

Using Diluted KODAK Bleach Replenisher, Process E-6AR, in Processors with Six-Minute Bleach Time



In many processors, evaporation of water from the E-6 bleach working solution causes overconcentration of the bleach and crystal formation. You can control this by using a more dilute bleach replenisher. The dilute replenisher will lower the specific gravity and minimize crystallization of solids.

In E-6 processors with a minimum six-minute bleach time, a diluted bleach replenisher will reduce the need for frequent water additions to the bleach tank solution. The additional water in the replenisher will compensate for evaporation from the machine tank. Reduced chemical and operating costs will result from using the diluted replenisher recommendations outlined below. No change in the bleach replenishment rate is required with diluted bleach replenisher.

To make a diluted bleach replenisher, mix two parts of KODAK Bleach Replenisher, Process E-6AR, concentrate, to one part water.

Note: THIS DILUTED REPLENISHER DOES NOT GIVE SUFFICIENT BLEACHING WITH BLEACH TIMES SHORTER THAN SIX MINUTES.

For satisfactory results with diluted bleach replenisher, carefully monitor the specific gravity of the replenisher, the seasoned tank solution, and the fresh tank solution. The table below gives the specific-gravity aims at 80°F (27°C) for a six-minute bleach time.

It is important to keep the specific gravity of a seasoned tank solution within the aims in the table. A specific gravity of 1.260 or lower minimizes the crystal formation that can take place in a saturated bleach solution. A specific gravity below 1.150 indicates that the solution is too dilute to provide adequate bleaching.

If the specific gravity of a seasoned tank solution rises above 1.260, either replace about one-third of the bleach tank volume with a fresh tank solution (a dilution of one part bleach replenisher concentrate with one part water), or use the dilute replenisher (2:1). *Do not add water alone to a seasoned bleach solution; it will produce a precipitate of silver bromide.*

If the bleach solution in any machine equilibrates at a specific gravity below 1.130 at 27°C (80°F), add full-strength KODAK Bleach Replenisher, Process E-6AR, rather than the diluted replenisher to increase the specific gravity and maintain adequate bleaching (specific gravity of 1.130 to 1.260 at 27°C [80°F]).

In machines with an in-line dilution replenishment system and a six-minute bleach time, the replenisher can be automatically diluted to the recommended strength by a water pump. The feed inlets should be adjacent to avoid local precipitation at the water inlet. The replenishment rate of the bleach concentrate should be two thirds of the normal replenishment rate (for a non-diluted replenisher), and the replenishment rate of the water should be one third of the normal bleach replenishment.

Process E-6 Bleach Specific-Gravity Specifications at 27°C (80°F) for 6-Minute Bleach Time

Bleach Replenisher (Diluted*)	Fresh Working Tank Solution	Seasoned Tank
2 parts bleach replenisher (concentrate) + 1 part water	1 part bleach replenisher (concentrate) + 1 part water + starter OR 3 parts bleach replenisher (diluted†) + 1 part water + starter	—
≥1.170	≥1.130	1.150 to 1.260

* This diluted replenisher does not give sufficient bleaching times shorter than 6 minutes.

† Diluted 2 parts concentrate to 1 part water.

Note: The symbol "≥" means "equal to or greater than."