

## Is It Time To Change Batch?

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For as long as anyone can remember container glass batch has been ostensibly unchanged in composition. Save for minor tweaks for improvement in durability, the same trusted formulae have been the constant by which the industry is measured (and have measured!). And why not? It has always worked very well! Despite all of the 'miracle additives' that have been touted over the years nothing much has changed.

But, has the time come to reassess the landscape?

With ever-increasing energy costs, emissions abatement legislation and reduced margins, maybe it is time to take a few 'old chestnuts' off the shelf, dust them down and re-evaluate them in the daylight of present climes.

One such concept that has recently been revisited by Glass Technology Service (GTS) and supported by both the Carbon Trust and major UK container glass companies is the use of Spodumene. Okay, so we have all heard it before: the magic of lithium, that's so full of promise but somehow never delivers. So why are things now any different?

Making no bones about it, lithium is expensive, and as such you really cannot afford to add very much, but this recent work suggests that you may not have to. Even at small fractions of a percent, the presence of lithium has some remarkable effects on glass melting, mixing and flow. These effects can manifest themselves as reductions in ultimate furnace melting temperature, yet produce equivalent quality glass. Ah, you say, but do the economics add up?

That all depends on a range of variables including energy prices and the potential savings from reduced abatement of NOx afforded by reduced melting temperatures.

GTS demonstrated that up to 40°C could be achieved for the modest addition of 0.12% Lithium oxide added as Spodumene. As the NOx production in furnaces is exponentially related to temperature, 40°C can make a significant reduction in the production of thermal NOx, and may, in the appropriate furnace configuration, negate or reduce the need for further investment and running costs of abatement systems.

It must be remembered that the overall economics of this type of addition need to be carefully calculated on a furnace-by-furnace basis, with all contributing factors considered. The findings do, however, point to the fact that for certain furnace configurations, and with current/impending fuel and abatement costs hanging over the sector, Spodumene may be an economically viable option for the modern container manufacturer.

*Further details of this work will soon be available from the Carbon Trust website [www.carbontrust.co.uk](http://www.carbontrust.co.uk) or by request to [info@glass-ts.com](mailto:info@glass-ts.com).*

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