



RapidoWITT®

The high-performance screed cement with very short curing time and optimal workability.



OVERVIEW

Tekcem RapidoWITT® is a high-performance cement specifically designed to produce high early strengths, low shrinkage and fast drying screeds.

TEKCEM RapidoWITT® is designed to be installed at lower depths than traditional Sand and cement screeds.

TEKCEM RapidoWITT has enhanced drying time to facilitate early installation of floor finishes.

TECHNICAL DATA

- Typical screed pump mixture: (mix weight ratio = 1 cement: 7 aggregate)
- 2 bags RapidoWITT® 20 kg (40 kg cement)
- 280 kg dry aggregate (grading curve A/B 0-8 mm)
- Residual moisture ≤ 2 CM% already from 10 days*.
- Strengths: ≥ CT-C35-F5*
- Trafficable: after 12 hours*
- Workability: at least 2 hours*
- Minimum screed cover over the top of UFH pipework - 35mm* – floating applications
- (based on a rigid insulation – 100kPa minimum grade).

TYPICAL MIX DESIGN PER M³

Cement	265kg
Screeding Sand (0-4mm)	1850
PP Fibres	900g
Water	85kg (dependant on moisture content of sand)

TYPICAL STRENGTH DEVELOPMENT

1 day	10N/mm ²
3 days	22N/mm ²
7 days	30N/mm ²
28 days	35N/mm ² +

BENEFITS

- No need to add chemical additives
- Bright inherent colour for luminous colours in coloured, designed cement screeds
- Suitable for industrial construction
- For indoor and outdoor use
- No sticking effect
- Smooth and easy processing
- Lower water demand
- Very short curing times*
- Walkable in a very short time*

DENSITY

- Wet density – 2100- 2200kg/m³
- Dry density – 2000- 2100kg/m³

SCREED SYSTEM

Tekcem RapidoWITT® modified cement (sand cement screeds with Tekcem RapidoWITT® used) can be applied in bonded, un-bonded and floating construction configurations.

Bonded screeds should be laid at thicknesses of 20-40mm. Bonded screeds should use a suitably applied sealer and slurry bonding coat or specific bonding agent as required. It is possible to install Tekcem RapidoWITT® modified screeds at thicknesses down to 15mm by careful selection of aggregate and the use of specific Epoxy bonding agents.

Un-bonded screeds should be applied over a suitable damp proof or separating membrane at a minimum thickness of 40mm (40mm for Heavy Duty).

Floating screeds should use a suitable membrane to separate the screed from the underlying insulation and should be at a minimum thickness of 55mm or 65mm for heavy duty applications. Thicknesses can be reduced to 55mm over rigid insulation board.

Cover to underfloor conduits or heating pipes should be a minimum of 35mm.

Partially bonded screeds, with no separating membrane or bonding agent used, often result in cracking and should be avoided.

All un-bonded and floating screeds are to be reinforced and may be reinforced with proprietary construction fibres, a suitable steel or nylon mesh.

TOOLS

- Suitable screed pump
- Screed bar
- Plastic float
- Steel float

Wash all tools thoroughly with water directly after use.

SURFACE PREPARATION

Before starting, all substrates must be sound, clean and dry. The substrate surface should be reasonably flat and true as sudden level changes can induce cracks.

For bonded screeds, mechanically remove all laitance, dust, dirt, oil, grease and other contaminants that may affect adhesion. Heavily contaminated floors may require special treatment.

Sub-floors directly to earth must have a DPM. If there is no DPM present or the surface relative humidity is above 75% the application of a combined DPM and bonding agent directly beneath the screed will facilitate the drying of the screed.

SUBSTRATE

Concrete/screed/Beam and Block: The strength of the substrate should be compatible with the stresses associated with application and hardening of the screed.

For bonded construction it is recommended that the compressive strength of the substrate is a minimum of 25 MPa. It is necessary to apply a sealer coat and then prime the substrate with a slurry bonding coat or to employ specific bonding agents prior to the application of the screed (refer to Tekprime/Tekpol SBR/ SF Membrane technical data sheets).

MIXING

Tekcem RapidoWITT® modified screeds should be mixed in a suitable screed pump. Pre-mix suitable fine aggregate, Tekcem RapidoWITT® and fibres - Add water to give the required consistency. Mix thoroughly for 3 mins. Semi-dry consistency is judged as the consistency at which it is possible to make a ball of the material in the hand, which will retain its shape but will not easily yield "free" water when squeezed. Care should be taken not to over water the screed as this will increase drying time and lead to surface bleed.

Remember to consider any water content of the aggregate. The mix has a working life of approximately 45 to 60 minutes and batch sizes should be adjusted accordingly. The screeding sand should be a good quality 0/4mm (MP) fines category 1, fine aggregate to BS EN 13139. OPC to strength class 42,5 BS EN 197-1.

STORAGE AND SHELF LIFE

Six months in unopened bags and stored under frost-free, cool and dry conditions.

* The characteristic values are based on tests carried out by our application technology department and the Institute for Building Material Testing and Floor Research (IBF) in Troisdorf, each under laboratory conditions, as well as on practical experience. Ambient conditions, working methods, screed thickness, weather conditions, cement and water content, as well as sand quantity and sand quality have a great influence on the characteristic values. Depending on the above mentioned and other factors, deviating values may therefore occur in specific cases. The stated data and characteristic values are therefore neither guaranteed nor do they replace the suitability tests of the applicator on site. For the production of screed, the valid standards, regulations and BEB instruction sheets must be applied.

APPLICATION

The applied screed is consolidated and levelled by tamping with a screed bar and rubbing with a plastic float. A smooth finish is achieved by light trowelling with a steel trowel.

The screed should be laid at a maximum depth of 75mm. If greater depths are required, this may be carried out by building up in roughly two equal layers with the surface of the intermediate layer being scratch-keyed before applying the second layer. Each layer is to be compacted separately and applied within 45 mins to ensure a monolithic total thickness. The screed should be cured, ideally under polythene, as soon as practicable after application for a minimum of 5 days, after which drying should be allowed to occur naturally. The screed should not be force dried or exposed to severe drying conditions.

It is the responsibility of the floor finishes applicator to ensure that the residual moisture in the screed is suitably low prior to any floor finishes being laid.

UNDERFLOOR HEATING PROTOCOL

Product - Tekcem RapidoWITT	Supply Temperature	Time frame
Date of installation	<20°C	Day 1
Foot traffic	<20°C-25°C	Day 2
Light site loading loadable	<20°C - 25°C	Day 3
Start heat up cycle	25°C	Day 4
Increase heating	35°C	Day 5
Increase heating	45°C	Day 6
Increase heating	55°C	Day 7

LIMITATIONS

The application of Tekcem RapidoWITT® modified screeds, sealer and slurry bonding coats should only be carried out when the ambient and floor temperature is 5 to 30°C and the ambient relative humidity is below 75%. These conditions should be maintained during application and drying. Consideration should be given to the isolation of walls and columns or similar and to the of movement or day joints.

HEALTH AND SAFETY

Always observe general work hygiene when using our products. Tekcem RapidoWITT® is solvent-free and chloride-free. This product is not classified under the Chemicals Hazard Information and Packaging for Supply Regulations. A Material Safety Data Sheet relating to this product can be obtained from Tekcem Ltd. Please dispose of packaging and waste responsibly.