

Technical Data Sheet

i.design EFFIX

Field of application

i.design EFFIX is a very high performance mortar to be used for manufacturing non-structural elements and decorative objects.

Mortar composition

i.design EFFIX is a ready-to-use mortar consisting of cement pre-blended with sand, fibres and admixtures as needed for its manufacture. The fibres used are alkali-resistant glass fibres.

Physical properties

Mixing with water yields a very flowable ivory white mortar.

Fresh mortar density	2,340 kg/m ³
Particle size distribution	0 - 500 µm

Mechanical properties

(According to the placing conditions envisaged by the project). Average values based on 4x4x16 cm prisms.

	Compressive strength at 20°C	Flexural strength at 20°C
at 1 day	≥ 60 MPa	≥ 6 MPa
at 7 days	≥ 90 MPa	≥ 7 MPa
at 28 days	≥ 100 MPa	≥ 9 MPa

Preparation and use

- About 12 litres of mortar are obtained by mixing a 25-kg bag of i.design EFFIX mixed with 2.75 litres of water .
- Instructions for preparing the mix with either a mortar or concrete mixer are given below (*) (**):

1. Pour the necessary number of bags into the mixer
2. Mix for 30 seconds
3. Add 2.75 litres of water per bag used
4. Mix for two minutes (calculated from mix fluidization)
5. Stop the mixer and scrap its walls
6. Mix for another 2 minutes.

(*) Depending on the type of mixer used, the optimum volume of a i.design EFFIX mix is equal to half the maximum capacity of the mixer.

(**) Duration of the i.design EFFIX production process depends on the type of mixer used. With a traditional concrete mixer, adjustment of the blade depth may be necessary to obtain a smooth mix.



- Pour the mix immediately into the mould or formwork. Continue pouring at the same point without interruption to avoid entraining air bubbles
- i.design EFFIX has been designed for the manufacture of non-structural elements, decorative objects, interior furniture and moulded shake. It can be used for several applications: kitchen & bathroom countertops, bathroom furniture, sinks, tiles, benches, etc.
- Its formulation based on fine materials allows obtaining perfectly smooth and homogeneous surfaces in addition to excellent reproduction of the texture of forms/moulds used.
- i.design EFFIX can be thermally treated after setting, which permits accelerating the material's curing process. The treatment consists in gradually heating the manufactured elements up 60-90°C in 48-72 hours. As it contributes to strength development and durability enhancement, this treatment provides great dimensional stability to i.design EFFIX.

Precautions

- Work at an ambient temperature between 5°C and 25°C. Ambient temperature can actually affect application time as follows:

about 5°C: < 90 minutes	about 20°C: < 45 minutes	about 25°C: < 5 minutes
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- In hot weather, store bags at a temperature below the ambient air and mix with cold water to extend workability time.
- Ensure that all mould/formwork joints are properly sealed to prevent leakage; in case they are not, use silicone joints to fill leaks, if any.
- All surfaces in contact with i.design EFFIX should be clean and coated with a thin layer of high-grade formwork/mould release oil. The use of clean brushes specifically intended for this purpose is absolutely necessary.
- Provide effective protection against desiccation (drying-out), especially when manufacturing slim elements - i.e. those featuring a significant exposed surface/volume ratio. The use of plastic sheets or the even distribution of an anti-evaporation agent has been shown to provide an adequate solution to the problem.
- Protect from freezing, wind and direct sun during setting and hardening.
- Removal of formwork/mould can be performed after 18-24 hours.
- Following removing of the formwork/mould, elements must be kept wet or be immersed in water at 20°C for at least 7 days. During early curing, avoid storage in hot, dry and windy weather.
- The use of a suitable surface protection product is highly advisable.

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