

# BRCGS Standard for Packaging Materials

## P606 – Calculating Audit Duration

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### Document Scope:

This document outlines the factors to be used in the calculation of audit duration for sites that require certification against the BRCGS Standard for Packaging Materials, Issue 6.

### Change log

Version no.	Date	Description
1	25/09/2019	New for Issue 6
		Replacement of key processes with HARA plans
		Update of additional modules and addition of ETRS new risk assessment
2	6/11/2019	Amended draft following feedback from key delivery partners
3	9/12/2019	Final draft
4	10/12/2019	Update of section 2.2
5	06/01/2020	Correct logo added

## 1. Introduction

BRCGS have developed this audit duration calculator with a working group of Certification Bodies in order to provide a more transparent and consistent approach to establishing audit duration. In accordance with the calculator and current practice the typical audit duration shall be 2 days of which a minimum of 5 hours shall be spent auditing the manufacturing environment.

The audit calculator shall be used as the basis for allocating audit duration for all audits undertaken from the 1st of February 2020, however Certification Bodies may use this calculation upon release.

The audit duration calculator is based on:

- Number of employees – as full-time equivalent manufacturing and warehousing employees per main shift, including seasonal workers.
- Size of the manufacturing facility (in square metres) - buildings, AND any external covered or uncovered storage areas.
- The conversion from square feet to metres is 10.76 (e.g. 86,000 square feet equals 8,000 square metres).
- The number of hazard analysis and risk assessment, HARA, plans within scope- for the purpose of this calculator, a HARA plan corresponds to a family of products with similar hazards and similar manufacturing technology.
- Typical audit day is 8 hours, with a maximum of 9 hours in exceptional circumstances.

**Table 1. Audit Duration**

Audit duration in days based on 1-3 HARA plans (audit day = 8 hours)			
Size of manufacturing facility including storage areas			
No. of employees	<10 k sq. m	10k – 25k sq. m	>25k sq. m
1-50	12 hours (Completed within 1.5 days)	12 hours (Completed within 1.5 days)	14 hours (Completed within 1.5 - 2 days)
51-500	12 hours (Completed within 1.5 days)	16 hours (Completed within 2 days)	18 hours (Completed within 2 – 2.5 days)
501-1500	16 hours (Completed within 2 days)	16 hours (Completed within 2 days)	18 hours (Completed within 2 – 2.5 days)
>1501	18 hours (Completed within 2 – 2.5 days)	20 hours (Completed within 2 – 2.5 days)	24 hours (Completed within 2.5 - 3 days)

Other factors identified in the Standard may influence the calculation but are considered to be less significant. These other factors shall not influence the audit duration by more than 30% from the total calculated audit duration.

**2.1 Factors that increase audit duration**

There are several situations which require time to be added to the audit duration tabulated above. These are where a site has:

- more than 3 HARA Plans
- traded products audited to Section 7 of the Standard
- an audit including one or more additional modules
- inclusion of the Ethical Trade & Responsible Sourcing (ETRS) risk assessment

Table 2. Time allocation for additional HARA Plans

<b>Additional HARA Plans</b>	<b>Additional hours to total audit duration</b> (This time to be split between document review and the manufacturing environment)
4 – 8	4 hours (0.5 days)
>8	8 hours (1 day)

<b>Additional Sections of the Standard</b>	<b>Additional hours to total audit duration</b> (This time to be split between document review and the manufacturing facility)
Section 7 (Traded Product)	≥1 hour

**Unannounced audits**

This calculator shall be used for full unannounced audits.

**Additional Modules**

The Standard has been designed to enable the addition of voluntary modules to the routine audit. Where a site requests that a voluntary module(s) is included with the audit, additional time will be needed for that audit. The amount of additional time will depend upon the module or combination of modules chosen. The typical additional time required is detailed in the protocol section of the individual modules. At the time of publication of this document, these times are:

Additional Module No.	Module Title	Typical Additional time (This time to be split between document review and the manufacturing environment)
8	Environmental Awareness Module	4 - 8 hours (0.5 – 1.0 day)
10	Plastic Pellet Loss Prevention	2 -4 hours (0.25 – 0.5 day)

Additional activity	Typical additional time required
Ethical Trade & Responsible Sourcing (ETRS) Risk Assessment	4 hours (0.5 day)

## 2.2 Factors that may decrease audit duration

- Where less than 50% of the total manufacturing and storage facility site size is utilised as manufacturing, the audit duration may be reduced by 30%.
- The site carries out one simple process, such as the slitting and rewinding of films
- a separate audit of the central system (head office audit) completed before the manufacturing site audit may reduce the duration calculated for the manufacturing site audit to take account of systems already audited at the central (head) office. This is typically a reduction of 2 hours dependent on what activities the head office undertakes.

## 2.3 Other factors that may increase audit duration

- initial audit (i.e. the site's first ever audit) – it is likely that the auditor will require additional time, for example, during opening and closing meetings.
- complexity of the manufacturing process
- number of product lines – for example, this could mean there are a larger number of potential hazards), making a review of the HARA plans or auditing of control mechanisms longer than typical.
- size and age of site and impact on material flow
- labour-intensity of processes
- communication difficulties, e.g. language
- the number of non-conformities recorded in the previous audit – clause 1.1.9 requires the site to complete root cause analysis and preventive recurrence of non-conformities identified at the previous audit. Therefore, a large number of non-conformities at the last audit are likely to require increased time for the auditor to assess.
- difficulties experienced during the audit requiring further investigation
- the quality of company preparation, e.g. documentation, HARA, QMS
- additional storage facilities, locations or head office assessments included within the audit process

### 3. Recording audit duration

On site audit duration should be stated in man hours (whole number e.g. 17 not 16.5) giving the total time at the site conducting a BRCGS audit (including time in manufacturing).

The start and finish times each day shall be clearly stated on the audit report and reflect the actual times at the site. These should be agreed as correct between the auditor and the authorised site representative i.e. the site should sign a record of the start and finish times, for each day of the audit, a copy of which must be retained by the certification body. (This may be combined with other audit documentation, for example, by adding the information to the non-conformity record sheet).

Allowance should be made (to deduct time) where audit teams are used and both auditors are present e.g. at the opening and closing meetings. Those personnel not 'auditing independently' should not be included within the total time calculation e.g.:

- Witness auditor
- Trainee auditor
- Technical expert

Where a combination of audits has been undertaken e.g. BRCGS and ISO22000, then a calculation for the total time taken for the BRCGS audit only should be stated.

**Duration of manufacturing facility audit** should be stated in man hours (whole number e.g. 6 not 5.5) giving the total time (man hours) that has been spent in the manufacturing environment. This should be part of the site audit time and not additional to it.

It is recognised that the audit of a site against the requirements of the Standard will involve both the time spent within the manufacturing environment and time spent reviewing records and procedures within an office.

It is expected that wherever practicable, evidence should be gathered within the manufacturing environment through interviewing staff, observing working practices and reviewing process controls and records. At a typical audit, 30-50% of the total audit duration, e.g. minimum of 4 hours of a 1.5-day audit should be spent within the manufacturing environment.

Where the audit duration is increased in line with the size of the site, additional time shall be spent within the manufacturing environment.

**The company profile section** of the audit report shall include the information needed to calculate the audit duration, e.g. number of employees and size of the factory. The detailed section of the audit report should provide an outline of the product types manufactured and the number of HARA processes occurring on site.

Justification shall be given where either the total audit duration or time spent within the factory varies from the calculated values according to this procedure.

**The total hours** shall not include any calculation for writing of the final audit report away from site. This is additional time and is typically 4 – 8-man hours.

### Appendix 1 - Manufacturing categories

Category Code	Manufacturing Category	Scope of manufacturing category
01	Glass manufacture and forming	<p>Typical manufacturing techniques:</p> <ul style="list-style-type: none"> <li>• Blow and blow</li> <li>• Press and blow</li> <li>• Extrusion of ampoules</li> <li>• Forming and firing of ceramic bottles, jars or decanters</li> </ul>
02	Paper making and conversion	Pulp to sheet or web, or conversion of sheet or web-fed paper where no printing operations take place (printing activities are additional process steps).
03	Metal forming	Smelting of raw materials into aluminium, steel, or tin, AND conversion of those materials into packaging containers/materials which may undergo print/decoration.
04	Rigid plastics forming	Forming of resin into rigid plastic packaging materials which may undergo print/decoration.
05	Flexible plastics manufacture	Forming of resin into flexible plastic packaging materials, AND laminating of multi-material layers into one layer which may undergo print/decoration.
06	Other manufacturing	<p>This category will encapsulate the manufacture of those materials not able to be classified into other categories.</p> <p>This includes:</p> <ul style="list-style-type: none"> <li>• Construction of pallets, boxes and crates, decorative wooden boxes</li> <li>• Processing of wood for food and cosmetic use, wooden utensils (e.g. for lollipops)</li> <li>• Processing of natural cork, rubber</li> <li>• Construction of hessian sacks, jute products, woven string (plastic or cotton)</li> <li>• Processing of strings for tea bags or meat-packing.</li> </ul>
07	Print processes	Any packaging material which is printed using any of the following print processes in addition to any manufacturing process:

		<ul style="list-style-type: none"> <li>• Flexographic, lithographic, gravure, letterpress (and offset)</li> <li>• Screen, tampo or digital print</li> <li>• Decoration by hot or cold stamping/blocking</li> </ul> <p>Any post printing conversion, such as cutting/creasing and gluing of folded cartons, is considered part of print processes, as printed packaging materials are typically converted further once printed. Specify printing technologies used at the site.</p>
08	Chemical processes	<p>Essentially, the manufacture of raw materials used in the printing and conversion of other packaging materials. This includes the manufacture of:</p> <ul style="list-style-type: none"> <li>• Resins</li> <li>• Adhesives</li> <li>• Inks, varnishes and coatings</li> </ul>

**Appendix 2** – Examples of scopes and typical numbers of HARA Plans

<p>The manufacture of premium flint, standard and coloured glassware in wide mouth and narrow neck formats for the food and beverages industries by blow-blow and wide and narrow neck press blow. Print and labelling as required</p> <p>Applicable manufacturing categories are 01 glass manufacture and forming, 07 print processes. Labelling is considered decoration but print processes is not applicable as print activity occurs elsewhere.</p> <p><b>Typical number of HARA Plans = 1-2</b></p> <p>(Printed/decorated products; unprinted/undecorated products)</p>
<p>Die-cutting and folding and gluing corrugated trays for fruits and vegetables. Die-cutting and flexo printing corrugated cases for food products.</p> <p>Applicable manufacturing categories are 02 paper-making and conversion, 07 print processes. Both are required as some products are not printed, papermaking is applicable where no print processes are carried out.</p> <p><b>Typical number of HARA Plans = 2-3</b></p> <p>(trays for fruits and vegetables; printed cases for food products; unprinted cases for food)</p>
<p>Impact extrusion and offset print or labelling of aluminium flexible tubes for hand creams and other personal care products.</p> <p>Applicable manufacturing categories are 03 metal forming, 07 print processes.</p> <p><b>Typical number of HARA Plans = 1-2</b></p> <p>(printed/decorated aluminium flexible tubes)</p>
<p>Injection moulding of tubs and handled pails with in-mould labelling, for use with food, and toy products</p> <p>Applicable manufacturing categories are 04 rigid plastics forming</p> <p><b>Typical number of HARA Plans = 1-2</b></p>
<p>Lamination of multilayers films (paper, aluminium, polymer), rotogravure printing, and slitting for food contact packaging. Materials involved PA, PE, PP, PET, EVOH, Aluminium, paper.</p>



<p>Applicable manufacturing categories are 05 Flexible plastics manufacture, 07 – Print processes.</p> <p><b>Typical number of HARA Plans = 1-2</b></p>
<p>Manufacture of bamboo containers for fresh fish products and food service.</p> <p>Applicable manufacturing categories are 06 other manufacturing.</p> <p><b>Typical number of HARA Plans = 1 - 2</b></p>
<p>Printing and conversion of paper sheet into papers for bakeries.</p> <p>Applicable manufacturing category is 02 – paper-making and conversion 07 – print processes.</p> <p><b>Typical number of HARA Plans = 1 - 2</b></p>
<p>Mixing and blending of liquid and solid plant-based materials, to produce a range of coatings and adhesives for use with paper-based substrates for use in the food industry</p> <p>Applicable manufacturing category is – 08 chemical processes</p> <p><b>Typical number of HARA Plans = 1 - 2</b></p>
<p>Washing, coating, manual and electronic selection, printing and surface coating (with paraffin and silicone) of cork stoppers for still and sparkling wines</p> <p>Applicable manufacturing category is depending on 06 other manufacturing and print processes</p> <p>Applicable manufacturing categories are is 05- flexible plastic; 4 – rigid plastic forming, 07 – print processes</p> <p><b>Typical number of HARA Plans = 1 - 2</b></p>
<p>The injection and compression moulding and assembly of HDPE and PP closures for soft drinks.</p> <p>Applicable manufacturing category is – 04 Rigid plastics forming</p> <p><b>Typical number of HARA Plans = 1 - 2</b></p>
<p>The manufacture of plain and flexographically printed single and double wall paper-based food and drink containers</p> <p>Applicable manufacturing category is 02 paper-making and conversion and 07 print processes</p> <p><b>Typical number of HARA Plans = 1 - 2</b></p>
<p>Primary cleaning using caustic and acid solution, washing, disinfecting, grading and packing of sea shells for prepared food packaging</p> <p>Applicable manufacturing category is 06 other manufacturing</p>

**Typical number of HARA Plans = 1 - 2**

Rewinding of rolls in aluminium, PVC, PE and baking paper, packed in case of cardboard or plastic bag. Thermoforming of trays in cardboard coupled with PET, packed in plastic bag and cardboard. Cutting of cardboard coupled with aluminium or PP, packed in plastic bag and cardboard. All food contact.

Applicable manufacturing categories are 02 – Papermaking and conversion; 03- Metal forming; 04- Rigid Plastics forming and 07 – Print processes

**Typical number of HARA Plans = 4- 5**

Manufacturing of digital printed sheets and boxes and finishing of them as primary and secondary food and industrial packages

Applicable manufacturing categories are 02 – Papermaking and conversion and 07 – Print processes

**Typical number of HARA Plans = 2**

Manufacture of tubes as primary packaging for cosmetics, oral care, food, household products including laminate foil printing with flexo and letter-press technology.

Applicable manufacturing categories are 04- Rigid Plastics forming and 07 – Print processes

**Typical number of HARA Plans = 2 -3**

Extrusion, thermoforming and off-set printing of cups for vending machines, coffee capsules and table-ware disposable (plates and cups) in PP, PS, PP/EVOH/PP with or without a lid, bio- polymers, packed in plastic bags in carton boxes.

Applicable manufacturing categories are 04- Rigid Plastics forming; 06- other manufacturing and 07 – Print processes

**Typical number of HARA Plans = 3**