



USE OF RETARDERS AND ACCELERATORS
(COMPLEMENTARY TO PRODUCT OVERVIEW)

If COLORIT-FX is added to a cementitious mixture, retarders and/or accelerators may be required to achieve the desired pot-life and /or setting time. As an example, the following is a chart for WINTERSTONE ULTRA MIX (*generally used as the surface layering to a directly-modeled sculpture or a pour/slush casting*) with a recommended maximum of **1 part COLORIT-FX to 4 parts of mix water:**

Method of application	Recommended total liquid (Water + COLORIT-FX) Parts per 100 parts ULTRA		Retarder
	By Weight	By Volume	
Pour/slush	39-41	32-34	Recommended
Brush	39-41	32-34	-----
Trowel	37-39	30-32	-----

It is suggested that the COLORIT-FX be well-dispersed into the mix water before being mixed with the dry ULTRA.

To achieve a reasonable pourability of up to at **least 5 minutes** a **retarder** is recommended. Sodium citrate may be used as a retarder and pre-mixed in with the mix water in the amount of 1/8 tsp (0.6 grams) per cup (1/2 tsp. per litre). (*Generally, the same retarder may be further diluted, **if necessary**, for use in improving the pot-life for brushable and trowelable use.*)

All WINTERSTONE mixes are designed for specific uses with a maximum set/demold time of 24 hrs. or less. Should the user be concerned with this aspect when using COLORIT-FX then an accelerator, sodium bi-carbonate may be added to the same mix water for a pour/slush application in the amount of 3/4 tsp. per cup.

It is important that all accelerating or retarding agents be used conservatively within these recommendations so as not to impair the physical properties of the hardened end product.

Due to the variations in the particular formulation being used, as well as, the amount of COLORIT-FX used to achieve the desired color/tint, it is strongly recommended that the user perform small test mixes to determine the specifics particular to his/her requirements. Increasing the amount of mix water substantially over the recommended amounts with **any** cementitious medium to achieve pourability or brushability should be avoided.

Gypsums on the other hand, possess quick set/demold qualities and are used predominately in various castings. As such they are sensitive to delaying effects with the introduction of COLORIT-FX into the mixture. This however can be offset with the use of accelerators. As an example, USG HYDROCAL White commonly used in ornamental castings may be accelerated to a reasonable set/demold time with the addition of an accelerator recommended by the manufacturer. The total combined mixing liquid (i.e. **water + COLORIT-FX**) would be of the order of **45-50 parts by weight per 100 parts of dry HYDROCAL mix** (*depending on the concentration of COLORIT-FX used*).

An **alternate product** that may be **used as an accelerator** and also enhances other properties is the **WINTERSTONE ULTRA MIX** in the amount of **15 parts by weight per 100 parts HYDROCAL**. The appropriate **combined mixing liquid would be of the order of 44-48 parts per 100 parts of the dry mixture**. Increasing the amount of ULTRA to 50 parts (or more) per 100 parts HYDROCAL will not only result in enhanced physical properties to the hardened end product but will also open the palette to a wide variety of potential permanent patinas and burnishing effects.

Due the numerous Gypsum mixes available on the market, (e.g. USG Hydrostone, Drystone, etc.) each with its own water recommendations, it is suggested that the user perform some tests to determine the relevant combined mixing liquid requirements for the specific mix to be used.



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