

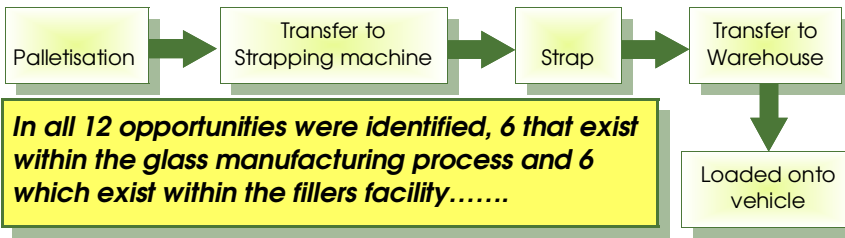


# 6σ performance is now a reality with the new "Smart" Glass Packaging System

It has been reported that at any one time 1% of all tall glass packs collapse. Every collapsed pallet has a value of between £200 to £300. That means a cost burden of between £2 to £3 is placed on every pallet that is produced. Loadhog naturally saw that a reduction in pallet collapses would yield benefits for both Glassworks and their customers. However, in developing the optimum pack solution it was clearly evident that even individual bottle loss, was not just a process inefficiency in terms of the loss and clearing operation but also increased the risk of glass contamination.

Over a five month period Loadhog, studied glass pack performances on both conventional packs and on their own SmartStak system. The study went as deep as monitoring individual bottles from individual tiers, and analysing them from palletisation at the Glassworks, throughout the supply chain, to final sweeping at the fillers.

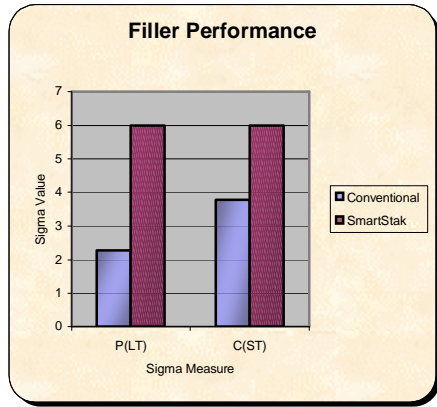
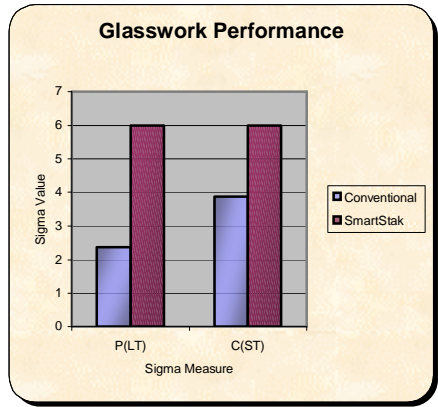
**Loadhog decided to apply the 6 Sigma approach to determine the performance of the glass packs. To facilitate this a series of "Opportunities" were determined. Each "opportunity" was deemed to be a stage within the supply chain, any of these stages is a potential flash point where glass is often lost.**



**In all 12 opportunities were identified, 6 that exist within the glass manufacturing process and 6 which exist within the fillers facility.....**

**Every tier of every pallet, throughout the supply chain, was recorded.....**

Pallet Tier	Palletisation	Transfer	Strap	Transfer	Load	Transport	Unload	Transfer	Prep	Transfer	De-Pal	Sweep
1	1	0	0	0	0	0	0	0	1	0	0	0
2	0	0	0	0	0	0	0	0	0	0	1	0
3	0	0	0	0	0	0	0	0	0	0	0	1



The results from each trial showed the following:

P(LT) i.e. the performance long term for the conventional packs ran at a Sigma value of 3.96

C(ST) i.e. the capability short term for the conventional packs ran at a Sigma value of 2.46

For the SmartStak both values achieved 6 Sigma

