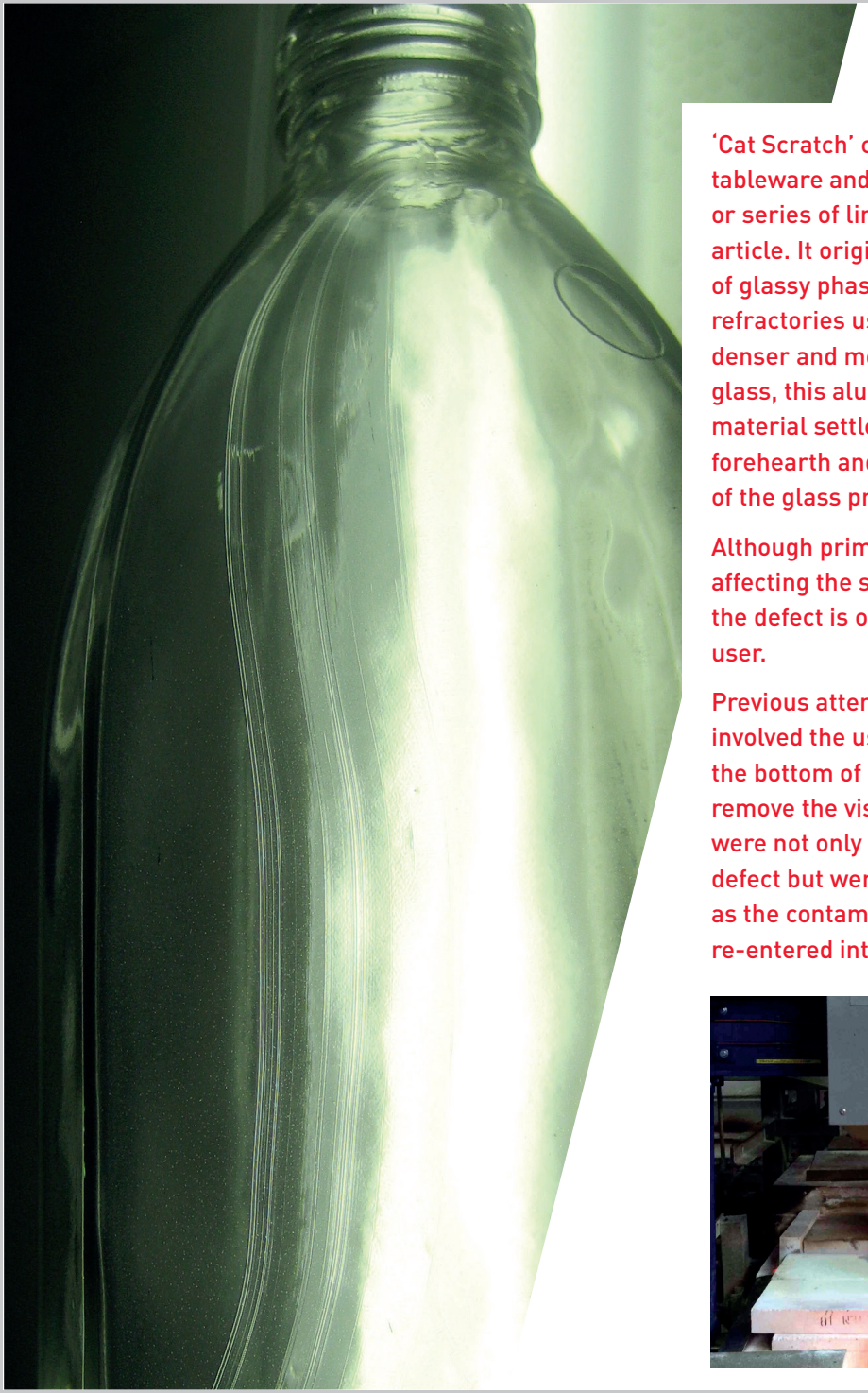
Cord Dispersal System

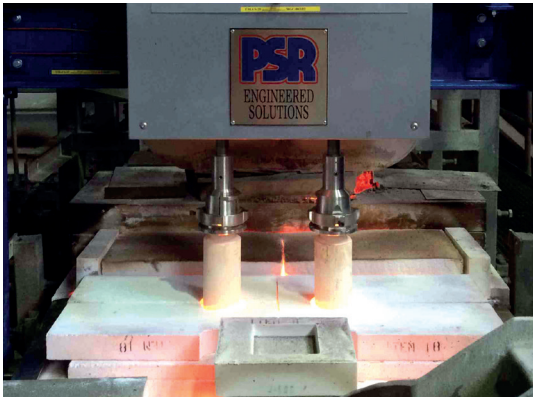
A proven and guaranteed solution
to the problem of cat scratch cord.



'Cat Scratch' cord is a defect in glass tableware and containers comprising a line or series of lines on the surface of the glass article. It originates from the exudation of glassy phase material in fusion cast AZS refractories used in the furnace. Being denser and more viscous than the base glass, this alumina and/or zirconia enriched material settles out on the bottom of the forehearth and is drawn onto the surface of the glass product.

Although primarily a visual defect not affecting the strength of the glass container, the defect is often unacceptable to the end user.

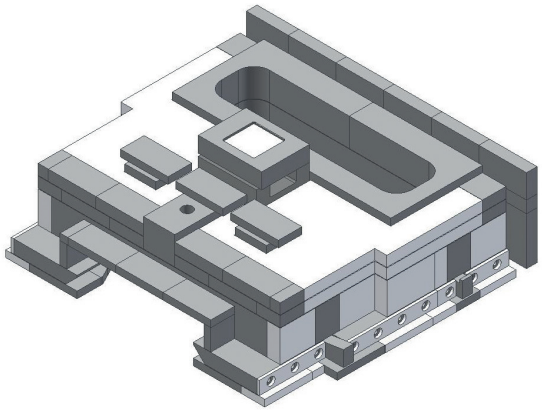
Previous attempts to eliminate the problem involved the use of a sump and drain in the bottom of the forehearth to collect and remove the viscous material. These systems were not only ineffective at removing the defect but were also wasteful of glass, as the contaminated material could not be re-entered into the furnace.



Key Feature 1

Guaranteed solution.

PSR's solution is a stirrer-based system and every Cord Dispersal System from PSR is supplied with a guarantee which states that if the defect is not eliminated to the client's satisfaction, the system will be removed and its cost fully refunded.



Key Feature 2

Twin, counter-rotating, over-lapping, paddle type stirrers.

Designed, located and configured to suit existing forehearth layouts and conditions, Cord Dispersal Systems will be configured by PSR with two counter-rotating, over-lapping, paddle type stirrers installed in the equalising section.

Why do we do it like this?

The purpose of the stirrers is to lift the dense, viscous, cordy glass off the bottom of the forehearth and disperse it into the body of the glass so that it is no longer present or visible on the surface of the formed article.

Over-lapping paddle type stirrers are used to provide a wide sweeping area and to prevent any of the cord material flowing along the base of the channel or passing around the sides or through the middle of the stirrers.

The stirrers are located in the equalising section so that the cord material cannot settle out again before it reaches the spout.

Key Feature 3

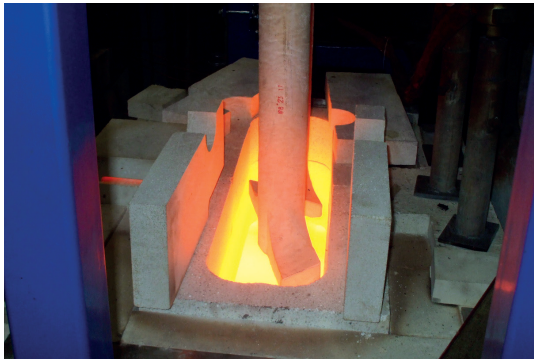
On-the-run installation.

Many forehearths are pre-configured for the subsequent installation of a stirrer system in the equalising section. If they are not, PSR can supply replacement equalising superstructure refractories to allow on the run installation.

Why do we do it like this?

By designing, manufacturing and supervising the installation of the requisite refractories and stirrer mechanism, PSR can outfit almost any forehearth with a Cord Dispersal System and solve any problem of 'cat scratch' cord. This can be done during a routine job change or machine stoppage with as little production downtime as 4-6 hours.

Competitive 'drain-based' systems cannot be installed on the run.



Key Feature 4

Complete pull-out facility.

The stirrer mechanism design allows the stirrers to be raised up, pulled out to the side and then lowered to the forehearth platform for easy stirrer replacement and system maintenance.

Why do we do it like this?

The safety and well-being of employees are paramount to all manufacturers. This configuration allows maintenance and stirrer replacement to take place away from the hazardous environment on top of the forehearth.

Key Feature 5

Heli-paddle stirrer upgrade.

Our latest development to the Cord Dispersal System consists of a new stirrer design, combining a paddle stirrer with a helix on the stirrer shaft for greater stirring efficiency.

Why do we do it like this?

In some instances, the CDS is employed to solve defects other than, or in addition to, 'cat scratch' cord. Depending on the source and behaviour of the glass defect, neither paddle nor helical stirrers may be sufficient to eliminate the problem. PSR's heli-paddle incorporates a paddle stirrer to lift the glass off the base of the channel and a helical stirrer to provide additional mixing effect throughout the body of the glass. With approximately double the stirring effect of conventional paddle stirrers, PSR's heli-paddles have been able to eliminate a variety of other glass conditioning problems such as poor thermal homogeneity, colour streaks or chemical inhomogeneity.