

# HIGHFLOW RAPIDE

**Highflow Rapide is a self-compacting, and by dapping self-smoothing, faster drying floor screed for placing by pump or chute, providing contractors and specifiers with a high performance fast track solution to the construction of screeded floors.**

Highflow Rapide is a unique and highly innovative faster drying screed which uses high quality Gypsol anhydrite, specially graded sands and selected additives to create a free flowing self-compacting floor screed which dries in a fraction of the time taken for more traditional anhydrite or cementitious screeds. This allows the user to install floor coverings in significantly less time than for competing screed systems.

Highflow Rapide is self-curing and requires no artificial curing membrane after installation. The dimensional stability of Highflow Rapide, whether heated or unheated, significantly reduces the risk of cracking without the need for reinforcement and with much larger bay sizes when compared to cement based materials.

## FEATURES & BENEFITS:

- ▶ Rapid installation – up to 2000m<sup>2</sup> per day. Allows reduced programme time
- ▶ Rapid finishing – no spray-on curing membranes reducing airborne contamination and eliminating associated safety issues
- ▶ Rapid strength gain – no reinforcement or fibres required and fewer joints with much larger bay sizes
- ▶ Rapid setting – allows early foot traffic
- ▶ Rapid return to full service – can be loaded after just 7 days
- ▶ Rapid thermal response – enables greater efficiency of underfloor heating systems
- ▶ Rapid completion – allows early floor covering application, e.g. in as little as half the time when compared to other standard anhydrite screeds

## APPLICATIONS

Highflow Rapide can be used in all construction types including traditional masonry, lightweight steel frame, timber frame and in high strength applications. Highflow Rapide can be used with or without underfloor heating to create a highly energy efficient heating system.

## INSTALLATION & MAINTENANCE

Highflow Rapide screed should only be installed by suitably trained and qualified installers who hold a certificate of attendance for the Gypsol Rapide training course.

For best results Highflow Rapide screed should be placed and finished within 2 hours of batching.

## PRE INSTALLATION

The building should be weather tight with all external windows and doors in place or openings fully secured against the ingress of water as this can extend the drying time of the screed. Standing water, on any membrane needs to be mostly removed.

The area to be screeded should be fully prepared with a Damp Proof Membrane (DPM) between the screed and the subfloor. This would normally be in the form of a 1200-gauge polythene membrane over the top of concrete. This applies to all ground floor substrates as well as concrete and beam and block separating floors. Where timber is used as the subfloor in separating floors a 500-gauge membrane is enough.

Appropriate compressible edge strips should be placed in the normal manner. Preformed movement joints may be placed in accordance with the relevant British Standard, and maximum bay sizes and configurations should be observed.

### Typically, maximum bay sizes are:

- ▶ For heated screeds 20m max length and maximum aspect ratio 6:1
- ▶ For unheated screeds 40m max length with maximum aspect ratio 8:1
- ▶ Consideration should be given to additional joints in areas of high thermal gain and at restraint points. Consideration should be given to the transition between rooms in a multi space installation

Any thermal or resilient insulation used should be dry and covered with a minimum 500-gauge slip membrane with all joints overlapped by a minimum of 100mm and taped. If an edging strip with an integrated polythene skirt is used taping at the edges is optional. Care should be taken to avoid the screed leaking into the subfloor during installation.

## INSTALLATION

The highest point of the work area should be determined. This should allow for the minimum depth of screed for the application in question measured against a given datum. In all cases the screed should be kept as thin as possible within defined limits appropriate to the application. Typically, the maximum depth should be approximately 50mm, but deeper sections may be applied in the knowledge that the drying rate may be affected. The minimum depths are listed in the Performance Data table.

As Highflow Rapide can set more quickly than non Rapide screeds it is important that the installer carries out a site survey to ascertain the average depth. This allows the installer to calculate an accurate volume in order that part loads can be ordered early in the process thus avoiding excessively long delivery times. Once the installer is happy the work area is prepared correctly delivery of the screed can begin.

When the delivery vehicle arrives on site the screed should be thoroughly mixed and tested to ascertain its flow characteristics. The flow for installation should be between 230mm and 250mm tested on a dry flow board using a standard flow ring. The flow should not exceed 250mm. Additional water should be avoided and, in any case, should only be added to the screed under strict guidance from the manufacturer and must be recorded.

**Note:** *the flow for Highflow Rapide screeds is different to and lower than that allowed for non Rapide screeds. At the same time as flow testing the colour of the screed should be checked to ensure the yellow colourant is present in order to identify it as the correct screed. The effectiveness of the colorant is affected by the colour of the aggregate used in production of the screed but should always be visible.*

Once the screed has been tested and determined to be correct, pumping into place can begin in the normal manner. Any priming water should be collected at the discharge end of the pump hose and this should be discarded. Highflow Rapide screed will probably appear stickier than non Rapide formats. It is likely to gel, thicken and set more quickly than non Rapide screed. This means that in larger areas dappling should begin as soon as possible after placement. Best practice when laying Highflow Rapide in multiple small rooms dictates that as soon as a room is poured to the desired level the screed in that room should be dappled. When pouring large areas dappling and pouring are likely to be carried out in close proximity to each other. It is the responsibility of the installer to ensure enough screed installation staff are available to achieve this. For best results the screed is best placed and finished within 2 hours of batching.

## POST INSTALLATION

Once the screed is poured and finished throughout the work area, the area should be sealed to prevent access to foot traffic for a period of 24 to 48 hours. After 48 hours the screed should be well ventilated by opening windows and doors as much as possible. Note that trickle vents in window frames are unlikely to provide enough ventilation. The anticipated drying time for 50mm of Highflow Rapide screed correctly placed and in good drying conditions is 14 days from installation. Optimum drying conditions include warm dry air at or above 20°C and low relative humidity at or below 60%. As with all screeds and concretes the drying rate is affected by site conditions and depth. Increased relative humidity impedes drying so it is important moisture evaporating from the screed is removed from the air above it. Good ventilation and/or extraction is therefore important. There is no requirement to force dry Highflow Rapide screeds using underfloor heating although as with all screeds it is important this is commissioned prior to applying bonded floor coverings. No sanding of the screed is required during this period.

*Note: Floor fans, extractors and dehumidifiers may be used after 72 hours if site conditions dictate. Care should be taken to protect the screed from ingress of external moisture due to site traffic, weather and follow-on trades until final floor coverings are complete. As Highflow Rapide is a faster drying option consideration should be given to placing the screed later in the build programme in order to avoid contamination by site traffic and follow-on trades as much as possible. Moisture testing may be carried out by the floor finishing contractor using a flooring hygrometer or Carbide Bomb tester in accordance with the relevant British Standard and industry trade guides prior to preparation for and application of final floor coverings.*

Wherever possible final floor coverings such as tiles should be adhered using Gypsum-based tile adhesives and any smoothing compounds should also be formulated using Gypsum. Other adhesives will generally be identical to those used on concretes and cement-based screeds. Loose laid floor coverings such as floating laminates and uncoupling systems can be used on Highflow Rapide screeds as per manufacturers' instructions.

## MANUFACTURING STANDARD

Produced in accordance with BS EN 13454 binders for floor screeds; BS EN 13813 Screed materials and floor screeds BS EN 8204:7:2003

## PERFORMANCE & TECHNICAL DATA

<b>Appearance</b>	Off white fluid mortar with a yellowish tinge
<b>Density</b>	Wet 2200kg/m <sup>3</sup> Dry 2000kg/m <sup>3</sup>
<b>Minimum Strength (28 days)</b>	C25-F5
<b>Required Flow (EN13454-2)</b>	230mm to 250mm
<b>Reaction to Fire</b>	Class A1fl Non Combustible
<b>Working Time</b>	Place and finish within 2 hours of batching (Ensure account is taken of travel time from plant to site)
<b>Foot Traffic</b>	24 to 48 hours
<b>Loading</b>	7 days
<b>Drying Time (@ 20°C/60% RH)</b>	Anticipate 14 days in ideal conditions. (Tests are based on 50mm depth of screed and indicate that it can take as little as 14 days to achieve 75% surface RH measured using calibrated hygrometer to BS8204:7:2003. A Carbide Bomb test may be used and must measure below 0.5% b/w. Moisture tests should always be carried out prior to application of finished floor covering. Note that drying rates are affected by site conditions, screed depth and added water whether pre or post installation)
<b>Minimum Depth</b>	40mm floating commercial; 35mm floating domestic; 25mm bonded (Prepare the substrate in accordance with BS8204:7:2003 using a gritted two coat epoxy resin DPM or similar) 30mm un-bonded; 20mm cover to heating conduits

All times above are dependant upon time of year and prevailing weather conditions.

## SUSTAINABILITY & LOCAL SOURCING

**RESPONSIBLE SOURCING:** Aggregate Industries is the first company in the world to achieve a BES 6001:2008 Responsible Sourcing Certificate from BRE Global.

Products are assessed on:

- ▶ Quality management
- ▶ Environmental management
- ▶ Health and safety management
- ▶ Greenhouse gas emissions
- ▶ Minimising raw material usage
- ▶ Labour practice
- ▶ Biodiversity
- ▶ Community engagement

**ENERGY USE:** Aggregate Industries is at the forefront of sustainability and has committed to reducing both energy and greenhouse gas intensity 5% year-on-year (18.5% total improvement by 2020).

**MANUFACTURING LOCATION:** Produced in the UK, with locally sourced materials under strict environmental and social legislation, for local supply.

**RECYCLABLE:** The product has a life expectancy of 60 or more years and is fully recyclable.

## KEY AGGREGATE AND RECYCLED CONTENT

This product may be supplied containing a recycled or secondary aggregate to achieve a reduced environmental impact and increased Green Guide ratings for structural elements and assist in achieving BREEAM waste credits.

## POLICIES

Aggregate Industries' policies on the environment and community, health and safety and sustainable solutions for different product applications can be viewed on our website [www.aggregate.com](http://www.aggregate.com)

## COSHH DATA

Full COSHH data on our concrete products is available on request.

## TECHNICAL SUPPORT

Detailed guidance and assistance with the preparation of specifications and use of our concrete range of products is available through the sales offices. A free technical service is also available. Call our technical services at the nearest sales location to your contract.

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