An Introduction to
Glass, Brittle Plastic and Ceramic Materials Control

BRC Global Standards. Trust in Quality
Glass, brittle plastic and ceramic materials control

The risk of food being contaminated with a foreign body can be minimised if you consider all the potential sources and introduce suitable risk management controls.

One potential foreign body is glass and brittle plastic. HACCP processes will help in the control of glass and plastic foreign bodies. But unlike metal objects, glass is not detectable using normal monitoring techniques, such as a metal detector. Therefore it's necessary to develop a specific control program.

Typical materials that could be found in food manufacturing sites include glass bulbs (for lighting or pest control devices), thermometers, and windows or clear Perspex (such as equipment guards or dial covers). It should be noted that products packed in glass packaging is managed separately (refer to Clause 4.9.3.4 of the Standard).

1.0 Requirements of the BRC Global Standard for Food Safety

In the BRC Global Standard for Food Safety, Clause 4.9.3.2 states:

*Documented procedures for handling glass and other brittle materials shall be in place and implemented to ensure that necessary precautions are taken. Procedures shall include as a minimum:*

- A list of items detailing location, number, type and condition
- Recorded checks of condition of items, carried out at a specified frequency that is based on the level of risk to the product
- Details on cleaning or replacing items to minimise potential for product contamination

2.0 Why is this requirement in place?

The aim of this requirement is not to create an onerous task that doesn't add value to product safety. It's there to protect consumers from a potentially serious physical hazard by the removal of unnecessary items, and to develop a comprehensive list of items that should be routinely inspected to minimise the risk of any damage or breakage being undetected.

3.0 Developing an effective glass control program

To start with, carry out an assessment of the glass and brittle plastic items in open product areas and wherever possible remove them. If it isn't possible, the item must be protected against breakage, for example, with adhesive sheets or reinforcements, and included on a register for inspection purposes.

When creating a list of items for inspection, it's important to be realistic. The objective is to create a list of items that represent a real risk of breakage and product contamination. For example, the window above the production line is likely to be high risk, as any breakage is likely to contaminate the product. But the window in the MD's office, on the other side of the site, isn't likely to contaminate a product even if it breaks.

The frequency of the inspections must be based on risk assessment. The quality of the risk assessment is important as some items will be checked infrequently due to their low risk status, whereas others may require frequent checks due to their prominent location and associated risk. For example, the window above the production line is likely to form part of the daily line start up procedures.

You must ensure you have a contingency process in place that allows the reporting and timely management of any breakage i.e. if an item is found to be damaged or broken during an inspection or if an item breaks during use.
There are a number of risk assessment techniques that can be used within food sites and the Standard is not prescriptive as which should be used. However it's worth noting that in relation to glass and brittle materials there are two key considerations:

- The potential for damage or breakage
- The location and consequently the likelihood of a broken fragment contaminating a food product

4.0 The importance of good documentation and record keeping

There are five key documents that are required:

- A list of items, details of their location, number, type and condition. (An example list is shown in appendix 1)
- A risk assessment defining the required frequency of checks
- Records of the routine inspections to verify the condition of these items. (An example checklist is shown in appendix 2)
- Procedures that allow the cleaning or replacement of items in a way that minimises potential risk to products (e.g. when changing light bulbs)
- A procedure for the management of any breakages. (An example is shown in appendix 3)

A record of the checks must be maintained even when there is no change to the status of the item. This is to demonstrate that the checks were made, so that in the event of a breakage you can be confident the item was intact at the previous scheduled inspection, allowing any investigation or action to focus on a defined time period.

Quick Tips

- Ensure that all non-essential brittle materials are removed from open product areas (see requirement 4.9.3.1)
- Ensure the list of glass and brittle items is complete and comprehensive
- Ensure that glass checks are completed to the predefined frequency

These short guides are designed for companies involved in the enrolment program and aim to help you interpret the Standard, and design robust systems and procedures that meet the requirements. Examples are given to explain the types of documents and procedures and the level of detail typically required. However, you’ll need to consider the context relevant to your business. The implementation of the Standard, and whether a resulting system is considered to be conforming or non-conforming by an auditor, is an objective judgement which can only be based on the evidence collected and observations made during the audit.

Further details regarding the BRC Global Standard for Food Safety can be obtained from enquiries@brcglobalstandards.com
Appendix 1: Example glass register

<table>
<thead>
<tr>
<th>Item</th>
<th>Location</th>
<th>Number</th>
<th>Type</th>
<th>Condition</th>
<th>Frequency of Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows</td>
<td>Production</td>
<td>6</td>
<td>Glass</td>
<td>Fully intact, Protected using adhesive sheeting</td>
<td>Monthly</td>
</tr>
<tr>
<td>Protective Guard</td>
<td>On production line 1</td>
<td>1</td>
<td>Rigid Plastic</td>
<td>Fully intact</td>
<td>Daily (NB Recorded on line start up records)</td>
</tr>
</tbody>
</table>

Appendix 2: Examples of glass/brittle check records

**Monthly Glass Check**

Month: ______________________  Date Checked: ______________________

Checked By: ______________________

<table>
<thead>
<tr>
<th>Area/Item</th>
<th>Damaged or Missing (Y/N)</th>
<th>Comments/Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Or alternatively where different individuals complete checks or they are checked on different dates the record may look like this:

**Glass check**

<table>
<thead>
<tr>
<th>Area/Item</th>
<th>Damaged or Missing (Y/N)</th>
<th>Comments/Actions</th>
<th>Date</th>
<th>Checked By</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Appendix 3: Typical steps to take in the event of a glass breakage**

In the event of a breakage the following procedure must be followed:

- Notify a responsible person. (The company must identify supervisors, line managers or production managers who should be notified and they should have sufficient knowledge and authority to take action)

- Where the breakage occurs near open product (e.g. near a production line) production in the area should be stopped

- Isolate the area of the breakage to ensure glass isn’t inadvertently distributed to other areas

- Discard products in the area that are contaminated or reasonably likely to be contaminated. If the break is discovered during a routine inspection then it will be necessary to consider all the products that have been manufactured since the last satisfactory inspection and the possibility that these may be contaminated

- Carefully clear the broken glass. The site should have specific cleaning equipment

- Once the area has been cleaned it should be inspected and signed off before production resumes

- A record of all breakages should be maintained