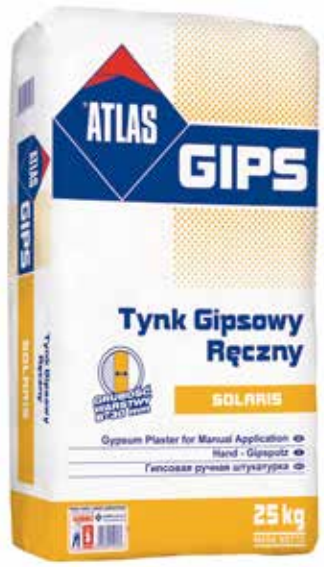
## Important additional information

- Top finish must not be applied upon surfaces directly exposed to humidity.
- Do not apply top finish in rooms with relative air humidity exceeding 70% over extended periods of time.
- The tools must be cleaned with clean water directly after use.
- Follow the instructions of the Safety Data Sheet.
- The product should be transported and stored in tightly sealed containers, in dry conditions, in positive temperature (preferably on pallets). Protect against overheating (> 30 °C). Do not leave containers open. Shelf life in conditions as specified is 12 months from the production date shown on the packaging. Non-compliance with the guidelines above may affect the product properties.

## Packaging

Plastic buckets: 2 kg, 8 kg, 18 kg, 28 kg
Pallet: 400 kg in 2 kg containers, 640 kg in 8 kg containers, 702 kg in 18 kg containers, 672 kg in 28 kg buckets

*The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.*
*At the time of publication this product data sheet all previous ones become void.*
*Date of revision: 2014-03-13*





# ATLAS GIPS SOLARIS

## hand-applied gypsum plaster

- upon walls and ceilings
- layer thickness – 8-30 mm
- optimum time of processing
- wide range of use
- high yield


## Use

**One-coat plaster** – indoors, in rooms with normal air humidity, but also in kitchens and bathrooms, recommended for application upon walls and ceilings.
**Renovation and repair works** – reveals treatment during installation of windows, doors and window sills; filling larger gaps (up to 3 cm deep) and filling chases in walls and ceilings.

**Types of substrates –** concrete, aerated concrete, cement-, cement-lime- and gypsum plasters.
**Types of finishing coats** – gypsum top finishes, ceramic cladding, paint coats, wallpapers.

## Properties

**One-coat plaster** – economical, easy and quick in use, does not require additional finishing, as formed surface is already even and very smooth.
**Wide range of use** – minimum plaster thickness - 8 mm, maximum plaster thickness on ceilings - 15 mm, on walls - 30 mm.
**Optimum open time – 120 ± 15 minutes** – enables easy plaster application and finishing.
**High yield** – significantly better than offered by traditional cement or cement-lime plasters.
**Resistant to cracking caused by contraction during setting and drying.**
**Ensures favourable room microclimate** – beneficially effects health and well-being of inhabitants.
**Hand-applied** – pot life adjusted to technology of manual application of gypsum plasters.

## Technical data

ATLAS GIPS SOLARIS is manufactured as a dry mix of synthetic gypsum, mineral fillers and modifiers.

| | |
|---|---|
| Bulk density (of dry mix) | approx. 0.80 kg/dm$^3$ |
| Mass bulk density (after mixing) | approx. 0.95 kg/dm$^3$ |
| Mixing ratio (water / dry mix) | approx. 0.6 l/ 1 kg<br>approx. 15 l/ 25 kg |
| Min./max. plaster thickness on walls | 8 mm/ 30 mm |
| Min./max. plaster thickness on ceilings | 8 mm/ 15 mm |
| Bonding | ≥ 0.3 N/mm$^2$ |
| Mass preparation temperature, substrate and ambient temperature during work | from +5°C to +25°C<br>relative air humidity up to 70% |
| Pot life | 120 ± 15 minutes |
| Open time | approx. 30 minutes |

## Technical requirements

ATLAS GIPS SOLARIS conforms to PN-EN 13279-1:2009 standard. EC Declaration of Performance No. V/25/CPR.

| CE | PN-EN 13279-1:2009<br>(EN 13279-1:2008) |
|---|---|
| Hand applied gypsum plaster B1/20/2 | for indoor use, upon walls and ceilings |
| Content of gypsum binder per $CaSO_4$ | ≥ 50% |
| Beginning of setting | > 20 min |
| Flexural strength | > 1.0 N/mm$^2$ |
| Compressive strength | > 2.0 N/mm$^2$ |
| Reaction to fire - class | A1 |
| Bonding to substrate | ≥ 0.1 N/mm$^2$ (breaking within substrate or breaking off substrate) |
| Release/content of hazardous substances | See: Safety Data Sheet |

## Plastering

**Substrate preparation**

The substrate should be:

- sufficiently sound,
- stabilized to air-dry state - the assumed stabilization time for concrete substrates is min. 28 days (in standard conditions, i.e. temperature approx. +20°C and humidity 55% - in other conditions the time of drying can extend),
- cleaned – of any materials which would impair bonding of plaster, especially dust, dirt, lime, oil, fats, wax, residues of paint coats and anti-adhesion agents,
- primed
  - with ATLAS optiGRUNT emulsion – in case of excessively absorptive substrates,
  - with ATLAS GRUNTO-PLAST mass – when substrate is of low absorptiveness or is coated with layers limiting bonding.

Moreover, any steel elements which may come in contact with top finish must be protected against corrosion.

**Mass preparation**

Pour the material from the bag into a container with water (see Technical Data for ratio), leave the mix for a few minutes, so gypsum automatically soaks with water. Stir the mix manually or mechanically (using a mixer with a drill for gypsum) until homogenous and free of lumps. So prepared mass must be used up within approx. 30 minutes.

**Plastering**

Plaster should be applied with one coat. Use plastering beads in order to keep plaster thickness, control material consumption and form perfectly even wall surface. Edges of window and door reveals as well as wall corners can be additionally strengthened with metal corner beads with mesh. Plaster is applied with a trowel. Application should start from ceiling side, in strips starting from window and moving inwards, keep thickness between 8 and 15 mm. On walls plaster is applied from floor towards ceiling, keep thickness between 8 and 30 mm. Applied material is initially smoothed with a "H-type" darby, fill any gaps if necessary. When plaster initially sets, its plane is formed with a feather edge. Appropriately set plaster should be misted and floated with a sponge float in order to "extract" bleed water onto the surface. Once it becomes matt, it should be uniformly spread upon the whole surface with a long float. **Note! Plasters planned to be covered with ceramic tiling should be floated "rough".**

**Maintenance**

During initial 24 hours since application, fresh gypsum plaster should be protected from direct sunlight and draughts. Later rooms should be kept well-ventilated. The time of drying of 15 mm thick plaster coat, in well-ventilated room in temperature above 15°C, is approx. 14 days.

**Finishing works**

Prior to finishing works, plaster surface should be sufficiently dry. Prime it with ATLAS optiGRUNT emulsion before application of ATLAS GIPS RAPID top finish.

## Consumption

Average consumption is approx. 0.85 kg of mass/ 1 $m^2$ / 1 mm of coat thickness.

## Important additional information

- Mass must be prepared in clean containers (residues of set gypsum reduce the time of setting of freshly mixed gypsum mass).
- Gypsum plaster must not be applied upon surfaces directly exposed to humidity.
- Do not apply gypsum plaster in laundries or other premises with relative air humidity exceeding 70% over extended periods of time.
- During setting, do not expose plaster to direct sunlight and draughts, provide proper room ventilation and airing.
- The tools must be cleaned with clean water directly after use.
- The product, because of its form (fine powder) can mechanically irritate eyes and respiratory system, even in short-term contact, for long-term exposure - can mechanically irritate skin. Follow the instructions of the Safety Data Sheet.
- The product should be transported and stored in tightly sealed bags, in dry conditions (preferably on pallets). Protect against humidity. Shelf life in conditions as specified is 6 months from the production date shown on the packaging. Non-compliance with the guidelines above may affect the properties of the product.

## Packaging

Paper bags: 25 kg.
Pallet: 700 kg in 25 kg bags.

*The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.*
*At the time of publication this product data sheet all previous ones become void.*
*Date of revision: 2014-06-09*


REINFORCED WITH FIBRES

# ATLAS GIPS STONER

## jointing compound for filling joints without tapes

- jointing plasterboards without joint tapes
- flexible and resistant to cracking
- very good plasticity
- high bond strength
- layer thickness up to 15 mm


## Use

**Plasterboards jointing** – with no need to use additional reinforcing tapes or non-woven fabric for boards with factory-cut edges.
**Repairs of wall and ceiling surfaces** – recommended for gypsum substrates, for local repairs of gypsum plasters, top finishes or plasterboards.

**Types of substrates –** plasterboards with factory-cut or on-site cut edges, gypsum plasters and top finishes.

## Properties

**Flexible** – dry mix is specially modified with polymers and carefully adjusted amount of cellulose fibres. Fibres strengthen and condense structure of hardened gypsum, therefore improve its resistance to cracking.
**Plastic** – easy and convenient in use, both in case of plasterboards jointing and final surface smoothing and shaping.
**Improved strength** – ensures durable, appropriately strong and flexible bond between plasterboards edges.
**Low shrinkage during setting** – absence of additional internal stress in gypsum coat guarantees greater stability of bond (with no effect of applied mass retention).

## Technical data

ATLAS GIPS STONER is manufactured as a dry mix of alpha gypsum, mineral fillers and modifiers.

| | |
|---|---|
| Bulk density (of dry mix) | approx. 0.90 kg/dm$^3$ |
| Mass bulk density (after mixing) | approx. 0.90 kg/dm$^3$ |
| Dry density (after setting) | approx. 1.20 kg/dm$^3$ |
| Mixing ratio (water / dry mix) | approx. 0.5 l/ 1 kg<br>approx. 5.0 l/ 10 kg<br>approx. 10.0 l/ 20 kg |
| Min./max. coat thickness | 2 mm/ 15 mm |
| Flexural strength | ≥ 3.0 N/mm$^2$ |
| Compressive strength | ≥ 6.0 N/mm$^2$ |
| Mass preparation temperature, substrate and ambient temperature during work | from +10°C to +25°C<br>relative air humidity up to 70% |
| Pot life | approx. 60 minutes |

## Technical requirements

ATLAS GIPS STONER conforms to PN-EN 13963:2008 standard. EC Declaration of Performance No. V/22/CPR.

| CE | PN-EN 13963:2008<br>(EN 13963:2005 + AC:2006) |
|---|---|
| Filling mass for plasterboard jointing.<br>For jointing without tapes (4B EN 13963).<br>For manual application. Standard time of setting. | for indoor use |
| Reaction to fire - class | A1 |
| Time of setting:<br>- beginning<br>- end | <br>≥ 60 minutes<br>≥ 180 minutes |
| Presence of cracking in the zone of 150 mm from the thin wedge edge | no |
| Grain size:<br>- screening on a sieve with square mesh side 200 µm<br>- screening on a sieve with square mesh side 315 µm | <br>≤ 1 %<br><br>0 |
| Bonding to substrate | ≥ 0.25 N/mm$^2$ |
| Flexural strength | > 260 N |
| Release/content of hazardous substances | See: Safety Data Sheet |

## Plasterboards jointing

**Substrate preparation**

**Requirements for plasterboard construction**

Plasterboards should be:

- stable and sufficiently rigidly fixed to substrate or framing. It is advisable to carry out plasterboard jointing after application of any wet materials, i.e. at constant ambient humidity and temperature,
- fixed with approx. 2 mm gap left between adjoining boards,
- expansion joint between plasterboards and building construction elements should be executed as a control joint.

**Requirements for plasterboard edges**

- on-site cut edges should be bevelled with a knife or a plane at proper angles,
- cleaned of dust and other materials which would impair bonding,
- excessively absorptive substrates should be primed with ATLAS optiGRUNT.

**Note.** Priming is essential before jointing plasterboards with on-site bevelled edges. Moreover, any steel elements which may come in contact with compound must be protected against corrosion.

**Mass preparation**

Pour the material from the bag into a container with water (see Technical Data for ratio), leave the mix for 3-5 minutes, so gypsum automatically soaks with water. Stir the mix manually or mechanically (using a mixer with a drill for gypsum) for 1-2 minutes. So prepared mass must be used up within approx. 60 minutes.

**Jointing without tapes**

It is advisable to carry out application in two phases. In the first one compound is applied directly into gap between adjoining boards, so it is fully filled deep to the bottom of joint. Collect excessive compound and float it smoothly upon whole joint length. So filled joints are left for gypsum surface hardening. In the second phase freshly mixed compound is applied upon joint and spread until even and smooth surface is formed. If needed, sand any unevenness after drying.

**Jointing with tapes**

Apply compound directly into gap between adjoining boards, so it is fully filled deep to the bottom of joint. Press reinforcing tape (paper or adhesive one) or strip of non-woven fabric into freshly applied compound, so it bonds substrate without any crinkles. Coat tape thinly with gypsum compound and leave to harden. When gypsum hardens, second wider coat is applied. For on-site cut plasterboards, in order to flush board surface properly, the second coat should be min. 40 mm wide. Any unevenness should be removed with fine sandpaper when compound dries.

It is advisable to avoid direct sunlight, draughts, excessive room heating or cooling and to ensure sufficient room ventilation during joint drying.

## Consumption

Average consumption is approx. 0.50 kg for 1 rm of plasterboard joint. Actual consumption depends on plasterboard thickness and method of board edge cutting.

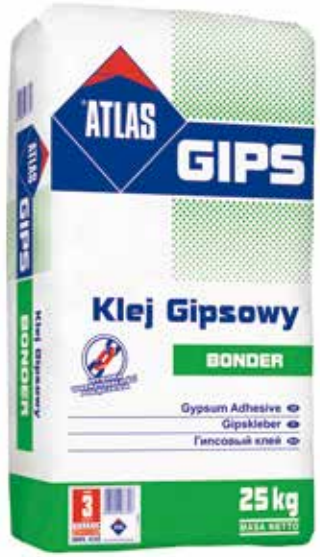
## Important additional information

- In case of on-site cut boards, fixed with one layer or those installed in places, where operation conditions create possibility of high stress (e.g. in attics), it is recommended to strengthen joints with fibreglass tape, paper tape or non-woven fabric.
- Mass must be prepared in clean containers (residues of set gypsum reduce the time of setting of freshly mixed gypsum mass).
- Plasterboards must not be fixed upon surfaces directly exposed to humidity.
- Any steel elements which may come in contact with gypsum must be protected against corrosion.
- Use tools made of stainless steel, clean with water directly after use.
- Avoid contact with skin and eyes. In case of contact with eyes, contact a doctor. Follow the instructions of the Safety Data Sheet.
- The product should be transported and stored in tightly sealed bags, in dry conditions (preferably on pallets). Protect against humidity. Shelf life in conditions as specified is 12 months from the production date shown on the packaging. Non-compliance with the guidelines above may affect the properties of the product.

## Packaging

Paper bags: 10 kg.
Pallet: 1,000 kg in 10 kg bags.

*The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.*
*At the time of publication this product data sheet all previous ones become void.*
*Date of revision: 2014-05-26*




# ATLAS GIPS BONDER

## gypsum adhesive

- very high bonding to substrates and plasterboards
- very good plasticity during board fixing
- optimum pot life
- high bond strength
- layer thickness 5-20 mm


## Use

**Fixing plasterboards** – when finishing interior walls, during repair works or finishing newly constructed rooms.
**Fixing decorative moldings and other gypsum ornaments.**
**Fixing rigid thermal or acoustic insulation composite boards.**
**Filling gaps in mineral substrates, up to 20 mm deep**.

**Types of substrates –** walls of bricks, blocks, hollow blocks and other similar ceramic or silicate elements, concrete and aerated concrete, cement and cement-lime plasters.

## Properties

**Very good plasticity** – adhesive is easy to apply, changes shape easily during board positioning and pressing, adjusts to the substrate unevenness.
**Optimum pot life** – extended time of setting in order to facilitate application of adhesive and board positioning and fixing.
**High strength** – ensures durable and strong bond between plasterboards and substrate.
**Low shrinkage after setting** – adhesive layer is free from internal cracks and deformation after setting, which guarantees good bond stability.

## Technical data

ATLAS GIPS BONDER is manufactured as a dry mix of gypsum, mineral fillers and modifiers.

| | |
|---|---|
| Bulk density (of dry mix) | approx. 1.10 kg/dm$^3$ |
| Mass bulk density (after mixing) | approx. 1.56 kg/dm$^3$ |
| Dry density (after setting) | approx. 1.03 kg/dm$^3$ |
| Mixing ratio (water / dry mix) | approx. 0.5 l/ 1 kg<br>approx. 12.5 l/ 25 kg |
| Min./max. layer thickness | 5 mm/ 20 mm |
| Flexural strength | min. 2.5 MPa |
| Compressive strength | min. 6.0 MPa |
| Mass preparation temperature, substrate and ambient temperature during work | from +5°C to +30°C |
| Pot life | approx. 45 minutes |
| Open time | approx. 15 minutes |

## Technical requirements

ATLAS GIPS BONDER conforms to PN-EN 14496:2007 standard. EC Declaration of Performance No. V/18/CPR.

| CE | PN-EN 13963:2008<br>(EN 13963:2005 + AC:2006) |
|---|---|
| Gypsum adhesive for thermal and acoustic insulation composite boards and plasterboards. | for indoor use |
| Reaction to fire - class | A1 |
| Content of gypsum binder per $CaSO_4$ | ≥ 30% |
| Pot life | ≥ 45 minutes |
| Bonding | ≥ 0.06 MPa |
| Release/content of hazardous substances | See: Safety Data Sheet |

## Boards fixing

**Substrate preparation**
Substrate should be:
- **stable** - sufficiently sound,
- **stabilized to air-dry state** - the assumed stabilization time for concrete substrates is min. 28 days (in standard conditions, i.e. temperature approx. +20°C and humidity 55% - in other conditions the time of drying can extend),
- **cleaned** – of any materials which would impair bonding of adhesive, especially dust, dirt, lime, oil, fats, wax, residues of paint coats and anti-adhesion agents,
- **primed**
  - with ATLAS optiGRUNT emulsion – in case of excessively absorptive substrates,
  - with ATLAS GRUNTO-PLAST mass – when substrate is of low absorptiveness or is coated with layers limiting bonding.

Moreover, any steel elements which may come in contact with top finish must be protected against corrosion.

**Mass preparation**
Pour the material from the bag into a container with water (see Technical Data for ratio), mix manually or mechanically (using a mixer with a drill for gypsum) until homogenous and free of lumps. Adhesive must be used up within approx. 45 minutes.

**Boards fixing**
Method of adhesive application and plasterboard fixing depends on surface evenness.
**Even substrates (irregularities up to 4 mm)**: place board horizontally on floor, face down, apply adhesive with a notched trowel (notch size 8 - 10 mm), lift the board and press it against wall.
**Uneven substrates (unevenness up to 15 mm)**: place board horizontally on floor, face down, apply adhesive with a trowel or a spatula, with dabs approx. 10 cm in diameter and up to 20 mm thick, spaced 30 – 40 cm; additionally spread a few dabs along board edges. Lift the board and press against wall.
**Uneven substrates (unevenness above 15 mm)**: fix with dabs of adhesive vertical and horizontal strips of cut plasterboard, approx. 10 cm wide, spaced approx. 60 cm. The strips should define single plane. Fix main plasterboards upon formed structure.
**Caution!** Regardless the method of fixing, free gaps should be left between boards and floor (approx. 10 mm), between boards and ceiling (approx. 5 mm) and between adjoining boards (approx. 2 mm). Boards can be fixed and positioned within approx. 10-15 minutes since adhesive application (depending on substrate absorptiveness and ambient temperature). Ventilate the room, avoiding draughts and direct sunlight during adhesive drying.

## Consumption

Average consumption is approx. 2.5 – 5.0 kg / 1 $m^2$ of plasterboard. Actual consumption depends on substrate evenness and method of fixing.

## Important additional information

- Adhesive must be prepared in clean containers (residues of set gypsum reduce the time of setting of freshly mixed gypsum mass).
- Adhesive should not be used to fix boards upon ceilings (it is advisable to fix them to framing).
- Plasterboards must not be fixed upon surfaces directly exposed to humidity.
- Clean the tools with water directly after use.
- Avoid contact with skin and eyes. In case of contact with eyes, contact a doctor. Follow the instructions of the Safety Data Sheet.
- The product should be transported and stored in tightly sealed bags, in dry conditions (preferably on pallets). Protect against humidity. Shelf life in conditions as specified is 12 months from the production date shown on the packaging. Non-compliance with the guidelines above may affect the properties of the product.

## Packaging

Paper bags: 25 kg.
Pallet: 1,050 kg in 25 kg bags.

*The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.*
*At the time of publication this product data sheet all previous ones become void.*
*Date of revision: 2014-04-03*


# ATLAS M-system 3G

## anchors for fixing boards to walls, ceilings and under roofs

- made of 120 PP polypropylene
- stable fixing of plasterboards to walls, ceilings and slopes
- easy-to-install point fixing
- quick progress of installation
- smooth adjustment of distance and inclination angle
- do not require substrate levelling or hacking off
- collision-free distribution of installations under plasterboard lining


## Properties

**Easy to install** – owing to point fixing the application (installation of disc anchors and lining boards) can be done by one person.
**Quick progress of work** – fixing full-size boards is limited to two stages: drilling holes where the anchors will be inserted and screwing plasterboards to the discs with steel screws.
**Smooth adjustment of space between boards and substrate as well as inclination angle of the lining** – the distance between plasterboards and substrate can be adjusted at will, regardless the wall geometry or the plasterwork, within the range of 10-200 mm, and – in case of ceilings – with extensions even up to 500 mm.
**No requirements concerning the preparation of substrate** - no levelling, hacking off cracked plasterwork, priming, etc. is necessary – plasterboards can be accurately fixed upon very uneven or cracked plasterwork as well as upon inclined walls, etc.
**Possibility of correcting the wall geometry in case of not right-angled concave and convex corners** – the anchors can be used additionally for plasterboards bonded to substrates of major irregularities (> 20 mm). They can then be fixed locally in the most uneven places instead of bonding the boards with adhesive.
**Collision-free distribution of electrical installations, water and sewage pipes as well as ventilation shafts under the plasterboard lining** – in case of existing pipes or cables, the anchors ensure quick fixing of plasterboards and keeping necessary stability.
**ATLAS M-system 3G can be combined with:**
- traditional technologies, such as ceilings coated with gypsum plasters,
- elements of two or more layer ceilings fixed with 120 PP anchors,
- plasterboards fixed to frames.

**Reduced risk of cracks** – point fixing compensates tensions of individual boards already during the installation. Once plastered, the boards form rigid structure, so that no further tensions can occur between them and no cracks would appear at the seams. The structure is separated from the cladding of the adjoining walls and ceiling by expansion joints and therefore keeps space for further deformations.
**Quick installation of plasterboard casings** – partially lowered ceilings, casings upon walls, etc. can be quickly installed in the relevant zones of walls and ceilings next to previously plastered elements in order to complete the interior finishing.
**Possibility of reduction of space between the lining and the substrate down to 1 cm** – in order to minimize the loss of space in a room.
**Easy and safe to transport and storage** – system elements are small and can be transported with passenger cars, which is not possible in case of solutions with frames. System elements do not take up much storage space and can be stored on limited areas outdoor or in a car.

## Use

**The ATLAS M-system 3G disc anchors are used for:**
- fixing plasterboards, boards made of wood-based materials, cement fibre boards, ALUCOBOND-type boards, etc. to walls, ceilings and inclined attic walls,
- installation of casing of ventilation and installation shafts, suspended ceilings of different heights etc.

**The system can be used in newly constructed buildings as well as for renovation works** – in particular for the conversion of lofts and attics for operational use or for the reconstruction of utility rooms for other purposes.
**The system is recommended for fixing ATLAS BUILDING BOARDS used for any types of casings, supplements, etc.** – the boards can be cut and – together with the M-system 3G anchors – used to form oval or unusually shaped casings. This considerably simplifies the installation and saves time compared to traditional solutions with frames.
**ATLAS M-system 3G anchors with KT 3G 120 PP polypropylene mounting disc are suitable for indoor and outdoor use, for the following types of wall, ceiling and attic lining boards:**
- plasterboards in accordance to the standard PN-EN 520-A1:2012, thickness of 12.5- 25.0 mm (for indoor use only),
- wood-based boards in accordance to the standard PN-EN 13986-A1:2015, thickness of 12.0-25.0 mm,
- cement fibre boards of category A, B, C or D in accordance to the standard PN-EN 12467:2013, thickness of 8.0-25.0 mm,
- ALUCOBOND boards in accordance to the ITB Technical Approval no. AT-15-4058/2010, thickness of 4.0 or 6.0 mm.

**The system comprises the following components (table 1):**
- 120 PP polypropylene mounting discs with fasteners (screws) with metric threads M6/M8 or wood threads of diameter of 6.5/8.5 mm and length of 100-250 mm (table 2),
- plastic expansion sleeves of diameters of 8-12 mm,
- threaded extension rods for ceilings with metric thread M6/M8,
- steel screws for fixing the boards to the mounting discs of diameter of 3,5 mm.

## Table 1. Components of the ATLAS M-system 3G light lining system

Table 1 shows examples of use of ATLAS M-system 3G anchors, with KT 3G 120 PP polypropylene mounting disc with different types of substrates and corresponding expansion sleeves, extension rods and fixing screws depending on the application type.

| Type of base | Type of anchor: | Type of fixing screw | Length of fixing screw [mm] | Diameter and depth of the hole for the sleeve | Expansion sleeves | Threaded extension rod | Screws for fixing the boards to the discs |
|---|---|---|---|---|---|---|---|
| standard concrete, aerated concrete, hollow bricks and blocks, silicate bricks | 120 PP polypropylene mounting disc | 3GL M8/M6 | L100 L150 L200 L250 | ø 8 mm L>70 mm | L40 ø8 MS, | 3GL PLUS M6 | ø 3.5 x 35 mm |
| | | | L100 L150 L200 L250 | ø 10 mm L>80 mm | L50 ø10 BX, L50 ø10 SX, 3G L50 ø10 FA | - | ø 3.5 x 35 mm |
| | | 3GL M8/M8 | L110 L160 L210 L260 | ø10 mm L>80 mm | L50 ø10 MS | 3GL PLUS M8 | ø 3.5 x 35 mm |
| | | | L110 L160 L210 L260 | ø 12 mm L>90 mm | L60 ø12 BX, L60 ø12 SX, 3G L60 ø12 FA | - | ø 3.5 x 35 mm |
| | | 3GL M8/ø 6,5 | L100 L150 L200 L250 | ø8 mm L>70 mm | L40 ø8 MS, | - | ø 3.5 x 35 mm |
| | | | L100 L150 L200 L250 | 10 m L>80 mm | L50 ø10 BX, L50 ø10 SX, 3G L50 ø10 FA | - | ø 3.5 x 35 mm |
| | | 3GL M8/ø 8,5 | L110 L160 L210 L260 | ø 10 mm L>80 mm | L50 ø10 MS | - | ø 3.5 x 35 mm |
| | | | L110 L160 L210, L260 | ø 12 mm L>90 mm | L60 ø12 BX, L60 ø12 SX, 3G L60 ø12 FA | - | ø 3.5 x 35 mm |
| timber or wood-based boards | | 3GL M8/M6 | L100 L150 L200 L250 | ø 8 mm L>70 mm | metal sleeve for fixing in wood: M6 L24 | 3GL PLUS M6 | ø 3.5 x 35 mm |
| | | 3GL M8/M8 | L110 L160 L210 L260 | ø 10mm L> 80 mm | metal sleeve for fixing in wood: M8 L24 | 3GL PLUS M8 | ø 3.5 x 35 mm |
| | | 3GL M8/ø 6,5 | L100 L150 L200 L250 | direct fixing in base ø 5mm and L > 25 mm | | - | ø 3.5 x 35 mm |
| | | 3GL M8/ø 8,5 | L110 L160 L210 L260 | direct fixing in base ø 7 mm and L > 25 mm | | - | ø 3.5 x 35 mm |

For flat or rounded structures or casings and fittings, e.g. in swimming pools, SPA buildings and balneotechnical facilities, etc. flat or cut building boards can also be fixed to the substrate with ATLAS M-system 3G anchors.

Wall and ceiling lining boards should be fixed to the KT 3G 120 PP mounting disc with min. four steel, corrosion-protected screws of ø3,5 x 35 mm in accordance to the standard PN-EN 14566-A1:2012. In view of the corrosive environment, ATLAS M-system 3G anchors must be used in accordance to the requirements of the standards PN-EN ISO 9223:2012 and PN-EN ISO 2081:2011. If the distance between plasterboards and substrate is set minimum (< 10 mm), the lining boards should be fixed with shorter steel screws, e.g. 3,5 x 25 mm.

In case of outdoor installation, we recommend to use anchors, which standard carbon steel elements are protected against corrosion by electrolytic zinc coating of thickness of minimum 12 µm, meeting the requirements of the standard PN-EN ISO 4042:2001-Ap1:2004 or PN-EN ISO 2081:2011, or with galvanized zinc coating of minimum 275 g/m2 and thickness of minimum 19 µm, meeting the requirements of the standard PN-EN 10346:2015.
In case of indoor installation, one can use anchors, which standard carbon steel elements are protected against corrosion with an electrolytic zinc coating of thickness of minimum 5 µm, meeting the requirements of the standard PN-EN ISO 4042:2001+Ap1:2004 or PN-EN ISO 2081:2011, or with galvanized zinc coating of minimum 100 g/m2 and thickness of minimum 7 µm, meeting the requirements of the standard PN-EN 10346:2015.

ATLAS M-system 3G 120 PP anchors set in the substrate **with plastic expansion sleeves:** L40 ø8 MS, L50 ø10 BX, L50 ø10 SX, 3G L50 ø10 FA, L50 ø10 MS, L60 ø12 BX, L60 ø12 SX, 3G L60 ø12 FA sleeves can be used for substrates made of:
- reinforced or unreinforced standard concrete C20/25-C50/60 in accordance to the standard PN-EN 206:2014,
- autoclaved **aerated concrete** elements of average compressive strength of minimum 6 N/mm2 (compressive strength class minimum 6) in accordance to the standard PN-EN 771-4+A1:2015,
- full **ceramic bricks** of nominal compressive strength of minimum 15 N/mm2 (minimum class 15) in accordance to the standard PN-EN 771-1+A1:2015,
- full **silicate bricks** of nominal compressive strength of minimum 20 N/mm2 (minimum class 20) in accordance to the standard PN-EN 771-2+A1:2015,
- **hollow ceramic bricks** (e.g. Porotherm) of nominal compressive strength of minimum 15 N/mm2 (minimum class 15) in accordance to the standard PN-EN 771-1+A1:2015, with partition thickness of minimum 12 mm.

In case of higher fire protection requirements, **metal expansion sleeves** have to be used instead of plastic ones.

ATLAS M-system 3G anchors set in the substrate with: M6 L24 or M8 L24 screws for direct fixing **in wood or wood-based boards** can be used for the following substrates:
- P5 chipboard in accordance to the standards PN-EN 312:2011 and PN-EN 13986+A1:2015, thickness of minimum 24 mm,
- OSB/3 board in accordance to the standards PN-EN 300:2007 and PN-EN 13986+A1:2015, thickness of minimum 24 mm,
- construction timber of resistance class of minimum C24 in accordance to the standard PN-EN 338:2016, thickness of minimum 25 mm.

3GL M8/ø6,5 or M8/ø8,5 are used for setting anchors in the substrate made of construction timber of resistance class of minimum C24 in accordance to the standard PN-EN 338:2016, minimum thickness of 25 mm.

In case of a distance > 20 cm between the boards and the ceiling, an extension of the type 3GL PLUS M6/M8 has to be used, with which the boards can be installed at a distance of up to 55 cm.

**Table 2. Adjustment range of the distance between boards and substrate [mm]*.**

| Type of casing: | L100 | L150 | L200 | L250 | Extension element 3GL PLUS M6 or M8 |
|---|---|---|---|---|---|
| wall | 10-50 | 50-100 | 100-150 | - | - |
| ceiling | 10-50 | 50-100 | 100-150 | 150-200 | Depending on the type of fixing screw and the screw-in depth: 300-500 mm (only for screws with metric thread), e.g. L100 – length 500 mm, L250 – 300 mm.** |

*for min. fixing length of 50 mm
**the max. distance between casing board and ceiling is 550 mm.

The calculated load bearing of connections installed with ATLAS M-system 3G anchors should be indicated in the technical design, by taking into consideration the resistance properties of anchors specified in tables 3-6. Relevant anchors must be applied in accordance to the technical design prepared individually for a given object, by taking into consideration the information of the manufacturer on the application technology.

## Technical data

**Plastic ATLAS M-system 3G anchors consist of a perforated polypropylene disc of external diameter of ø120 mm, flexibly fixed to a steel screw with:**
- metric threads M6/M8 (fixing elements 3GL M8/M6 and 3GL M8/M8)
- wood threads of external diameters of ø 6.5/8.5 mm (fixing elements 3GL M8/ø6.5 and 3GL M8/ø8.5).

Owing to flexible connection, the inclination level of the disc can be modified within the range of: +/- 27° over the entire circumference.
System supplements:
**a) expansion sleeves** for installing the following types of disc anchors:
- L50 ø10 BX, L50 ø10 SX, 3G L50 ø10 FA, made of plastic, of external diameter of ø 10 mm and length of L=50 mm or L40 ø8 MS and length of L=40 mm, compatible with fixing screws 3GL M8/ø 6.5 or 3GL M8/M6 or additionally with threaded extension rod 3GL PLUS M6,
- L50 ø10 MS, plastic, of external diameter of ø 10 mm and length of L=50 mm as well as L60 ø12 BX, L60 ø12 SX, 3G L60 ø12 FA of external diameter of ø 12 mm and length of L = 60 mm, compatible with fixing screws 3GL M8/ø8,5 or 3GL M8/M8, or with additional threaded extension rod 3GL PLUS M8,
- type M6 L24 or M8 L24 sleeves for wood or wood-based boards compatible with fixing screws 3GL M8/M6 and 3GL M8/M8,

b) threaded **extension rods** M6 or M8 (3GL PLUS M6 or 3GL M8) used for fixing ceiling lining used in addition to 3GL M8/M6 and 3GL M8/M8 screws),
c) **steel screws** ø3,5 x 35 mm for fixing the lining to the discs.
Fixing screws with metric thread (3GL M8/M6 and 3GL M8/M8) as well as with wood thread (3GL M8/ø6.5 and 3GL M8/ø8.5) are available with the following lengths: L100, L150, L200 and L250 mm.

The minimum anchoring depth in mineral and ceramic substrates is 50 mm and in wooden or wood-based substrates - 24 mm.

**Table 3. Characteristic pull-out resistance of PP anchors with lining.**

| Temperature [°C] | Characteristic resistance [N] | | | | |
|---|---|---|---|---|---|
| | Type of cladding | | | | |
| | Plaster-board | Wood-based board | FERMACELL board | Cement fibreboard | ALUCOBOND board |
| + 23 °C | 550 | 600 | 500 | 500 | 650 |
| + 80 °C | - | 250 | 250 | 250 | 250 |
| - 20 °C | - | 600 | 850 | 600 | 800 |

**Table 4. Maximum bending moments for PP-type discs [Nm].**

| Substrate/ mounting methods | Maximum bending moments for PP-type discs PP [Nm] | | |
|---|---|---|---|
| | temp. +23°C | temp. +80°C | temp. -20°C |
| timber C24, direct fixing, ø 6.5 mm | 10.5 | 10.0 | 11.5 |
| timber C24, direct fixing ø 8.5 mm | 15.0 | 14.0 | 23 |
| timber C24, fixing with anchor for wood M6 | 6.5 | 6.5 | 6.5 |
| wood-based board/ HPL chipboard, fixing with anchor for wood M6 | 4.5 | 4.5 | 4.5 |
| timber C24, fixing with anchor for wood M8 | 19.5 | 19.0 | 19.5 |
| wood-based OSB board/ HPL chipboard, fixing with anchor for wood M8 | 20.0 | 19.0 | 20.0 |
| PU laminate board, fixing plate M6 | 11.5 | 11.5 | 11.5 |
| PU laminate board, fixing plate M8 | 19.5 | 19.5 | 19.5 |
| Brick wall, fixing element M6 (ø 6.5) | 10.0 | 10.0 | 10.0 |
| Brick wall, fixing element M8 (ø 8.5) | 27.0 | 25.0 | 25.0 |

**Table 5. Characteristic shearing resistance of PP anchors [N].**

| Temperature [°C] | Characteristic shearing resistance of PP anchors [N] | |
|---|---|---|
| | Fixing element | |
| | M6 or (ø 6,5) | M8 or (ø 8,5) |
| + 23 °C | 1700 | 2300 |
| + 80 °C | 1100 | 1000 |
| - 20 °C | 2400 | 3000 |

**Table 6. Resistance to transverse load for the wall systems for the PP-type disc.**

| Fixing element/ distance $L_{max}$ | Mounting | Substrate | Maximum loading force [N] |
|---|---|---|---|
| ø 6,5/Lmax = 140 mm | direct | C24-classtimber | 2600 |
| ø 8,5/Lmax = 140 mm | direct | C24-classtimber | 8500 |
| M6/Lmax = 140 mm | Anchor for wood M6 | C24-classtimber | 2300 |
| M6/Lmax = 140 mm | Anchor for wood M6 | wood-based board | 2300 |
| M8/Lmax = 140 mm | Anchor for wood M8 | C24-class timber | 5000 |
| M8/Lmax = 140 mm | Anchor for wood M8 | wood-based board | 5000 |
| M6/Lmax = 114 mm | Fixing plate M6 | laminate board | 4500 |
| M8/Lmax = 124 mm | Fixing plate M6 | laminate board | 5500 |
| M6 or ø 6,5/Lmax = 150 mm | plastic sleeve | brick wall | 2600 |
| M8 or ø 8,5/Lmax = 150 mm | plastic sleeve | brick wall | 5000 |

## Technical requirements

The product has been given the ITB Technical no. AT-15-9691/2016, Certificate of Conformity no. ITB-0724/Z, Domestic Declaration of Conformity M-system 3G of 2.09.2016.

## Installation of the anchors

**Table 7**

| Spacing of the anchors [cm] | Required quantity [pieces/m²] | Recommended use |
|---|---|---|
| 60 x 60 | 4 | double plasterboard lining |
| 60 x 50 | 5 | single plasterboard lining (dry rooms) |
| 60 x 40 | 6 | single plasterboard lining (wet rooms) |

**Installation of mounting discs under casing – walls made of concrete, bricks, blocks, perforated bricks, massive timber and wood-based boards.**

Necessary typical tools: screw gun, drill with ø10/12 mm drillbits of length of min. 120 mm, cross laser marker, spirit level, ruler, compasses, plasterboard cutter, metal trowel, scraper, etc.

**Step by step work order.**

**1. Assembly of disc and steel pin.**
Screw the disc to the fixing screw with a hex key.

**2. Determination of quantity and anchors spacing.**
- In case of plasterboard lining in accordance to Table 7. Along the shorter side of plasterboard the anchors should be placed at intervals of 60 cm, so that the boards are supported at these side at three points.
- In case of lining made of other materials (e.g. OSB boards, cement fibre boards, etc.), the spacing of anchors has to be determined in accordance to the type of lining, the type of room, the weight of the material and the specified loads. In any case, the maximum distance between anchors should not exceed 60 x 60 cm, the minimum spacing is 40 x 40 cm.

**3. Division of boarding surface into individual boards.**
Draw the contours of boards on the wall.

**4. Outlining the anchors location.**
With the help of a spirit level or a laser marker, draw a horizontal line on the wall at a height of 40, 50 or 60 cm from the floor, in accordance to the required spacing.

**5. Marking the fixing point for the first anchor.**
This point is located at intersection of the vertical line (defined in step 3) and the horizontal line (defined in step 4).

**6. Marking the middle anchor locations (in the middle of the board) and the joint anchor locations (along the adjoining edges of two boards).**
Use a compasses to do this in order to ensure the required spacing. Start from the point defined in step 5.

**7. Marking the locations of the outermost anchors (along the edges of walls, floor and ceiling).**
Draw lines on the substrate along these edges, at a distance of 7 cm from the edges. The outermost anchors will be placed on these lines in accordance to the required spacing.

**8. 8. Drilling the holes.**
**a.** If the anchors are to be screwed in mineral substrate, e.g. concrete, bricks or perforated ceramic bricks, holes have to be drilled in the marked points with a ø 10/12 mm drill bit to the depth of min. 50 mm (see Table 1). The depth of the hole is dependent on the length of the anchor and the required distance of the board from the wall. Example: for an L100 anchor and required distance of 20 mm, the hole should be 80 mm (100 mm – 20 mm = 80 mm) deep. In order to ensure the possibility of final adjustment of the location of the anchor, we recommend to drill the holes 30-50 mm deeper, depending on the unevenness of wall. Insert the plastic fixing sleeves into the holes.
**b.** If the anchors are to be installed in massive timber, the drill holes have to keep a diameter of ø 4 or 6 mm (in accordance to the diameter of the fixing screw of ø 6.5 or ø 8.5 mm) and depth of min. 50 mm (see table 1).
**c.** For the installation of the anchors in wood-based boards, the drill holes have to keep a diameter of ø 6 or 8 mm (corresponding to the expansion sleeves for wood M6 L24 or M8 L24) over the entire thickness of the board (see table 1).

**9. Screwing-in the anchors.**
Use a laser marker in order to mark the vertical plane for the wall lining, the so-called curtain. The distance of the curtain from the wall should be a few centimetres greater than the planned final distance of the lining boards from the wall. Screw in the first anchor at its defined location. Mark the line indicating the curtain on the housing of the screw gun. Then screw in the anchors one after the other until the laser marker line coincides with the line on the screw gun housing.

**10. Control of the plane.**
Check the accuracy of the plane of the anchors with a min. 2 m long straight edge vertically, horizontally and diagonally. In case of deviations, correct the screw-in depth of the anchors. Set the discs and anchors precisely in one plane.

**11. Installation of the lining.**
Start by screwing the first board to the middle section of the wall. The board should be installed on plasterboard supports. The board must not adjoin the edges of wall, ceiling or floor. It must also not lie directly on the substrate which it is fixed to. Fix each disc with 4 screws included in the set. On the middle and outer discs, the screws should form a cross. On the joint discs (at the adjoining edges of boards), the screws should be parallel to the edges of boards, two screws in each board.

**12. Processing the boards.**
Fill the joints between the boards with gypsum filling compound ATLAS GIPS STONER and reinforce it with paper, interfacing or tuff tape. Secure outer corners with perforated aluminium angle trims and gypsum filler PLUS GIPSAR. In the inner corners the boards can be adjoined in traditional manner. The use of sliding connections is permissible.

**Installation of anchors under flat ceilings lining on monolithic, prefabricated or densely ribbed ceilings.**

Necessary typical tools: screw gun, drill, cross laser marker, spirit level, ruler, compasses, board cutter, metal trowel, scraper, etc.

**Step by step work order.**

**1. Assembly of disc with steel pin.**
Screw the disc to the fixing screw with a hex key.

**2. Determination of quantity and anchors spacing.**
- In case of plasterboard lining in accordance to Table 7. Along the shorter side of plasterboard the anchors should be placed at intervals of 60 cm, so that the boards are supported at these side at three points.
- In case of lining made of other materials (e.g. OSB boards, cement fibre boards, etc.), the spacing of anchors has to be determined in accordance to the type of lining, the type of room, the weight of the material and the specified loads. In any case, the maximum distance between anchors should not exceed 60 x 60 cm, the minimum spacing is 40 x 40 cm.

**3. Division of boarding surface into individual boards.**
Outline the edges of boards on the ceiling.

**4. Drawing the lines on which the anchors are to be installed.**
With the help of a spirit level or a laser marker, draw a line on the ceiling parallel to the plane of the longest wall (perpendicular to the edges of boards) at a distance of 40, 50 or 60 cm, in accordance to the required spacing of the anchors.

**5. Marking the fixing point for the first anchor.**
This point is located at intersection of the line defined in step 3 and the line defined in step 4.

**6. Marking the middle anchors location (in the middle of the board) and the joint anchors (along the adjoining edges of two boards).**
Use a compasses to do this in order to ensure the required spacing. Start from the point defined in step 5.

**7. Marking the locations of the outermost anchors (along the edges of ceiling).**
Draw lines on the ceiling along the walls, at a distance of 7 cm from the walls. The outermost anchors will be placed on these lines in accordance to the required spacing.

**8. Drilling the holes.**
Drill holes at the marked points with a ø 8 mm drill bit to a depth of min. 50 mm (see Table 1). The depth of the hole depends on the length of the anchor and the required distance of the board from the ceiling. Example: for an L100 anchor and a required distance of 20 mm, the hole should be 80 mm (100 mm – 20 mm = 80 mm) deep. Insert the plastic fixing sleeves into the holes.

**9. Screwing-in the anchors.**
For lining a ceiling, install the laser marker so that it marks the horizontal plane, the so-called curtain. The distance of the curtain from the ceiling should be a few centimetres greater than the planned final distance of the lining boards from the ceiling. Screw in the first anchor at the defined point. Mark a line indicating the curtain on the housing of the screw gun. Screw in the anchors one by one until the line of the laser marker coincides with the line on the screw gun housing. If the distance between the lining boards and the ceiling must be greater, extend the fixing elements 3GL M8/M6 or 3 GL M8/M8 with the extension elements 3 GL PLUS M6 or 3 GL PLUS M8 consisting of a metric bolt and a metric fixing element M6 or M8 by means of connecting nut secured on both sides with lock nuts M6 or M8. Screw in the anchors one by one until the line of the laser marker coincides with the line on the screw gun housing**.**

**10. Control of the plane.**
Check the accuracy of the plane of the anchors with a min. 2 m long straight edge in all directions. In case of deviations, correct the screw-in depth of the anchors. Set the discs and anchors precisely in one plane.

**11. Installation of the lining.**
Install the first board. The board must not adjoin the edges of walls. It must also not lie directly on the substrate which it is fixed to. Fix each disc with 4 screws included in the set. On the middle and outermost discs the screws should form a cross. On joint discs (at the adjoining edges of boards), the screws should be parallel to the edges of boards, two on each board.

**12. Processing the boards.**
Fill the joints between boards with gypsum filling compound ATLAS GIPS STONER and reinforce it with paper, interfacing or tuff tape. In the inner corners the boards can be adjoined in traditional manner. The use of sliding connections is permissible.

**Installation of anchors under lining of multi-layer ceilings on monolithic, prefabricated or densely ribbed ceilings.**

Necessary typical tools: screw gun, drill, cross laser marker, spirit level, ruler, compasses, board cutter, metal trowel, scraper, etc.

**Step by step work order.**

**1. Assembly of disc with steel pin.**
Screw the disc to the fixing screw with a hex key.

**2. Determination of quantity and anchors spacing.**
- In case of plasterboard lining in accordance to Table 7. Along the shorter side of plasterboard the anchors should be placed at intervals of 60 cm, so that the boards are supported at these side at three points.
- In case of lining made of other materials (e.g. OSB boards, cement fibre boards, etc.), the spacing of anchors has to be determined in accordance to the type of cladding, the type of room, the weight of the material and the specified loads. In any case, the maximum distance between the anchors should not exceed 60 x 60 cm, the minimum spacing is 40 x 40 cm.

**3. Division of boarding surface into individual boards.**
Outline the edges of boards on the ceiling.

**4. Drawing the lines on which the anchors are to be installed.**
With the help of a spirit level or a laser marker, draw a line on the ceiling parallel to the plane of the longest wall (perpendicular to the edges of boards) at a distance of 40, 50 or 60 cm, in accordance to the required spacing of the anchors.

**5. Marking the fixing point for the first anchor.**
This point is located at intersection of the line defined in step 3 and the line defined in step 4.

**6. Marking the middle anchors location (in the middle of the board) and the joint anchors (along the adjoining edges of two boards).**
Use a compasses to do this in order to ensure the required spacing. Start from the point defined in step 5.

**7. Marking the locations of the outermost anchors (along the edges of ceiling).**
Draw lines on the ceiling along the walls, at a distance of 7 cm from the walls. The outermost anchors will be placed on these lines in accordance to the required spacing.

**8. Drilling the holes.**
Drill holes at the marked points with a ø 8 mm drill bit to a depth of min. 50 mm (see Table 1). The depth of the hole depends on the length of the anchor and on the required distance of the board from the ceiling. Example: for a L100 anchor and a required distance of 20 mm, the hole should be 80 mm (100 mm – 20 mm) deep. Insert the plastic fixing sleeves into the holes.

**9. Screwing-in the anchors.**
For lining a ceiling, install the laser marker so that it marks the horizontal plane, the so-called curtain. The distance of the curtain from the ceiling should be a few centimetres greater than the planned final distance of the lining boards from the ceiling. Screw in the first anchor at the defined point. Mark a line indicating the curtain on the housing of the screw gun. Screw in the anchors one by one until the line of the laser marker coincides with the line on the screw gun housing. If the distance between the lining boards and the ceiling must be greater, extend the fixing elements 3GL M8/M6 or 3 GL M8/M8 with the extension elements 3 GL PLUS M6 or 3 GL PLUS M8 consisting of a metric bolt and a metric fixing element M6 or M8 by means of connecting nut secured on both sides with lock nuts M6 or M8. Screw in the anchors one by one until the line of the laser marker coincides with the line on the screw gun housing.

**10. Control of the plane.**
Check the accuracy of the plane of the anchors with a min. 2 m long straight edge in all directions. In case of deviations, correct the screw-in depth of the anchors. Set the discs and anchors precisely in one plane.

**11. Installation of the lining.**
Install the first board. The board must not adjoin the edges of walls. It must also not lie directly on the substrate which it is fixed to. Fix each disc with the 4 screws included in the set. On the middle and outermost discs the screws should form a cross. On joint discs (at the adjoining edges of boards), the screws should be parallel to the edges of boards, two on each board.

**12. Processing the boards.**
Fill the joints between the boards with gypsum filling compound ATLAS GIPS STONER and reinforce it with paper, interfacing or tuff tape. In the inner corners the boards can be adjoined in the traditional manner. The use of sliding connections is permissible.

**Note:**
- For multi-layer ceilings connecting elements of different lengths L100-L250 or extension elements should be used
- Any curves should be made of building boards. The elements can be joined on the floor, initially coated and then lifted and fixed to the 120 PP anchor disc with screws.

## Coverage

The coverage of 120 PP disc anchors depending on the type of lining and the type or room are listed in the Table 7. Deviations from the quantities indicated in the table can, e.g. result from using board fragments to complete the lining.

## Packaging

Foil bag containing:
- 21 120 PP polypropylene mounting discs
- 21 fixings (screws) with metric thread or wood thread - depending on the type of substrate (Table 1)
- 84 steel screws ø 3,5 x 35 mm for fixing the boards,
- 21 plastic expansion sleeves..

## Important additional information

**Each packaging contains assembly manual.**
Supplementary products:
- gypsum filling compound ATLAS GIPS STONER for filling the joints between plasterboards,
- paper, interfacing or tuff reinforcement tape,
- finishing gypsum GIPSAR PLUS,
- primer ATLAS UNI-GRUNT,
- interior paints: ATLAS optiFARBA and ATLAS proFARBA..

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*Before commencement of installation, read the fixing guidelines listed in the assembly manual and the product data sheet very carefully. The above information constitutes basic guidelines for the application of the product and does not release the user from the obligation of carrying out works according to engineering principles and OHS regulations.*
*At the time of publication of this product data sheet all previous ones become void.*
*Date of update: 2016-10-04*