

PRODUCT DATA SHEET

SikaRapid® AC 111

(formerly MasterSet® AC 111)

Non-Chloride hardening accelerator for concrete

DESCRIPTION

SikaRapid® AC 111 is ready to use liquid accelerating admixture for use in concrete and portland cement. SikaRapid® AC 111 admixture brings down setting times in general and specially under cold weather, leading to early high and ultimate increased strengths. In addition, it reduces bleed and segregation while improves workability.

SikaRapid® AC 111 does not contain any added chloride ions ensuring that the product does not contribute to the corrosion of reinforcing steel. In fact studies indicate SikaRapid® AC 111 helps in reduction of chloride attack on concrete.

USES

SikaRapid® AC 111 is formulated for use as accelerator to facilitate high early and higher ultimate strengths in concrete; also to speed up the setting times in normal or especially in cold weather concreting.

Typical applications include:

- Precast/ Prestressed concrete production
- Concrete pavement repairs
- Repairs of the industrial floors
- Repairs of concrete slabs and flat members
- Cold weather concreting
- Early de-stripping in cold weather

PRODUCT INFORMATION

Packaging	SikaRapid® AC 111 is supplied in 245 kg drums.
Shelf life	12 months
Storage conditions	SikaRapid® AC 111 must be stored where temperatures do not drop below +5°C. If product has frozen, thaw at +5°C or above and completely reconstitute using mild mechanical agitation. Do not use pressurized air for agitation. Store under cover, out of direct sunlight and protect from extremes of temperature.

CHARACTERISTICS / ADVANTAGES

- Reduced segregation
- Faster setting times – accelerated construction during cold climates
- High Early strengths – Early de-shuttering
- Early stiffening – Quicker finishing operations
- Facilitates concreting even below 5°C

APPROVALS / STANDARDS

IS 9103, ASTM C 494: Type C, EN 934-2:T6 & T7

Appearance / Colour	Colourless free flowing liquid
Density	1.18± 0.02 at 25°C
pH-value	≥ 6

APPLICATION INFORMATION

Recommended Dosage	Optimum dosage of SikaRapid® AC 111 should be determined with trial mixes. As a guide, a dosage range of 200 ml to 1200ml per 100kg of cementitious material is normally recommended at normal temperatures. Higher dosages may be required when certain combinations of materials and conditions are present or acceleration is required at colder climatic conditions. For additional information on SikaRapid® AC 111 admixture or on its use in developing concrete mixes with special performance characteristics, contact your local Sika representative.
Dispensing	SikaRapid® AC 111 is a ready-to-use liquid which is dispensed into the concrete together with the mixing water. The dispersing of admixture shall be more uniform if the admixture is added to the damp concrete after 50 to 70% of the mixing water has been added. The addition of SikaRapid® AC 111 to dry aggregate or cement is not recommended.
Compatibility	SikaRapid® AC 111 is compatible with most admixtures used in the production of quality concrete including normal, other mid-range and high-range water-reducing admixtures, air entrainers, accelerators, retarders, extended set-control admixtures, corrosion inhibitors, and shrinkage reducers. The effect of SikaRapid® AC 111 is dependent upon the cement properties and the type of plasticizers used in the concrete mix. The setting time and early strength gain may be affected if strong retarders are used in the mix. SikaRapid® AC 111 is also compatible with slag and pozzolans such as fly ash and silica fume.

BASIS OF PRODUCT DATA

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.

FURTHER DOCUMENTS

CORROSIVITY – NON CORROSIVE

SikaRapid® AC 111 admixture will neither initiate nor promote corrosion of reinforcing steel embedded in concrete, prestressed concrete or concrete placed on galvanized steel floor and roof systems. Neither calcium chloride nor any calcium chloride-based ingredients are used in the manufacture of SikaRapid® AC 111 admixture. In all concrete applications, SikaRapid® AC 111 admixture will conform to the most stringent or minimum chloride ion limits currently suggested by construction industry standards and practices.

Rate of hardening

The temperature of the concrete mix and the ambient temperature (forms, earth, reinforcement, air, etc.) affect the hardening rate of concrete. At higher temperatures, concrete hardens more rapidly which may cause problems with placing and finishing. One of the functions of SikaRapid® AC 111 admixture is to accelerate the set of concrete. Within the normal dosage range, it will generally reduce the setting times of concrete containing normal portland cement approxi-

mately by 1 hour to 3 hours compared to a plain concrete mix, depending on materials at site and temperatures. Trial mixes should be made with site materials & approximating the job site conditions to determine the dosage required.

It is strongly recommended that concrete should be properly cured particularly in windy and dry climates..

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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