



Sika Frioplast® A1 – 3 Range

Water Reducing/Air Entraining Agents for Concrete

Technical Data Sheet

DESCRIPTION

Sika Frioplast A1 – 3 Range are air-entraining agents formulated from Lignosulphonate and synthetic surfactants.

Sika Frioplast A1 – 3 Range promotes the uniform distribution of microscopic air bubbles throughout the cement matrix. The bubbles are of even size and shape but are not connected.

Complies with EN 934 Part 2 Table 5 - Air Entraining Admixtures.

ADVANTAGES

- * **Sika Frioplast A1 – 3 Range** is manufactured by Sika Limited under strict control from carefully selected raw materials of consistent quality.
- * **Sika Frioplast A1 – 3 Range** modifies the pore structure of the concrete giving it the following benefits:
 - * Lower permeability than plain concrete
 - * Bleeding of excess mix water is reduced and therefore:
 - * the amount of laitance is reduced, enhancing the concrete's resistance to frost attack.
- * **Sika Frioplast A1 – 3 Range** reduces the water demand of the concrete for a given workability.
- * **Sika Frioplast A1 – 3 Range** increases the cohesion of concrete mixes, which makes them easier to handle and place. This includes concrete containing particularly harsh aggregates.
- * **Sika Frioplast A1 – 3 Range** improves the durability of concrete exposed to freeze/thaw cycles due to the reservoir of pores deployed which allow the expansion of water without disruption to the concrete. This is of great value where concrete is exposed to tidal conditions, splash zones and de-icing salts.

Technical Data

	A1	A2	A3
Form:	Liquid	Liquid	Liquid
Colour:	Brown	Brown	Brown
Relative Density @ 20°C:	1.180	1.165	1.160
Dry Material Content %:	36.5	35.5	34.5
pH Value:	7.0-9.5	5.0	5.0
Water Soluble Chloride Content %:	<0.1 Chloride free		
Alkali Content %: (as Na ₂ O equivalent)	<6.0	<0.75	<0.75

Above data provided as manufacturers stated values in accordance with EN 934-2 General Requirements.

METHOD OF USE

Wet or Dry Batch Plants

The **Sika Frioplast A1 – 3 Range** is supplied ready for use and should be added to concrete with the mixing water. On no account should it be added to the dry cement.

DOSAGE

Typical	Maximum
A1 - 0.80%	1.0%
A2 - 0.50%	1.0%
A3 - 0.40%	1.0%

COMPATIBILITY

Sika Admixtures:

The **Sika Frioplast A1 – 3 Range** can be used in conjunction with other concrete admixtures based on Lignosulphonate or Napthalene and Melamine Formaldehyde Superplasticisers.



Handling Precautions

Sika products are generally harmless provided that certain precautions normally taken when handling chemicals are observed. The materials must not, for instance, be allowed to come in contact with foodstuffs or food utensils and measures should also be taken to prevent the uncured materials from coming in contact with the skin, since people with particularly sensitive skin may be affected. The use of protective clothing, goggles, barrier creams and rubber gloves is required. The skin should be thoroughly cleaned at the end of each working period either by washing with soap and warm water or by using a resin-removing cream - the use of powerful solvents is to be avoided. Disposable paper towels - not cloth towels - should be used to dry the skin. Adequate ventilation of the working area is recommended. In case of accidental eye or mouth contact, flush with water - consult a doctor immediately. Health and Safety information on Sika Products is available and we strongly advise that this is read prior to their use. Sika products are for professional use and should be stored in sealed containers away from the reach of children.

Important Note

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 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 proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

Please consult our Technical Sales Department for further information

SIKA LIMITED

Watchmead, Welwyn Garden City, Hertfordshire, AL7 1BQ

Tel: 01707 394444 Email: sika@uk.sika.com

Fax: 01707 329129 www.sika.com

