

Set retarding admixture



CE Approved – Certificate No. 0086-CPD-469071
EN934 part 2 table 8

Description of Product

POZZOLITH® 100-XR is a ready-to-use, liquid admixture for producing more uniform and predictable quality concrete. Placing and finishing requirements are facilitated because this admixture retards setting time. It meets ASTM C-494 requirements, specifically:

- Increased strength - compressive and flexural (Table 1)
- Durability to Damage from Freezing and Thawing
- Reduced water content required for given workability
- Retarded setting characteristics (Table 1)

POZZOLITH® 100-XR complies with:

- EN934 part 2 table 8
- ASTM C-494 Types B and D.

Fields of Application

POZZOLITH® 100-XR admixture is recommended for use in all types of concrete where moderate to extended retardation of set and improved performance are desired.

This admixture improves pumped concrete, shotcrete (wet mix), and conventionally placed concrete. It improves plain, reinforced, precast, prestressed, lightweight or normal weight concrete.

POZZOLITH® 100-XR admixture can be used with air-entraining cements and with air-entraining admixtures approved under AASHTO, ASTM and CRD; EN934 part 2 specifications - including those manufactured by BASF Construction Chemicals when air-entrained concrete is desired. When used in conjunction with another admixture, each admixture must be dispensed separately into the mix.

On its own, POZZOLITH® 100-XR admixture does not entrain air.

POZZOLITH® 100-XR admixture can be used in white or coloured concrete and in architectural concrete.

Features and Benefits

The set retarding characteristics of POZZOLITH® 100-XR admixture aid in the production of concrete with the following special qualities:

- Improved workability
- Reduced segregation
- Superior finishing characteristics for flatwork and cast surfaces
- Controlled retardation - depending on the addition rate
- Provides flexibility in scheduling of placing and finishing operations
- Offsets the effects of too early hardening during extended delays between mixing and placing
- Helps eliminate cold joints
- Allows for dead-load deflection to take place (before concrete sets) in extended pours for bridge decks, cantilevers, non-shored structural elements, etc.
- Lowers peak temperature and/or rate of temperature rise in mass concrete - reduces thermal cracking
- Effective as a single admixture or as a component in a POZZOLITH® Admixture system

Technical Data/Typical Properties

Appearance	Brown liquid
Specific gravity @ 20°C	1.15 ± 0.03 g/cm ³
pH-value	7.0 ± 1
Alkali content (%)	Less than or equal to 2.50
Chloride content (%)	Less than or equal to 0.10

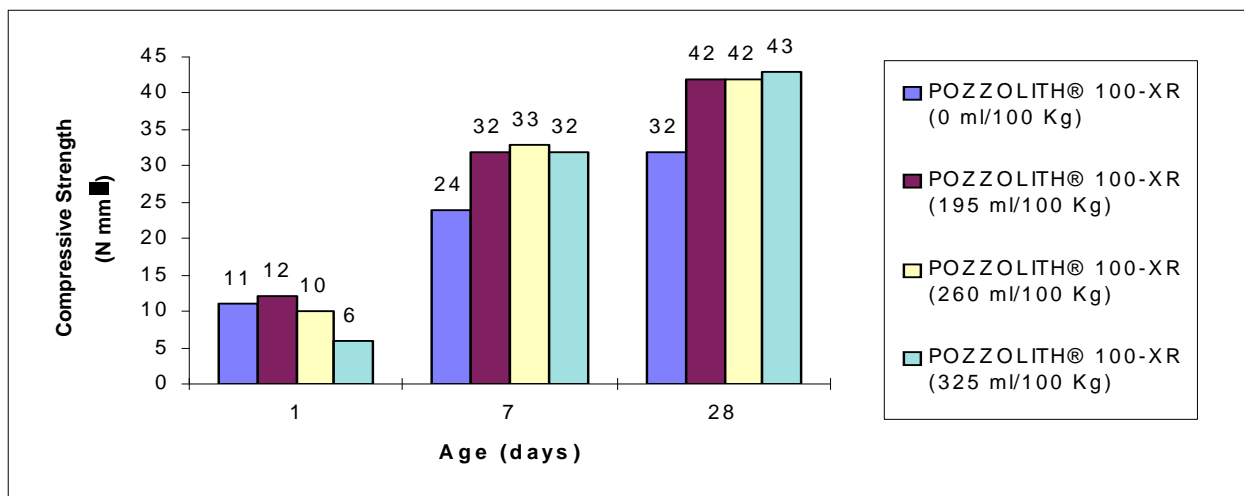
Compressive Strength: Concrete produced with POZZOLITH® 100-XR admixture will have rapid strength development after initial set occurs. If retardation is within the normal ASTM C-494 Types B and D specification, POZZOLITH® 100-XR admixture will develop higher early (24 hours) and higher ultimate strengths than plain concrete when used within the recommended dosage range and under normal, comparable curing conditions.

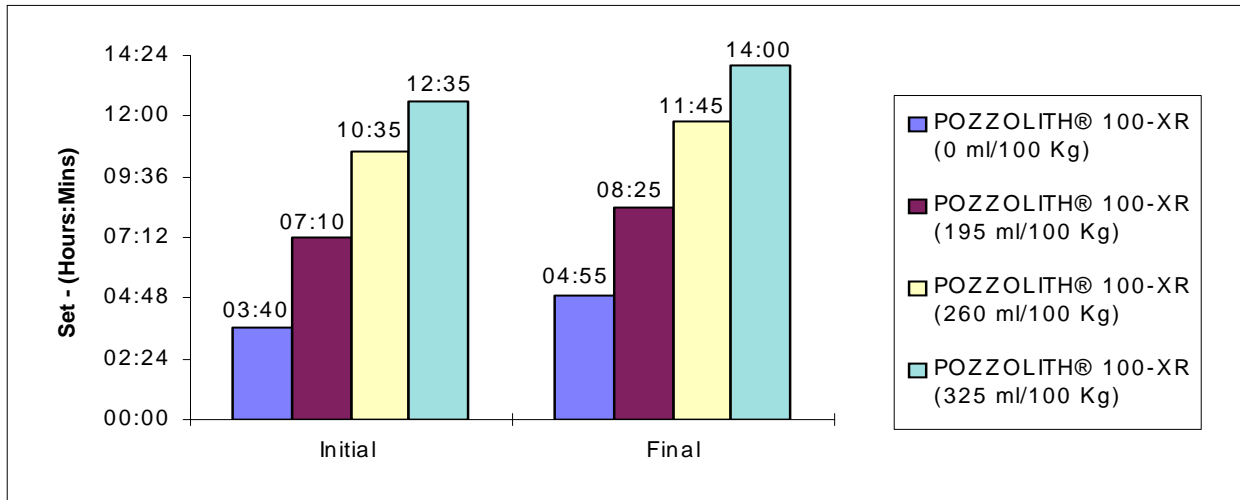
When POZZOLITH® 100-XR admixture is used in heat-cured concrete; the length of the preheating period should be increased until initial set of the concrete is achieved. The actual heat-curing period is then reduced accordingly to maintain existing production cycles without sacrificing early or ultimate strengths.

Typical Results

Table 1. Strength and setting time performance. Air-entrained concrete with 32°C concrete and ambient air temperatures

Admixture Dosage ml/100 kg cement	Cement Content (Kg/m ³)	Slump (cm)	Air Content (%)	Initial Set (Hr:Min)	Final Set (Hr:Min)	Compressive Strength (Nmm ⁻²)		
						1 day	7 days	28 days
0	335	14.0	6.0	3:40	4:55	11.2	24.4	31.9
195	341	13.3	5.3	7:10	8:25	12.2	31.7	41.5
260	341	13.3	5.5	10:35	11:45	9.7	32.7	41.8
325	341	13.3	5.6	12:35	14:00	6.2	32.3	42.8





Dosage

For most concrete mixes using average concrete ingredients, POZZOLITH® 100-XR admixture is recommended for use at the rate of:

By Volume - 0.087 to 0.348 litres per 100 kg of cement (binder).

By Mass - 0.10 to 0.40 kg per 100 kg of cement (binder).

However, variations in job conditions and concrete materials may necessitate the use of dosage rates outside the recommended range. In such cases, contact your BASF Construction Chemicals, Technical Services Department.

Trial mixes should be made with job materials and approximating job conditions to determine dosage rates and performance.

Storage

POZZOLITH® 100-XR must be stored in a place where temperature does not drop below +5°C. If product has frozen, thaw at +3°C and agitate until completely reconstituted. Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice, consult our Technical Services Department.

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.

A function of POZZOLITH® 100-XR admixture is to retard the set of concrete. Within the normal dosage range, it will generally extend the compaction and setting time of concrete containing normal Portland cement approximately 2½ to 10 hours compared to a plain concrete mix, depending on job materials and temperatures. Trial mixes should be made with job materials approximating job conditions to determine the dosage required.

POZZOLITH® 100-XR admixture may be used at less than the recommended dosage for the purpose of retardation only.

Packaging

POZZOLITH® 100-XR admixture is supplied in Bulk, 1000-litre IBC's, 205-litre drums and 25-litre containers.

Shelf Life

Minimum 12 months if stored in accordance to manufacturer's instructions in unopened containers.

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Health and Safety

*For full information on Health and Safety matters regarding this product the relevant Health and Safety Data Sheet should be consulted.

The following general comments apply to all products.

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs, (which may also be tainted with vapour until the product is fully cured and dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Keep away from children and animals. Reseal containers after use.

Spillage

Chemical products can cause damage; clean spillage immediately.

DISCLAIMER

"BASF plc, Construction Chemicals" (the Company) endeavours to ensure that advice and information given in Product Data Sheets, Method Statements and Material Safety Data Sheets (all known as Product Literature) is accurate and correct. However, the Company has no control over the selection of its products for particular applications. It is important that any prospective customer, user or specifier, satisfies him/her-self that the product is suitable for the specific application. In this process, due regard should be taken of the nature and composition of the background/base and the ambient conditions both at the time of laying/applying/installing the material and when the completed work is to be brought into use.

Accordingly, no liability will be accepted by the Company for the selection, by others, of a product, which is inappropriate to a particular application.

Products are sold subject to the Company's standard conditions of sale and all customers, users and specifiers, should ensure that they examine the Company's latest Product Literature.