RIGAflow

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Applications & Benefits

RIGAflow is intended for use in the following applications:

- Domestic Dwellings
- Office and Light/Low Traffic Industrial Areas
- Structural Topping to Composite Floors e.g. Precast Plank or Metal Decking

Supply and Placing Information

RIGAflow is a highly fluid self-compacting concrete intended for use in the construction of concrete slabs. Placing RIGAflow is easier than conventional concrete but as this is a part finished product, sites must follow this guidance when placing this type of concrete to ensure that the concrete meets with the customers expectations.

BS EN 206-1
BS 8500-2

KM 35653
KM 575102
KM 88041
KM 68270

bsi. PAS 99 Integrated Management Systems
IMR 78163

BS EN ISO 9001
BS EN ISO 14001
BS OHSAS 18001
BS EN ISO 50001

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Bay Sizes when installed without crack control mesh reinforcement

Normal concrete practice suggests inducing joints at intervals equivalent to 40 times the depth of the concrete. A slab 100mm thick should have joints every 4m and the length to width ratio shall not exceed 2:1.
Joints can be achieved either by saw cutting at between 12 and 24 hours after placing or as an alternative to saw cutting it is possible to use rigid crack inducers which must have a height of at least 30% of the depth of slab and be firmly fixed at the same spacing and positions as if using saw cuts.

Site preparation

It is necessary that the correct site preparation is carried out prior to placing RIGAflow. Failure to do so will result in the concrete not meeting customers' expectations.
RIGAflow is a highly fluid concrete that will flow through small gaps in formwork, blockwork or similar and should be placed in a watertight area using a polythene membrane that has been overlapped and joints taped to achieve this. Membranes should be 150 micron polythene sheeting or similar. They must be laid flat, cover the perimeter isolation, to prevent any material getting between the membrane and perimeter and must be in contact with the base in all locations. A minimum overlap of 200 mm is required and this must be sealed and secured using a good quality 50 mm wide adhesive tape. Concrete should not be placed directly onto the metallic face of foil faced insulation board as a reaction between the concrete and the foil will occur. The reaction will destroy the insulating value and possibly cause bubbles to appear at the surface resulting in a damaged finish. To avoid these issues a suitable membrane must be placed between the two materials.

Weather Conditions

Dry windy weather will very rapidly dry the surface of the concrete causing plastic shrinkage cracking, consider delaying a pour if these conditions exist or are forecast. Cracking caused by this or other effects is not the responsibility of the supplier, if it occurs it may be rectified by applying a latex smoothing / levelling screed or by sealing the cracks with a low viscosity epoxy grout.

RIGAflow should not be placed

- Onto frozen substrate during periods where the temperature is less than 5°C or frost is forecast within 24 hours.
- During periods of falling rain or snow or when either is imminent.
- Into positions where water is present or standing on the membrane, remove it before placing commences. It will not be possible to "chase" water out using the concrete because the shutter and membrane should be intact.
- Dry and windy weather

Equipment and Materials required

- 2500mm aluminum dapple bar
- The Gloria 510 T sprayer
- Darakote 90WX curing membrane applied at 4.5 – 5.0 square metres per litre
- Slump flow table and cone

Slump Flow Measurement

When RIGAflow arrives on site, the slump flow of the concrete should be 650mm - 750mm when measured using a slump flow table. If the concrete is outside the target contact Leiths' Technical Department for advice.

Placing using a concrete pump

Ensuring that the pump lines are clean will allow the concrete to be spread using one or more flexible sections. It is essential the concrete pump is correctly primed. When placing the material, use the flexible hose to spread the concrete and avoid placing all the concrete into a single spot.

Placing using other site equipment

A 360° excavator bucket or a skip is also feasible method; if using a 360° excavator the bucket must be completely cleared of any clay, spoil or similar material. If not removed completely these may become detached, be incorporated in the pour where they will float to the surface and damage the finish.

Direct placing from a truck

This is also a relatively common method, it is limited by the number of chutes that can be mounted on the truck, and in some cases it is possible to use an additional site "chute" provided this is not attached to the vehicle. Every effort should be made to ensure the concrete is placed in multiple locations.

Finishing

When the RIGAflow has been placed, finishing is carried out by dappling the fresh concrete. The dappling should be carried out immediately to achieve a suitable surface finish. The dappling is carried out in two directions by making two passes with the bar, the second pass should be at right angles to the first.

The first pass with the dapple bar must be vigorous to create big waves in the concrete and should be two thirds of the concrete depth. The second pass is done lightly on the surface of the concrete to get a good surface finish.

Curing

It is essential that the RIGAflow is correctly cured; if it is not, cracking which is out with the control of the supplier is likely to result. A high efficiency curing agent must be applied just after the second pass of the dappling such as Darakote 90WX applied at 4.5 – 5.0 square metres per litre.

When applying the curing agent, use a high quality sprayer equipped with extended tubing. This should be applied as per the recommendations or cracking will result. When rapid drying conditions, warm dry winds and / or direct strong sunlight occur a second application immediately following the first may be necessary.

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Pre-pour Checklist

Ensure shuttering is adequate to support the loads from fresh free flowing concrete and membrane is intact, sealed and taped.

Substrate temperature to be within 5-30°C with no risk of freezing for at least 48hours after placement.

Minimum concrete slab depth is 75mm.

Check that there is no standing water in the floor area prior to placement.

Do not vibrate RIGAflow as this will cause segregation, placing concrete should be done with dapple bar.

Curing agent to be applied to the surface of the concrete immediately after the dappling process. Ensure the agent is available and application device is working before concrete is placed.

After Placement

The surface of the slab will be suitable for light foot traffic after 24 hours and 48hrs during periods of cold weather. The floor slab should not be loaded with any heavy loads/pallets until the concrete is at least 7 days old but can be worked on after a period of 3 days. If no strength at early age has been specified, the strength gain will be the same as for a normal CEMI concrete.

Health & Safety

Skin contact with fresh concrete can cause serious burns or dermatitis and protective clothing and eye protection should be worn when placing concrete. If skin contact occurs wash immediately with soap and water. For eye contact, wash eyes thoroughly with clean water.

Rigifa, Cove
Aberdeen AB12 3LR
T: 01224 876333
F: 01224 876332
E: readymix@leiths-group.co.uk

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