

Agilia

SCREED A



bringing materials to *life*



Agilia™ Screed A is a pump- applied, free- flowing floor screed

Applications

- Sub-floor leveling.
- For use with in-floor heating.
- Unbonded or floating construction.
- Bonded applications which can be featheredged when using Agilia™ Screed A Fina.
- Ideal for both new build and renovation work.
- Suitable for all residential and commercial floors.

Characteristics

- Lafarge's Synthetic Anhydrite is used as a composite reactive filler in this pump-applied, free-flowing, self-consolidating synthetic anhydrite floor Screed.
- Provides a smooth, flat surface for the application of most floor coverings.
- Provides a high-quality surface finish, with minimal cracking and no curling.
- Reduced need for construction joints and no need for reinforcement.
- Ideal for use in in-floor heating applications.
- Organic free and will not harbour bacteria



CHARACTERISTICS

Flow range:		Thermal conductivity	2.2 W/ m.K
Agilia™ Screed A	240-270mm	Non-combustible	
Agilia™ Screed A Fina	340-380mm		
Maintenance of fluidity	4 hours	PH	> 10
Compressive strength:		Thickness:	
Agilia™ Screed A	16-35 MPa	Agilia™ Screed A	
Agilia™ Screed A Fina	25-40 MPa	Bonded	20mm min.
		Unbonded	25mm min.
Flexural strength at 28 days	4 - 10 MPa	Over thermal /sound insulation	35mm min.
		Over radiant pipes	44mm min.
Density:		Agilia™ Screed A Fina	
Agilia™ Screed A	2000 -2200 kg /m ³	Bonded	0-25mm
Agilia™ Screed A Fina	1700-1900 kg /m ³		
Thermal expansion	0.012 mm/m.K	Drying time at 20 °C 60% RH:	
Drying shrinkage	< 0.015%	Up to 40 mm thickness	1 mm/day
		Over 40 mm thickness	0.5 mm/day

Considerations

Surface laitence – The degree of laitence is increased when the surface is subjected to drafts. Rapid drying out of the surface can create a weak surface layer.

Plastic shrinkage cracking – Rapid drying of the surface increases the risk of plastic shrinkage cracking.

Variable surface finish – Wind tunnel syndrome will cause a variable surface finish in the screed due to different areas being subjected to different degrees of drying.

Remedial work – All of the considerations listed above lead to remedial work having to be undertaken in order to remedy the defects.

Poor preparation as a result of incorrect placement of expansion material leads to cracking - Expansion material should be placed around the perimeter of the area to be screeded, it should also be placed around all columns and vertical extrusions in the area. Around corners it may be necessary to place a double layer of the material in order to maintain the required thickness. This is essential as the screed initially retains water and therefore it has the possibility to expand; if it cannot expand it will crack.

Holes in the polythene membrane allowing ingress of water - Particularly a problem on the ground floors of buildings where the polythene membrane is the damp-proof membrane and holes can lead to water ingress to the screed. A layer of water, no matter how small, can potentially cause the screed to de-bond from the substrate.

Incorrect levels that lead to decreased strength - If the setting out of the site is inadequate the depth of the screed may be insufficient. This is more likely to occur if the substrate is not of a uniform level. When the cross-sectional area of the screed is reduced there is a lack of strength in the screed.

Creases in the polythene membrane that cause cracking - Sheet should be laid flat with an overlap of 100mm between adjacent sheets, sealed with 50mm width adhesive tape. Creases should be taped as they can cause cracking by acting as crack inducers.

BENEFITS OF USING AGILIA™ SCREED A

- No Shrinkage
- Does not Curl
- Ease of Placement
- Self-leveling
- Increased Productivity
- Reduced Labour
- Level Floors
- High Flexibility
- Up to 10,000 sq. ft. with No Joints
- Improved Heating Efficiency
- Potential for LEED® Credits

Using Agilia™ Screed A:

Advantages

- **Ready in 24 hours** – Suitable for foot traffic usually within 24 to 48 hours. Partitions can be erected seven days after placing.
- **High Strength** – Typical compressive strengths up to are between 16 - 40 MPa.
- **Fast placement** – Up to 40,000 sq. ft. can be placed per day.
- **Weight** – Weight saving due to reduced design thickness and lower density.

Applications

- All Agilia™ Screed A is exclusively installed by authorized contractors. These contractors have the proper equipment and are trained for all applications. An up-to-date list of members of the Pro Network is available from your local Lafarge representative.
- A typical crew size will be three to four people depending on the size of the pour. In favourable conditions one crew can install up to 40,000 sq. ft. in one day.

Site Conditions

- The building shall be weatherproof before placement. Where applicable, especially in flooring systems, there must be a damp-proof membrane below the screed or base.

Delivery

- Agilia™ Screed A is batched and mixed off site under strict quality controlled conditions. The material is delivered ready-to-use to the site by a ready mix truck.
- On-site quality control is carried out by the applicator using a simple flow test to verify the consistency of the mix.
- Agilia™ Screed A is then simply pumped into place.
- No curing is required, however the floor should not be subjected to severe drafts, direct sunlight or heating for the first 72 hours to prevent rapid drying during this important early stage.

Installation Guide

Edge Detail

- Polythene foam strips or other forms of compressible material must be placed around the perimeter and other vertical elements.
- If insulation boards are not fully supported they may be laid into a grout or weak screed mix to ensure full support.
- The polythene sheet should be of 150 µm (6 mil) depending on application and system.

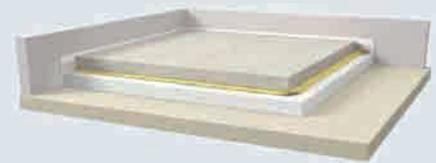
AGILIA™ SCREED A FLOOR SYSTEMS



Bonded system



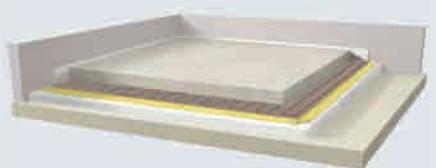
Floating or Unbonded system



Insulated Thermal or Acoustic system



Hydronic Heating system



Electrical Heating System



Agilia™ Screed A Fina System

Substrate Types

- Agilia™ Screed A can be used where the substrate is any of the following:
 - Concrete slab,
 - pre-cast concrete floor,
 - tile,
 - vinyl,
 - insulation,
 - thin carpet,
 - timber or timber-based panel supports.
- For timber, chipboard or similar substrates the Agilia™ Screed A must be unbonded ensuring that the timber structure receives adequate ventilation via the underside of the floor once the topping has been laid.



Ambient Conditions

- Agilia™ Screed A must only be laid when the air temperature is between 5°C and 30°C.
- The substrate must not be frozen and ideally should be within the indicated temperature range.
- The ambient conditions must be suitable for the drying of the screed - low air humidity (60% RH or less) and good ventilation.
- No curing is required, however the floor should not be subjected to severe drafts, direct sunlight or heating for the first 72 hours.



Joints

- Control joints are not required in areas up to 10,000 sq. ft. depending on area layout and application.

Slump-flow Measurement

- When Agilia™ Screed A arrives on site the slump-flow of the material should be 240 to 270mm for Agilia™ Screed A and 340 to 380mm for Agilia™ Screed A Fina (depending on conditions) when measured using the appropriate equipment.
- If the mix is outside of the target range then advice should be sought from your Lafarge Ready Mix representative as to the appropriate course of action.



Following Placing

- The room in which the screed has been laid should be sealed for a minimum of 48 hours.
- The room will be suitable for normal foot traffic within 24 hrs. - 48 hrs. depending on temperature/humidity conditions.

Floor Finishes

- Any type of floor finish can be applied to Agilia™ Screed A. The method for surface preparation is the same as for any other type of screed.
- Consideration should be given to priming which may be necessary if adhesion is required.
- Any surface laitence should be removed by lightly sanding the surface.

Residual Moisture Content

- Before floor finishes are laid, the moisture content of the screed should be checked by the floor finish contractors.
- With ambient temperature of 20°C and with good ventilation, Agilia™ Screed A should reach a moisture content of 0.5% within 30 days to receive an epoxy coating. Floors ready to accept tiles and carpet in 12 - 18 days, depending on conditions.
- Forced drying of Agilia™ Screed A is possible if required: after three days heaters and dehumidifiers may be used to improve drying conditions.

Bonded Applications

- Agilia™ Screed A and Agilia™ Screed A Fina is placed directly on the concrete surface.
- The concrete surface where the screed is to be placed must be kept clean and dry. Holes or gaps in the floor must be sealed to prevent leakage to the floor below.
- A bonding agent or primer shall be applied to the concrete surface prior to placing Agilia™ Screed A. A minimum of two coats of bonding agent or primer is required.
- Rough surfaces or mechanically scarifying the concrete surface underlayment can improve the bonding characteristics of Agilia™ Screed A.

Unbonded and Floating Screeds

- The base is to be swept clean, should be smooth enough to ensure that a polythene sheet will lie flat on the floor without risk of puncture, and be level enough to ensure insulation boards are fully supported and cannot rock on high points. If insulation boards will not be fully supported they may be laid into a grout or weak screed mix to ensure full support. The polythene sheet should be 150µm – 350µm thickness.
- Unbonded System to have a minimum thickness of 25mm

Thermal and Acoustic Flooring & Radiant Heating

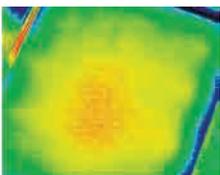
- Agilia™ Screed A can be laid as a floating construction over most types of rigid insulation board or acoustic foam at a minimum thickness of 35mm.

Radiant Floor Heating

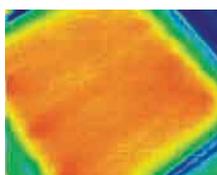
- Agilia™ Screed A is well suited for radiant floor heating applications as it is laid much thinner than traditional screeds with only 30mm required for the clear cover over the pipes.
- This enables the system to release the heat much more quickly and efficiently in response to the users' requirements.
- Good compaction around the heating pipes is assured due to the flowing nature of the screed which eliminates voids and air pockets, common with traditional screeds.
- The thermal conductivity of Agilia™ Screed A is up to 3 times more than with cement-based screeds.

Thermographic image 80 minutes after heating

Floor heating system in classic concrete



Floor heating system in Agilia™ Screed A



Surface Temperature



Each second, Lafarge delivers concrete to one of countless construction projects around the world. Every day, 1,200 technical sales representatives from Lafarge interact with customers at over 6,000 different sites. Innovation is our way of addressing the needs we encounter through these interactions. Our research and development teams are dedicated to innovation, exceeding even the greatest demands of our clients. Our innovative concretes attain new levels of technical performance and anticipate changing industry requirements. Each new product is designed to be more effective in the construction process and help our clients achieve greater success.



Disclaimer - The information contained in this leaflet is based upon knowledge and experience of the materials used in the manufacture of the products. However, since the application of the products is carried out by the customer and is beyond the control of Lafarge, Lafarge does not accept any liability or responsibility whatsoever for any loss or damage resulting from the use or application of the products outside the scope of the intended use and precautions set out in this leaflet and any accompanying data sheets.

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