

# glass WORLDWIDE

November/  
December 2017

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to batch charging

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**Glass is our Passion**



A glass leak in a furnace is an incident that can make headlines in newspapers but plenty of other unexpected repairs also occur in the industry (image courtesy of Portland Fire and Rescue - Dick Harris, photographer).

# Hot repairs require responsive refractory solutions

Bryn Snow discusses glass furnace maintenance and outage gains that manufacturers can achieve, much in the same way that owners can gain from the cars they drive.

When it comes to managing glass plants, manufacturers can look no further than the cars they own for inspiration on how to get the most out of their glass furnace investments.

Thanks to advancements in technology, customers can expect a longer lifespan than ever before from both a family car and glass furnace. But in both cases, investment can be further maximised via proactive maintenance and smart preparation to get through unforeseen issues.

## INCREASED LIFESPANS

In the 1960s and 1970s, the typical car reached its end of life at around 100,000 miles, according to a recent article in *The New York Times*. But because of manufacturing

improvements such as tighter tolerances and better anti-corrosion coatings, in the 2000s a typical car lasts closer to 200,000 miles<sup>(1)</sup>.

Much like the car, improvements to the refractory lining and furnace design have enabled glass manufacturers to lengthen the life of their glass furnaces by at least twice as long since the 1970s.

## PROACTIVE MAINTENANCE

Longer lifespans because of manufacturing improvements are good news. But additional factors

related to longevity for both a car and a glass furnace are contingent on conducting ongoing, proper maintenance.

For a vehicle, this include things such as regular oil changes, maintaining the transmission, changing spark plugs and no sudden starts or stops<sup>(2)</sup>. Similarly, regular maintenance of a glass furnace is critical to achieving the longest campaign possible. Repairs such as hot sealing of the crown, burner block replacement, melt line overcoats and hot bottom repairs are among the



most common in the industry.

In either case, whether it is the operation of a vehicle or the operation of a glass furnace, adhering to scheduled maintenance is the best scenario.

## UNPLANNED ISSUES

Unfortunately, there are instances when, despite taking proactive steps, a vehicle breaks down on the road and leaves the driver calling for help.

Similarly, plants can face unplanned outages and serious hot repairs (see sidebar). And the longer a glass furnace campaign is pushed to the limits, the more likely it is for an unexpected incident to occur, even with the best preventative maintenance plans in place.

A glass leak in a furnace is an incident that can make headlines in newspapers but plenty of other unexpected repairs also occur in the industry, for example, a melter

breastwall failure, a regenerator checker collapse, or depredation of a crown. These situations typically do not require support from the local fire department and emergency crew, so they may not make the evening news. But nevertheless, they are still critical issues and require refractory materials... quickly!

## RESPONDING WITH HELP

Just like the security and dependability of roadside assistance for a vehicle, HarbisonWalker International (HWI) provides a toll-free phone number with live operations 24/7, 365 to meet emergency refractory needs of manufacturers across North America.

In addition, to better serve glassmakers, the company has recently increased its on-the-ground inventory at strategic locations at its Global Sourcing Centers (GSCs) in Richmond, California on the West

Coast and in Rahway, New Jersey on the East Coast in the USA to minimise delivery times of emergency repair materials.

Products such as VISIL, CROWNSEAL, ZIRMUL, ZIRMUL 160 PATCH and JADE 52 XL are stocked at these locations, in addition to products like NIKE S65W, TZB, VISION, TZ 150 PATCH and TZ 748 RAM being held in inventory at HWI's South Shore, KY plant.

In the spirit of proper planning, all 30 North American locations of HWI's GSCs enable refractory purchasers to lower their own inventories, while still allowing them to be prepared for a hot repair or emergency, or for staging materials for a large project. Every GSC carries commonly used materials like superduty fireclay (KX-99, CLIPPER DP), insulating firebrick (GREENTHERM) and ceramic fibre (INSBOARD, INSWOOL). ■



The longer a glass tank campaign is pushed to the limits, the more likely it is for an unexpected incident to occur (image courtesy of Portland Fire and Rescue - Dick Harris, photographer).

## GLASS MANUFACTURING UNPLANNED OUTAGES IN THE USA SINCE 2008

### 2017

- Float glass tank glass leak.
- 300 ton glass container furnace bottom leak.

### 2014

- Glass container bottom leak caused \$2 million in damages.
- 250 ton glass container furnace bottom leak caused \$3 million in damages.

### 2012

- 130 ton glass container furnace bottom leak.

### 2011

- 200 tons of amber glass leaked from container furnace melter bottom.

### 2009

- Container furnace leaked from bottom to basement, where combustible materials were stored.
- 450 ton container furnace glass leak caused company to declare bankruptcy.

### 2008

- Tableware manufacturer had a 200 ton glass leak.

## REFERENCES

1. *Dexter Ford (16 March 2012). 'As Cars are Kept Longer, 200,000 Is New 100,000', New York Times.*
2. 'A Keeper is Cheaper', several cars featured by *AARP Magazine.*

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