



Harry F. Bader

On breakdown time, discolouration of dipped latex & leach time

We are a horticultural company that grows perennial plants that are potted in coco-fibre pots for resale to garden centres. The coco-fibre is held together with latex and the pot can be planted directly into the ground, since the pot will eventually break down and allow the plant roots through. Do you know of a chemical we can add to our soil moisture that would enhance the breakdown time of the latex, allowing the plants roots through faster?

Kelli Minor
Etera Corporation

Latex is a generic term that is often used improperly. I'm not sure what you actually have in your pots.

I suggest uncompounded (no additives), raw natural latex be used. It would provide excellent adhesion and it would breakdown rather quickly. In fact, it may start to get very sticky to the touch in a few weeks.

An alternative would be to cook the pots for a couple hours at 240°F. This would cause accelerated degradation which would mean the pots should breakdown earlier.

Another alternative would be to put the pots in direct sunlight for 4-5 days. That too will cause accelerated degradation.

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What are the possible causes of discoloured dipped latex gloves — observed at stripping,

at inspection, and after being in the warehouse?

Anonymous question submitted at the 2001 Latex Conference in Akron, Ohio.

This is a question with many answers and it is likely that I will not think of all the possible answers at this time. If you have a discolouration problem which I do not cover in this reply please ask a specific question.

At glove stripping, overall discolouration would likely come from excessive heat in the drying or curing process; general contamination in the slurry tank; the coagulant or the latex tank; general contamination in the leach tank. The nature of the discolouration should guide you to the source.

Spotty discolouration would most likely come from dipping form cleaning problems; spotty contamination (i.e. oil) in the slurry tank, the coagulant, the latex tank, or the leach tank. Here again, the nature of the discolouration should guide you to the source.

At glove inspection — assuming the discolouration was not present at stripping, overall discolouration would likely come from faulty off-line operations such as chlorination or drying after chlorination. The nature of the discolouration should guide you to the source.

Spotty discolouration would most likely come from improper

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storage between stripping and inspection. Exposure to sunlight or fluorescent lighting will discolour exposed areas of the gloves on top.

Another problem is insufficient drying. This can cause discolouration in areas of the gloves where moisture is present.

Storage of hot gloves will also be a cause. As always, the nature of the discolouration should guide you to the solution. After being in the warehouse, there are five major sources of discolouration of gloves after being in the warehouse: Too hot storage conditions, improperly dried gloves, improperly cured gloves, poor latex compound recipe, contamination from a source outside the carton.

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How are powder-free gloves produced?

Anonymous - submitted at 2001 Latex Conference in Akron.

There are a number of methods and materials used. However, there are two basic concepts.

1. Gloves are made by the popular method using powder in the coagulant and on the dried film prior to stripping. The powder is removed off line and the glove surface is treated or coated off line to have a final surface which is non-tacky.

2. Gloves are made without powder in the coagulant or on the dried film prior to stripping. They are "wet stripped" or treated on line or coated on line to have a non-tacky final surface. When wet-stripped, the treatment or coating is done off-line as with gloves where the powder is first applied and then removed.

When coating is used, it sometimes has the second purpose of sealing in NR, latex proteins and residual vulcanization chemicals.

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What would be the maximum thickness I could expect from a coagulant dipped product? What factors are critical?

Anonymous, submitted at the Latex Conference in Akron.

I really don't know what the maximum thickness could be. I have run a production operation which routinely produced a film thickness of 0.125" (3.2mm) in a single coagulant - single latex dip process. When a multiple coagulant-multiple latex dip process is used, I would expect even thicker film products would be made.

The critical factor is that every aspect of the manufacturing should be kept under strict control, with no changes from week to week, day to day or hour to hour.

Besides, all raw materials must be to specification.

All solutions, dispersions, coagulants, and compounds must be the same day after day. There should be no deviations of concentrations, viscosities, temperatures, procedures, etc. etc.

All process conditions and parameters must remain constant regardless of the weather or the time of day. If everything is the same day after day, then the result will be the same day after day.

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Is there a recommended leach time for NR products? Does it vary with product thickness?

Anonymous - submitted at the Akron Latex Conference

The short answer is No. There are several factors which affect good leaching:

First of all, each compound and each process, and the product being made, requires unique conditions for good leaching.

The general parameters which produce good leaching are: Temperature (the hotter, the better); turbulence (as much as can be tolerated without hurting the product); time (the longer the better); water/product ratio (as much as you can afford), and, finally, flow direction (opposite to the movement of the product with fresh water entering at the product exit end of the leach tank).

Use these parameters to get the desired leaching quality at the lowest cost. ■

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