



Application of floor covering

- If the floor covering is to be applied directly to the screed or if the vinyl is thin then the surface of the screed may need sanding or grinding.
- This is usually carried out when the screed is between 3-10 days using a mechanical surface grinder.
- The surface must be free from the ground material before applying the floor finish.
- When bonded floor coverings are applied directly onto Supaflo it is necessary to prime the screed to prevent drying due to suction.
- The type of primer used will depend on the chemical make up of the adhesive. In the situations where calcium sulfate based adhesives are used an acrylic, epoxy or similar primer should be applied between the two materials.
- Cementitious adhesives will require the two materials to be separated by an impermeable layer, which would be a polymeric sealer.

Contractors

- CEMEX will only supply Supaflo to approved contractors.
- CEMEX can either provide the necessary training or can recommend an approved contractor.
- There are strict criteria that contractors are required to meet and they are fully trained in not only the application of Supaflo but also the complete flooring system.
- Approved contractors take responsibility for sub-base approval and preparation of your site sub-base, design and provision of all movement joint detailing, including supply of materials, provision and installation of debonding membranes etc.

Yield

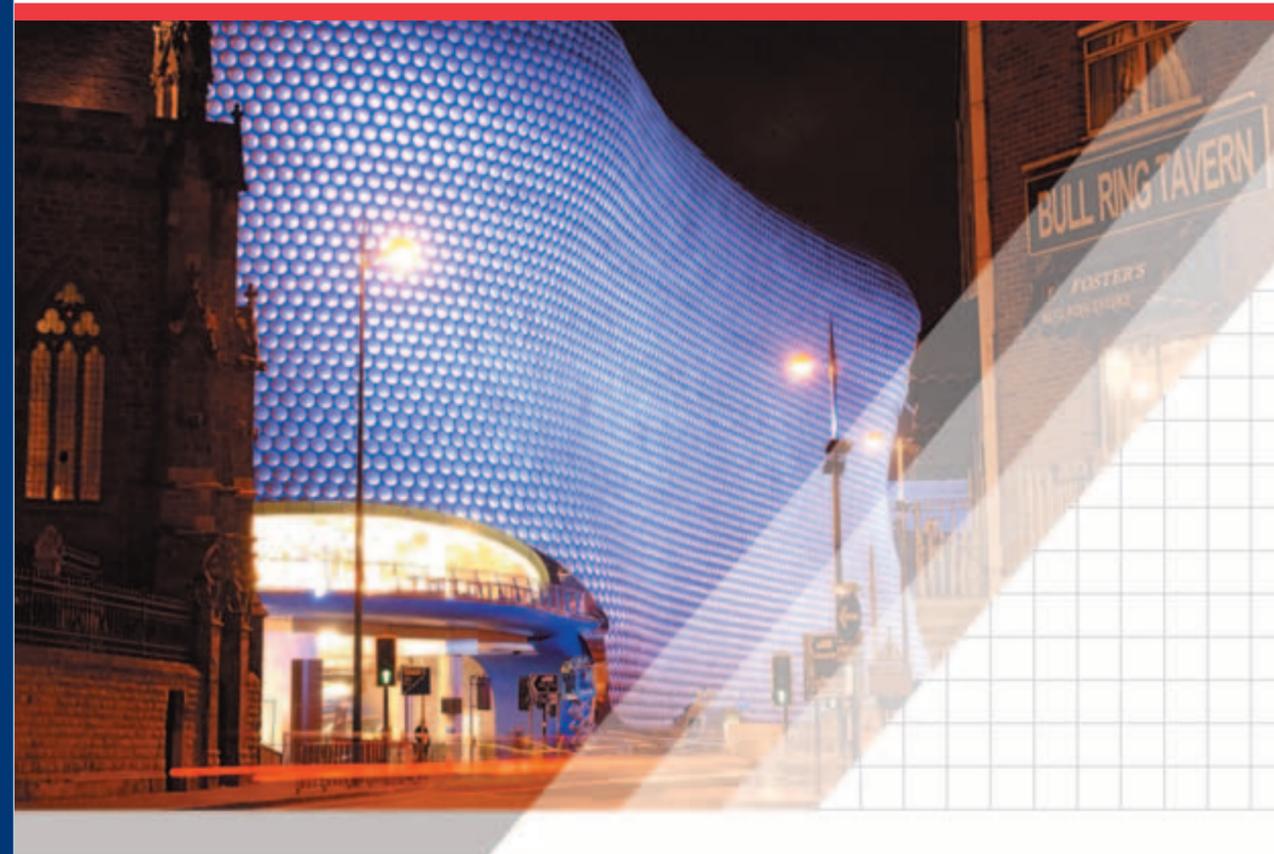
The table below shows yield per cubic metre for typical application thickness.

Thickness (mm)	Area/m ³ (m ²)
30	33
35	29
40	25
45	22

Sustainability and Environmental considerations

- The binder used to make Supaflo is a by product from coal fired power stations.
- When coal is burnt at power stations the smoke produced contains sulfates. In the process known as flu-gas de-sulfurisation, the harmful fumes are cleaned using lime or limestone and the end product is the source material of the Supaflo binder.
- This process has led to the material receiving numerous European environmental awards.

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CEMEX – Building the future

For more information on any of the products and services included in this brochure please contact us:

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SUPAFLO SCREED SOLUTIONS



Introduction

- CEMEX Readymix Supaflo is a flowing screed flooring system based on a calcium sulfate binder.
- Supaflo has been developed over many years and is at the forefront of screed technology.
- It provides significant benefits over traditional screed to the extent that in some European countries over 50% of all screeds used are of this type.
- Supaflo is only supplied to registered contractors who have been trained by the CEMEX national technical centre team.
- The advantages over traditional floor screed include speed of application, excellence of surface finish, attainable accuracy of placement and finishing, reduction in thickness and elimination or substantial reduction of movement joints.

Productivity

The table below compares typical daily productivities of Supaflo and conventional screeds. Using a flowing screed like Supaflo, installation thicknesses can be reduced, the area installed in a day can be increased 5 to 10 times, a surface regularity of SR2 or better can be achieved and the possibility of curling eliminated due to zero differential shrinkage.

Screed type	Typical Number of operatives	Volume / Tonnage	Achievable installed area @ thickness per day
Traditional site mixed cement: sand screed	2	11 tonnes	100m ² @ 60mm
Factory produced semi dry cement sand screed	2	15 - 18 tonnes	140 - 170m ² @ 60mm
Supaflo	3 - 4	40m ³	1000m ² @ 40mm

Composition

- Supaflo is composed of precisely weigh batched calcium sulfate binder and selected aggregates.
- The formulation includes sophisticated admixtures, which enhance the plastic properties to aid ease of placing and surface finishing, as well as contributing to improved final hardened properties.

Manufacture

- In the UK there is a network of over 50 specialist production units, which cover the vast majority of the country (please check local availability).
- The addition and mixing of all constituent materials is carried out under precisely controlled conditions to ensure complete dispersion of the mix components prior to discharge into the delivery vehicle.

Compliance & testing

Supaflo has been designed to comply with the requirements of:-

- European standard BS EN 13813:2002, Screed material and floor screeds, Screed Material – Properties and Requirements.
- Supaflo is used to comply with the requirements of the Code of Practice for Floor Screeds, BS 8204: Part 7.
- All constituent materials comply with their relevant British and/or European Standards.
- The Calcium Sulfate used in Supaflo binders are produced under the stringently controlled conditions of ISO 9001.
- Every load of Supaflo is tested prior to delivery by CEMEX quality control technicians. An acceptance test is also carried out by the approved contractor before it is pumped. Specially produced flow table equipment is provided for this purpose to each manufacturing unit and to all approved contractors.

Characteristics

- **Compaction** – The flow characteristics of Supaflo mean that voids and poor compaction are virtually eliminated. The material self compacts as it flows in to position, giving good resistance to abrasion and impact when compared with conventional screeds. Supaflo, also complies with the Building Research Establishment Screed Test and indentation requirements of BS 8204.
- **Shrinkage** – Supaflo has virtually no drying shrinkage. Movement joints are rarely necessary, however large the floor, as long as the aspect ratio does not exceed approximately 6 to 1 or the total area, about 2000m². This lack of shrinkage means that differential shrinkage leading to lifting and curling will not occur.
- **Fire protection** – Supaflo is non-combustible as defined by BS EN 13501-1.
- **Acoustic performance** – Supaflo is far superior to that of conventional screeds. (part E regulations).
- **Effect of frost** – It is recommended that suitable precautions be taken against frost during cold weather conditions before final strength is achieved.
- **Durability** – Supaflo as with virtually all screeds, is not a wearing surface, and requires covering with a suitable surface finish.
- **Wet areas** – Supaflo should not be used in areas where it will be continuously wet, or in regular contact with water. It is not recommended for use in communal baths or showers, changing/washing areas of sports centres, abattoirs, external yards or similar.

Technical Properties

Flow (DIN 1060 test)	240 - 260mm
Plastic density	2060 - 2130kg/m ³
BRE impact test	less than 2mm
Flexural strength	4 - 6N/mm ²
Drying shrinkage	less than 0.02%
Time to light foot traffic	1 to 2 days
*Drying time	1 day/mm up to 40mm then 2 days/mm
Dry density	1950 - 2050 kg/m ³
Fire rating	Non combustible
Thermal expansion coefficient mm/mK	0.01 mm/mK
pH	11 - 12
Setting time	not less than 3 hours

* at 20°C and 65% RH

Thickness and Area

- The high flexural strength of Supaflo and the lack of voids, means in general it may be laid substantially thinner than conventional materials.
- For instance, in most cases 35mm of Supaflo will replace 75mm of conventional screed.
- In many cases conventional material will have been specified originally on the basis of a 75mm thickness of conventional cement sand screed.
- If it is replaced by Supaflo the screed thickness may be reduced and the overall thickness of 75mm made up with EPS (expanded polystyrene). This will provide economies in the usage of screed and will enhance the acoustic and thermal properties. Drying time will also be significantly reduced allowing the wearing surface to be laid sooner.
- The minimum thickness of application should be as shown in the following table.

Type of construction	Minimum application Thickness (mm)
Unbonded	30
Floating	35

- It is recommended that Supaflo is laid on a 500-gauge polyethylene de-bonding membrane.
- Supaflo may be laid in larger bays than traditional floor screeds. Where the approximate shape of the bay is square up to 2000m² can be achieved. Where the area becomes elongated and approaches an aspect ratio of 1:6 a movement joint should be considered.

Site work

- Supaflo is delivered to site ready to use and pumped directly to the point of use; this means that there is no site mixing, only placing.
- A typical pump output can cope with 150m horizontal distances and 60m vertically.
- In practice it takes about 25 ± 5 minutes to pump 5m³ of Supaflo.
- It is preferable during construction to ensure a steady supply throughout the placement, with no break in continuity that exceeds about one hour.
- Temporary stop end should be formed where there is a break in supply greater than 1 hour.
- Stop ends can be constructed using timber, scaffold battens, dense concrete blocks or other convenient temporary barriers. It should form a vertical barrier, which can be removed when the next section is placed.
- It should either form a separate but continuous run, without mixing the two areas, or if appropriate use very firm and thorough mixing of the two, to achieve homogeneity.
- It is recommended that the Supaflo system be treated as debonded and ducts, services and similar are sealed against fluid loss in the flowing system.
- The material should be pump placed onto a prepared membrane, with minimum 5mm compressible plastic strips on all perimeter edges. The membrane may be plastic with taped joints or paper, either heat sealed or taped.
- Underfloor heating may be used 5 days after placing the screed, however the temperature should be increased from ambient by no more than 5°C a day until full operating temperature is reached.
- Only contractors who are fully trained in its application should lay Supaflo.

Curing

- Care should be taken to avoid excessive water loss in the first 24 hours.
- Any unglazed or missing windows or doors should be temporarily blocked using plastic sheeting or similar to avoid excessive drying for the first 24 hours.
- After 48 hours, all windows and doors should be opened. De-humidifiers may be used to force dry the material.
- Direct sun must also be avoided during early life.
- Supaflo may be lightly trafficked after 1 to 2 days, depending on drying conditions.

Hardening and drying

- The most important consideration when covering Supaflo is that the material is dry.
- For permeable coverings such as carpet 'Dry' is identified as having moisture content of less than 1%.
- For impermeable coverings such as Vinyl flooring 'Dry' is identified as having moisture content of less than 0.5%.
- Significant reductions in screed thickness can be achieved by using Supaflo over conventional screeds in many construction applications, and this in turn will reduce overall drying times.
- Typically, 2 days after installation the screeded rooms must be well ventilated during the day, with doors and windows kept open this will ensure quick drying and rapid strength development.
- Optimum drying time can only take place when warm, moist air is exchanged with cold, dry air, which can absorb moisture again with a rise in temperature.
- Forced air movement using fans can aid the drying process.
- At night when temperatures drop, all doors and windows must be shut to prevent condensation.
- This procedure must be carried out until the screed has dried completely.