Construction

Sika® Accelerators

Set accelerating admixtures for concrete

Positioning

Description

Sika® Rapid 2 NZ and Sikaset are admixtures that accelerate the early setting times of concrete.

Setting times for non-accelerated concrete become longer as temperatures get colder. This affects finishing times of floors. The set accelerating admixtures counter this set retardation and can shorten setting times back to normal values (depending on dosage).

Sika® Rapid 2 NZ contains no chlorides. Sikaset does contain chlorides, and there are some limitations on its use. (Refer to Important Notes below).

Uses

- In colder temperatures and climates if earlier setting times are required to enable final finishing to take place.
- In tidal situations where concrete may be subjected to damaging wave action.
- For concrete where any time delays are critical, e.g. plant shut downs, pedestrian/traffic requirements, etc.

Advantages

- Can be used with all types of Portland cement, including sulphate resistant cement.
- Provides faster setting in colder conditions.
- Sika® Rapid 2 NZ and Sikaset can be used in reinforced concrete. However, when using Sikaset it is important to check that the requirements of NZS 3109 and NZS 3101 in regards to the limits on total chloride ion content are complied with. Refer to Important Notes following.
- Sika® Rapid 2 NZ and Sikaset assist in reducing the water : cement ratio in concrete while still maintaining workability.

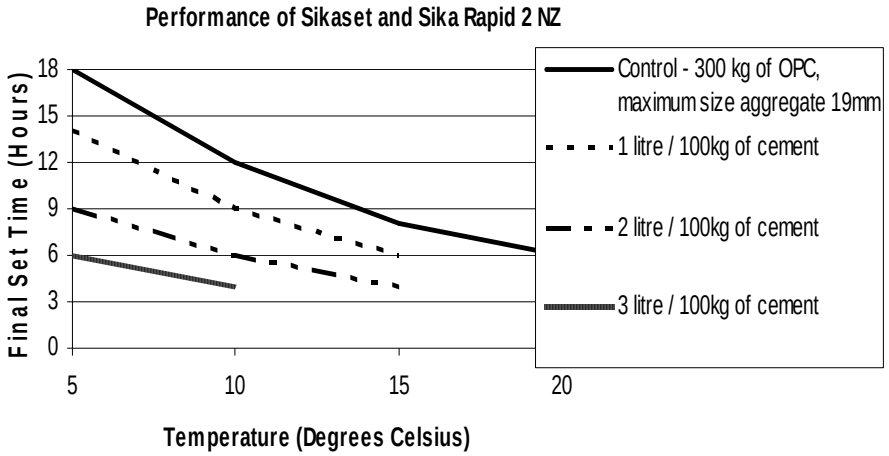
Product Data	Sika® Rapid 2 NZ	Sikaset	Sikaset GB
Form:	Water based liquid.	Water based liquid.	Water based liquid.
Colour:	Fluorescent Yellow	Brown	Clear
Storage & Shelf Life:	Twelve (12) months from date of manufacture when stored in unopened, original containers in conditions free from frost and below 25°C.		
Packaging:	20 litre and 200 litre non-returnable drums and bulk delivery.	200 litre non- returnable drums, and bulk delivery.	20 litre and 200 litre non-returnable drums.

Technical Data

Specific gravity:	1.4 kg/litre approx	1.36 kg/litre approx	1.38 kg/litre approx
Air entrainment:	Less than 1%	Nil	Nil
Chloride content:	Nil	1 litre contains 0.08kg of chloride ions. (See Important Notes)	1 litre contains 0.15kg of chloride ions. (See Important Notes)
Effect on setting:	Accelerated	Accelerated	Accelerated
Suitability:	All cements	All cements (For limitation of use check Clause 6.6 in NZS 3109.)	All cements (For limitation of use check Clause 6.6 in NZS 3109.)
TEA content:	Sika® Rapid 2 NZ, Sikaset and Sikaset GB do not contain triethanolamine (TEA)		
Compatibility with other Sika admixtures:	Yes - but add separately, do not premix		

Dosages (typical):	15°C - 20°C	0.5-1.5 litres/100kg cement
	10°C - 15°C	1.5-2.5 litres/100kg cement
	5°C - 10°C	2.5-3.5 litres/100kg cement

Setting times (approx.):



Instructions for use

- Sika® Rapid 2 NZ and Sikaset should be added directly with the mixing water at the ready mixed concrete plant.
- These products may be added to ready mixed concrete on arrival at the site, however a reduction in added water must be made during batching to compensate for the additional water in the admixture dosage.

Important Notes

- Dosage will depend upon cement type, ambient temperature, early age curing regime and the particular effect desired. Tests should be conducted to determine the most effective dosage rate. A typical dosage is 1 litre per 100kg of cement for every 5ºC temperature drop.
- NZS 3109 and NZS 3101 provide limits on the total chloride ions in concrete for various in-service conditions. For example, the New Zealand standard allows 1.6 kg/m³ acid soluble chloride ion in reinforced concrete in above ground, permanently dry situations, and 0.8kg/m³ in reinforced concrete in moist environments. To comply to NZS 3109 for moist environments the dose rates should not exceed as follows:
  Sikaset *10 litres/m³*
  Sikaset GB *5 litres/m³*
- When used in air entrained concrete, set accelerators will lower the air content by approximately 2%.
- To comply with NZS 3101 Sikaset or Sikaset GB are not to be used in concrete of 25MPa or greater.
- In situations where these limits will be exceeded, it will be necessary to use Sika® Rapid 2 NZ in place of Sikaset.
- Where concrete with a low cement content is being supplied, higher dosages should be used.
- Merely increasing cement content of concrete will not usually provide any useful set acceleration.
- Water contents affect setting times. The addition of 10 litres/m³ of water can increase final set times by up to 1 hour. Accordingly reducing water contents by using mid range water reducers (SikaPlast® 100 / Plastiment® BV50W) will reduce final set times.
- Sika® Rapid 2 NZ and Sikaset must not be diluted with water.
- As with all concrete and mortars, it is essential to protect mixes containing Sika® Rapid 2 NZ and Sikaset from water evaporation during the crucial early age curing period. We recommend the use of Antisol® curing membranes for this purpose. Refer Antisol® data sheet for information.
- Any stated performance criteria is based on extensive testing and historical data. However, all information relating to setting times and early age strength development should be regarded as indicative. Actual results may vary depending on conditions.
- High dosages of Sika® Accelerators may produce colour variations or patchiness of colour in the surface of hardened concrete.
- Sikaset is not recommended for use in coloured concrete.

Notes	All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
Local Restrictions	Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

Safety Instructions

Protective Measures

- To avoid rare allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hands before breaks and after finishing work.
- Local regulations as well as health and safety advice on packaging labels must be observed.

Important Notes

Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

Legal Notes

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