

# **THE ASSURED UK MALT TECHNICAL STANDARD**

**Version 3.4**

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# ASSURED UK MALT MANUAL

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## INTRODUCTION

### The Scope of the Assured UK Malt Standard

The Assured UK Malt Standard documents the requirements to be followed for the supply of malt that carries the ‘Assured UK Malt’ certification. It can be used for the complete range of malts produced from assured grain that are intended for further processing within the food and drink industries.

The Standard is designed to provide Maltsters with a mechanism for assuring:

- Food Safety
- Product legality
- Good Operational Practice
- Product quality

This Standard may aid malt producers to develop systems that demonstrate food safety, good manufacturing practice and quality management. The Standard may also be used by customers, auditors and regulatory authorities to ensure that best practice has been followed in setting up and maintaining assured malting systems.

Malting operations fully meeting the requirements of this Standard will be able to demonstrate to customers and other interested parties that best practice in malting operations have been followed and food safety and quality hazards are effectively controlled.

All companies certified to supply Assured UK Malt will be subject to external audit of their compliance with the standard.

### The Format of the Assured UK Malt Standard

**Each section in the Assured UK Malt Standard begins with a summary of the principles in bold text, contained within a red frame, which defines the requirement that maltsters must comply with in order to gain certification, and be able to offer ‘Assured UK Malt’ to their customers.**

Below this summary is a table, which shows, in the left column all the specified criteria that shall be complied with to meet the requirements of the AUKM scheme. The right column of the table gives indications of good working practice, or further guidance to the criteria in the left column, as below:

AUKM Requirements	Guidance

# 1 Management Requirements

## 1.1 General Requirements

**The Company shall develop and implement an effective Management System that addresses all of the requirements of the AUKM Standard. The Management System must be regularly reviewed to ensure it remains current, effective and continues to reflect the needs of the business.**

AUKM Requirements		Guidance
<b>1.1.1</b>	<p>The Company shall prepare a policy document that indicates how the requirements of the AUKM scheme have been interpreted and implemented within the business.</p>	<p>For businesses with ISO 9001 systems, it is likely that the Quality Manual will be an existing document that fulfills this need, with some adjustment.</p> <p>For those that do not have ISO 9001 documentation in place, the “policy document” would need to explain in general terms (i.e. a summary) how the business has complied with the requirements of the AUKM scheme and provide references to the detailed procedures, instructions, documents etc that contain the working detail of the systems.</p> <p>In all cases it is acceptable for a Company to use and adapt existing systems, documents, manuals and forms etc to comply with AUKM. It is not expected that a company will duplicate systems already in use.</p>
<b>1.1.2</b>	<p>The Company shall develop and implement working procedures and detailed instructions that are needed to control activities in the manner required by the AUKM standard.</p> <p>The extent to which these working procedures are documented will be dependent on the nature of the work covered by the procedure, the methods used and the skill/training needed by the staff.</p>	<p>Good practice often requires procedures to be documented but in some cases it is acceptable for the procedures to be “informal” and disseminated to staff by training and on-the-job instruction. In such cases the company must be satisfied, and be able to demonstrate, that activities covered by “informal” procedures are conducted consistently and that there is no possible detrimental effect on product conformity.</p>

## 1.2 AUKM Management Policy Statement

**The Company shall have a clearly defined and documented policy statement, regarding compliance with the AUKM Standard that is understood by everybody in the company.**

AUKM Requirements		Guidance
1.2.1	The Company shall document a policy that states its intention to comply with the Assured UK Malt Standard to meet its obligations for; <ul style="list-style-type: none"> <li>• Product Safety</li> <li>• Product Legality</li> <li>• Good Manufacturing Practice</li> <li>• Product Quality</li> </ul>	<p>This is only expected to be a brief (typically one page) document that is prepared and endorsed by, typically, the Managing Director or equivalent.</p> <p>This policy can be combined in a statement that also deals with other standards, such as ISO 9001, but it must still be clear and unequivocal about AUKM.</p>
1.2.2	The Company shall ensure that the policy is communicated to, and understood by, all employees.	Systems and procedures are worthless unless they are known and understood by everybody in the business. All employees should have a reasonable understanding of the reason for having the AUKM standard, how important it is and their role within the system.
1.2.3	The policy shall be periodically reviewed to ensure it remains current and suitable for the needs of the business.	<p>Policies of this type are not likely to change regularly but it is important to check it to make sure that it is still correct and appropriate.</p> <p>“Periodically” means that it should be checked at least once a year, but more often if the business is going through a period of significant change.</p>

## 1.3 Organisational Structure

**The UK malting company must ensure that all employees clearly understand their job function, responsibility and reporting relationships within the Company.**

AUKM Requirements		Guidance
1.3.1	All employees shall be made aware of their responsibilities, the levels/limits to their authority and the organisational structure of the company, particularly for staff involved with product quality, safety, legality.	<p>Typically employees would have a job description that clearly indicates their duties and responsibilities.</p> <p>Employees should be made aware of the extent of their authority (particularly for important activities such as decisions regarding nonconforming product, customer contracts, purchasing, product release etc).</p> <p>Employees should understand who they report to.</p>
1.3.2	The Company shall ensure that adequate resources are put in place to meet the requirements of the AUKM Scheme and	The company must consider what resources (typically personnel, equipment and facilities) are needed to fulfill their obligations under the

	relevant legislation.	AUKM scheme and relevant legislation (health and safety facilities/equipment) and make sure that these are available.
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## HACCP System

**Companies shall develop and implement a HACCP system that follows the Codex Alimentarius Commission guidelines as a means of identifying and managing the risk of food safety hazards occurring or persisting through the malting process.**

AUKM Requirement		Guidance
<b>1.4.1</b>	<p><b>The HACCP Team</b></p> <p>The malting operation shall use a multi-disciplinary HACCP team to develop and maintain the HACCP system. Key personnel identified as HACCP team members shall have adequate training and experience.</p> <p>A HACCP Team Leader or nominated team representative shall be appointed to co-ordinate the work of the HACCP Team.</p> <p>The Team Leader shall be able to demonstrate competence in the understanding of HACCP principles and their practical application.</p>	<p>The size of the team should be appropriate to the size and complexity of the malting operation. The members of the team shall be personnel with specific knowledge and expertise of each aspect of the operation of the facility.</p> <p>The team leader must have adequate knowledge of HACCP principles and have attended a recognized training course. Where the team leader has not attended a recognized HACCP course there should be available written justification</p>
<b>1.4.2</b>	<p><b>Define scope of HACCP study</b></p> <p>The company shall identify what hazards to food safety are unacceptable to the finished product and what legislation needs to be considered as part of the study.</p>	<p>The team must have sufficient expertise to be able to identify the hazards to food safety and to know what is/isn't acceptable in the finished product, plus the legislation.</p>
<b>1.4.3</b>	<p><b>Construct Process Flowchart</b></p> <p>The company shall identify all process steps and document as a process flowchart</p>	<p>The flow-chart would normally be presented as a series of boxes showing the sequence of individual stages from material receipt through every step of production and storage to dispatch. If there are several production lines that differ in any aspect then each must be shown in the flow-chart.</p>
<b>1.4.4</b>	<p><b>Conduct Hazard Analysis</b></p> <p>The HACCP Team shall conduct a hazard analysis to identify and list the food safety hazards that could occur in the product that would make it unfit for its intended purpose.</p>	<p>This requires the Company to know and understand the food safety issues that relate to the use of the malted barley in their customers processes.</p>
<b>1.4.5</b>	<p><b>Identify Critical Control Points (CCP's)</b></p> <p>The HACCP team shall identify and document the CCP's for each process step.</p>	<p>Critical control points occur at steps where the hazard could persist without being identified or eliminated at any further step in the process.</p>

<p><b>1.4.6</b></p>	<p><b>Pre-requisites</b></p> <p>The HACCP team shall consider all hazards and CCP's and define pre-requisites.</p>	<p>Pre-requisites are activities that are covered by systems specified elsewhere and are not unique to a particular process step. Typically this will include requirements specified in the AUKM scheme, the MAGB HACCP Guide for Malting etc.</p>
<p><b>1.4.7</b></p>	<p><b>Critical Limits</b></p> <p>The HACCP team shall establish critical limits which shall be met to ensure that each pre-requisite and CCP is under control.</p>	<p>Every hazard that has been identified must have a critical limit identified. It may be "zero" or a level that does not compromise safety in the finished product.</p>
<p><b>1.4.8</b></p>	<p><b>Corrective action</b></p> <p>The HACCP team shall define corrective actions to be taken when monitoring indicates that a particular CCP is not under control and the responsibility for taking the actions.</p>	
<p><b>1.4.9</b></p> <p><b>1.4.10</b></p> <p><b>1.4.11</b></p>	<p><b>HACCP validation and verification</b></p> <p>The HACCP team shall establish procedures to confirm that the HACCP system is working effectively.</p> <p><b>HACCP documentation</b></p> <p>The HACCP team shall define the procedures and records required for the HACCP system to work effectively.</p> <p><b>HACCP Review</b></p> <p>The HACCP team shall review the HACCP system periodically and in response to any changes in products, processes, legislation or any other factors that may affect the safety of the finished product.</p> <p>The HACCP review shall be recorded and findings implemented.</p>	

## 1.5 Document and Data Control

**The Company shall ensure that all documents and data relevant to the management of product safety, legality, quality and good operational practice are available, and effectively controlled.**

AUKM Requirements		Guidance
1.5.1	All documents and data shall be properly authorised, distributed and controlled such that all employees have access to the correct version of all documents and data needed to carry out their duties effectively/correctly.	It is important that documents are checked and approved by a competent person before they are issued. Unless documents are identified with a version number or date it is hard to be sure that the right version is in use. The distribution of documents should be recorded so that new versions can be issued to the right people when the document changes and old versions either removed or protected from being used in error.
1.5.2	The company shall ensure that systems are in place to identify the need for any changes to documents, data and operational systems.	The company must be aware of factors that are likely to cause documents/data/systems to need updating, these would typically include; <ul style="list-style-type: none"> <li>• Legislation</li> <li>• National standards</li> <li>• Customer requirements</li> <li>• Internal reviews (e.g. internal audits)</li> </ul>

## 1.6 Personnel and Training

**The Company shall ensure that all employees are evaluated, trained and monitored to ensure that they are competent and fit for the work they are required to undertake. The Company shall ensure that Contractors operate in such a manner that business integrity is maintained.**

AUKM Requirement		Guidance
1.6.1	<p>The Company shall identify and provide any training that is needed to ensure employees are competent, safe and legal for the work they are required to undertake.</p> <p>Records of training shall be kept.</p> <p>The company shall ensure that the health status of employees is suitable before they are allowed to come into contact with the product.</p>	<p>Training must cover work related activities to ensure that employees are able to carry out the work to an acceptable standard and also cover general site/legislative requirements (e.g. health and safety, health status etc).</p> <p>It is essential that training and monitoring systems ensure both employee safety and food safety within the factory.</p> <p>A return to work questionnaire or similar interview arrangement should be in place when an employee returns after an illness (e.g. diarrhoea) that could compromise food safety, or after travel to a country that is known to be at risk of communicable disease</p>

1.6.2	<p><b>Training of Temporary Staff</b></p> <p>The company shall ensure that all temporary staff undergo a site induction before starting work. This induction will include food and feed safety issues.</p> <p>The company shall ensure that all temporary staff are adequately trained for the tasks they are carrying out and are supervised by a competent person while on site.</p> <p>The company will ensure that training records are retained and kept up to date.</p>	
1.6.3	<p><b>Control of Contractors</b></p> <p>The Company shall ensure that all contractors working on site operate in such a manner that business integrity is maintained.</p> <p>The Company shall ensure that all contractors have read the local rules for working on site prior to any works taking place. The company shall ensure that contractors are aware of all food / feed safety issues relevant to that site and that all areas are left neat, tidy and food / feed safe before leaving site.</p> <p>The company shall ensure that all contractors sign in and out on a daily basis.</p>	
1.6.4	<p><b>Visitors</b></p> <p>Visitors to sites should be made aware of food safety and hygiene procedures appropriate to the nature and duration of their activities on site</p>	For visitors to site it is sufficient to read an induction notice at reception and to sign an acknowledgement. Records should be maintained.
1.6.5	<p><b>Eating, drinking and Smoking</b></p> <p>If allowed these activities should only take place in designated areas</p>	<b>These activities should not be in production areas. Signage indicating no eating, drinking or smoking should be in place as appropriate</b>

## 1.7 Internal Audits and Periodic Reviews

**The Company shall carry out a programme of audits and reviews to ensure the company operations are effective in producing malt that is safe, legal and meets customer requirements.**

	<b>AUKM Requirement</b>	<b>Guidance</b>
1.7.1	The Company shall plan and conduct internal audits as a means of determining whether company operations are effective and comply with planned arrangements.	The company need to have a plan of the audits they intend carrying out. The plan must ensure that all systems and activities required by the AUKM standard are covered.

1.7.2	Audits shall be carried out by a competent person that is independent of direct responsibility for the work being audited.	In this context, competent means that the auditor has the capability to perform an audit by virtue of experience/training and has a good working knowledge of the subject being audited.  Independence means that the auditor is not auditing their own work.
1.7.3	Audits findings, including any deficiencies, shall be recorded and circulated within the company.  If any deficiencies were reported, records shall be retained to indicate that they have been fully resolved within a reasonable time.	The audit report needs to be issued to appropriate members of the company management (i.e. those with overall responsibility for the area being audited) for information and also appropriate members of operational staff that may need to use the information to correct problems or for general awareness.

## 1.8 Calibration

**The Company shall ensure that all equipment used to inspect, measure, test or control specified processes within defined limits is calibrated.**

AUKM Requirement		Guidance
1.8.1	<p>The company shall establish a record of all equipment that requires calibration, indicating for each item of equipment;</p> <ul style="list-style-type: none"> <li>• The re-calibration interval</li> <li>• The accuracy required</li> <li>• The calibration results</li> <li>• The calibration method</li> </ul> <p>If equipment is found to be outside the accuracy tolerance when calibrated, the company shall carry out an investigation to check the consequences on the integrity of the product.</p>	<p>Equipment that is used to check the conformity of the product to specification requirements or to monitor processes within defined limits needs to be calibrated with reference to a national standard where one exists (e.g. the National Physics Laboratory or NAMAS certified facility) to make sure it is sufficiently accurate for the purpose and the readings can be trusted.</p> <p>The records indicated must be kept to ensure that the calibration system is working effectively.</p>

## 1.9 Record Keeping

**The company shall maintain records to demonstrate the effective operation of management systems and compliance with the AUKM scheme.**

AUKM Requirements		Guidance
1.9.1	The company shall make sure that records required by the AUKM scheme are kept in suitable conditions that prevent deterioration and enable easy retrieval.	Generally paper records need to be kept in dry conditions and should be indexed and identified in some manner to allow somebody to find them again.

		Computer archive media needs to be kept in conditions recommended by the manufacturer.
<b>1.9.2</b>	Records shall be kept for a minimum of three years. The company shall identify any records that need to be kept for longer for either regulatory or good practice.	Most product records will have served their purpose after 3 years but some records (e.g. personnel/training) are still very relevant and the company must identify which ones still need to be kept when the three year period has expired.

## 1.10 Management of Incidents and Product Recall

**The company shall establish procedures to manage incidents and product recalls, in order to minimise or eliminate risks arising from nonconforming material.**

AUKM Requirements		Guidance
1.10.1	The company shall establish documented procedures to review incidents promptly in order to determine the effect on the safety, legality and conformity of the affected products.	As soon as information indicates that products might be/are out of specification there must be a well-thought through and documented system that comes into play to investigate the situation and decide the correct course of action.
1.10.2	<p>The system shall ensure that customers are advised immediately if an incident occurs that effects delivered product.</p> <p>The company shall have planned arrangements for the recall of products delivered to customers.</p> <p>The product recall system shall be challenged at least annually, to prove its effectiveness.</p>	<p>If the investigation indicates that the problem extends to product actually delivered to a customer, they must be informed immediately and advised if a product recall is considered necessary.</p> <p>This system relies on effective internal systems, records and traceability. It is a system that only gets used in an emergency and therefore it must be trialed (e.g. with a “dummy” emergency) so that it is know to work and therefore can be relied upon when needed.</p>

## 1.11 Preventive and Corrective Action

**The Company shall ensure that procedures exist to eliminate the cause of actual or potential threats to product safety, legality or quality.**

AUKM Requirements		Guidance
1.11.1	The company shall establish a plan for identifying potential problem areas by reviewing appropriate sources of information in order to take preventive action.	This is the “pro-active” part.  The company needs to review key sources of information that will reveal whether there are looming problems that could be mitigated by taking immediate action rather than waiting for the problems to occur.
1.11.2	The company shall investigate the cause of nonconformances and ensure that actions are taken to prevent a re-occurrence of the problem.	This is the “re-active” part.  The company needs to review any problems (typically nonconformances, complaints, test result failures etc) not just to resolve the immediate problem, but also to consider what changes or improvements might be needed to prevent the problem occurring again.
1.11.3	The company shall keep records of corrective and preventive actions taken	Simple records need to be kept of the reviews carried out, the actions taken and the results.

## 1.12 Complaints

**The Company shall have systems to record, review and respond to Complaints.**

AUKM Requirements		Guidance
1.12.1	The company shall establish and implement a system for recording complaints relating to the supply of their products.	The company needs to record all complaints, preferably in a central system within the site. Best practice is to acknowledge receipt of the complaint and let the person/customer know how the complaint will be handled.
1.12.2	All complaints shall be reviewed promptly and action taken to establish the merits of the complaints.  The review shall also consider the potential effect of the problem on other products.	The company needs to review what the person or customer is saying and to determine the merits of the complaint. If complaints prove to be well-founded the company must consider the possible effect on other customers and products.  This review may well need technical input and evaluation of a sample of the disputed product.
1.12.3	The company shall report the complaint review findings to the Customer and take actions required to resolve the complaint.  The company shall keep records the complaint review and any actions taken.	It is necessary to report the findings back to the customer promptly. If the review found that the company was at fault the records need to show that the customer was satisfied with the actions taken to remedy the problem.  Simple records need to be kept of the reviews carried out, the actions taken and the results.

## 2 Operational Requirements

### 2.1 Clients Contracts

**The Company shall ensure that all client requirements are thoroughly reviewed prior to acceptance of the contract.**

AUKM Requirements		Guidance
2.1.1	Before acceptance, the company shall review all enquiries, orders or contracts to ensure that the requirements are adequately defined and that they have the capability of meeting the customers' requirements.	The company should put a system in place to check that what the customer is ordering is understood and possible to achieve, not only in terms of the product specification but also in terms of non-product criteria, such delivery times etc.  The system must ensure that if the customer is vague or inaccurate in their enquiry/order, the Company must clarify what is really required before the order is confirmed.
2.1.1	The company shall formally review and manage any changes to customer orders that are requested by the customer during the contract.	If the customer needs to change any aspect of the contract or order the company must make sure that the changes to the contract are fully checked before accepting and, once accepted, are then fully implemented.
2.1.3	The company shall ensure that the customer order requirements are disseminated to the relevant departments and personnel within the company.	The company needs to make sure that adequate systems are in place to advise all departments and relevant personnel of the details of the customers' order.
2.1.4	The company shall keep records of the review of the customer contract requirements.	The company should keep a record of the review and acceptance of the contract, including all of the contract requirements.

### 2.2 Material Supply

**The Company shall ensure that all material used in the supply of the malt to the customer is from acceptable, approved sources and meets AUKM requirements.**

AUKM Requirements		Guidance
2.2.1	The Company shall ensure that all products and services purchased to fulfill customer contracts meet specified requirements.	The Company must ensure that products (e.g. barley, packaging materials, processing aids etc) and services (e.g. transport) that are purchased/subcontracted are suitable and of the correct specification to meet the customer's contract requirements.
2.2.2	The Company shall evaluate and select suppliers on the basis of their ability to meet specified subcontract requirements.  The company shall be able to demonstrate that they use effective and appropriate methods of evaluating and selecting suppliers.	The Company needs to ensure that it evaluates its suppliers in a manner that confirms that the Supplier really is capable of providing the correct product or service. This might involve carrying out an audit, requiring them to hold certain specific approvals (e.g. farm assurance for Barley, TASCC for haulage, etc) or other means.
2.2.3	The company shall provide suppliers with clear	The Company must ensure that they provide

	<p>unambiguous information that specifies the products or services that are being purchased.</p> <p>The purchase specifications for malting barley shall state that the only agricultural chemicals that can be applied to malting barley during its growth, harvest and storage are those that are named on the current BBPA approved agricultural chemicals list.</p> <p>A record of purchased material and services shall be kept.</p>	<p>suppliers with all of the information that they need and keep a copy of what was ordered.</p>
2.2.4	<p>The Company shall monitor the performance of suppliers.</p>	<p>Once critical suppliers (i.e. suppliers of grain, haulage, processing aids, packaging, co-products, binding agents etc) have been accepted and are being used, it is necessary to monitor their performance with a view to taking action if performance is not considered to be acceptable.</p>

### 2.3 Goods Inwards and Intake

**The Company shall ensure that all material received is checked for product quality against the purchase order and safely transferred to the correct storage area.**

AUKM Requirement		Guidance
2.3.1	<p>The Company shall ensure that suitable checks are carried out on all malting barley before use to ensure that it is acceptable and meets the purchase specification.</p> <p>As a minimum checks shall cover;</p> <ul style="list-style-type: none"> <li>• Insects</li> <li>• Foreign material</li> <li>• Mould</li> <li>• Moisture</li> <li>• Ergot</li> <li>• Grain Passport available (showing use of pesticides)</li> </ul> <p>If Barley is not farm assured, the Company shall ensure that the HACCP system comprehensively addresses the additional risks to product safety that the unassured grain may pose.</p> <p>In addition “Due Diligence” testing shall be periodically carried out for;</p> <ul style="list-style-type: none"> <li>• Mycotoxins</li> <li>• Pesticide residues</li> <li>• Heavy metals</li> </ul>	<p>Correct and acceptable raw materials are essential to producing acceptable malt to customer specifications, so checks carried out at Goods Inwards are vital.</p> <p>The company should carry out the specified basic checks (and the extra “due diligence” ones on a periodic basis) to make sure that the barley (and other product related material purchased by the company) are safe and fit for purpose.</p> <p>Assured grain gives confidence that the application of pesticides is controlled and recorded. The Company must therefore consider within the HACCP system what additional risks and control measures are relevant in cases where unassured grain is used.</p> <p>The results of checks carried out at goods inwards/intake need to be recorded in a form that makes it possible to see what checks were done and the results.</p>
2.3.2	<p>Other products and materials shall be checked for compliance with the purchase order</p>	<p>Typically processing aids, product packaging etc.</p>

	requirements on arrival and a record kept.	
2.3.3	The company shall ensure delivery drivers are directed to the correct intake point and are prevented from unauthorised tipping.	The company must make sure that drivers are only able to tip in the correct intake point.
2.3.4	Records of material received and the storage location shall be kept to enable material traceability.	It must be possible to trace the origin of a batch of material/products to the supplier. As material enters the facility it is recognised that it will be batched up and traceability may be to a number of known suppliers rather than just a single supplier.

## 2.4 Pest Control

**The company shall have effective pest controls measure implemented on site.**

	<b>AUKM Requirement</b>	<b>Guidance</b>
2.4.1	<p>The company shall develop and implement a pest control programme using a trained specialist that has been approved in accordance with national legislation.</p> <p>The programme shall ensure that all products, processes and other sensitive areas are suitable protected from pest activity.</p> <p>The company shall ensure that all storage, processing, packaging and dispatch areas are protected against the ingress of pests. Waste materials shall be regularly cleared away so as to avoid attracting pests.</p> <p>Records of all treatments and inspections shall be kept.</p>	<p>The programme can be developed and operated in-house or sub-contracted. If the pest control is carried out by an employee it must be in accordance with legislation and DEFRA guidance.</p>

## 2.5 Malting Operations

**The Company shall ensure that production is carried out in controlled, safe and hygienic conditions.**

	<b>AUKM Requirement</b>	<b>Guidance</b>
2.5.1	<p><b>Planning</b></p> <p>The company shall ensure that production is planned within the following processes, as required, to meet customer contract and product specifications;</p> <ul style="list-style-type: none"> <li>• Steeping</li> <li>• Germination</li> <li>• Kilning</li> <li>• Deculming</li> <li>• Blending</li> </ul> <p>Each of the malting processes shall be carried out under controlled conditions.</p>	<p>Production needs to be planned to the extent necessary to ensure that customer delivery requirements can be achieved.</p> <p>Process and raw material requirements will need to be varied to produce a product that meets the customer product specification. The Company needs to ensure that effective systems are in place to;</p> <ul style="list-style-type: none"> <li>• Plan production requirements</li> <li>• Make sure Operators know what to do</li> <li>• Monitor product operations</li> </ul> <p>Vary production parameters, as needed</p>

<p>2.5.2</p>	<p><b>Process controls</b></p> <p>The Company shall control process parameters such as temperature, time and moisture within limits defined within the company for the type of malt being produced.</p> <p><b>Processing aids</b></p> <p>All processing aids shall be suitable for food use, clearly labelled and stored securely in suitable conditions. The company shall establish documented protocols and methods of use. Processing aids shall only be used when permitted or directed by customer product specifications.</p> <p>The use of processing aids shall comply with legislation.</p> <p><b>Water</b></p> <p>Water used in the process including water drawn from bore-holes (Private Supply), either for steeping or washing shall comply with EU and/or national drinking water legislation. Any sources of water on site which do not comply with the above shall be entirely separated from the compliant supply and effective systems put in place to prevent cross contamination.</p> <p>If water storage tanks are used they should be secure and fit for purpose.</p> <p><b>Air</b></p> <p>Air intakes for air used in processing shall be sited to avoid sources of pollution.</p> <p>Malt samples shall be periodically tested to ensure that the finished malt does not exceed 5 ppb of NDMA.</p> <p><b>Traceability</b></p> <p>Material used in production must be traceable to the source of supply.</p>	<p>The company must ensure that each stage of production is controlled within defined limits to meet customer specifications and systems ensure that Production Operators are clearly aware of the process requirements.</p> <p>Processing aids such as Gibberellic acid, sulphur dioxide or peat smoke can be used where specifically permitted in the customer product specification (or other customer written instruction) but must only be used in accordance with written methods and any relevant legislation.</p> <p>Any processing aid has to be clearly identified or proven to be “food grade” (peat in the case of Smoke).</p> <p>Water that comes into contact with the product either as part of the malting process or for cleaning the process equipment must comply with EU and/or national drinking water legislation. If the water comes from a private source then the company needs to be able to demonstrate that the water is compliant with appropriate drinking water legislation. If water is available on site which does not comply with drinking water legislation then the company must ensure that measures are in place to prevent it from coming into contact with the product.</p> <p>The HACCP study should consider the individual circumstances prevailing at the site and consider what precautions are necessary to prevent air intakes drawing in polluted air for process applications.</p> <p>It must be possible to trace the origin of a batch of material/products to the supplier - it is recognised that it will be batched up and traceability may be to a number of known suppliers rather than just a single supplier.</p>

<p>2.5.3</p>	<p><b>Buildings and Plant</b></p> <p><b>Buildings</b></p> <p>All buildings housing storage or processing areas or plant will be maintained in a condition that ensures food safe production.</p> <p>Housekeeping schedules shall be established and maintained to ensure a suitably clean and tidy environment within and around buildings.</p> <p><b>Process Plant, equipment and facilities</b></p> <p>All process plant and equipment that come into contact with the product shall be constructed of hygienic materials that are suitable for the purpose.</p> <p><b>Removal of Metal</b></p> <p>In accordance with the HACCP study, metal detection systems shall be placed in a suitable position in the product flows to remove any metal objects.</p> <p>Magnets shall be cleaned on a regular basis and actions documented and evaluated.</p> <p><b>Cleaning</b></p> <p>Surfaces in processing areas shall be easy to clean and resistant to abrasion. The company shall document the cleaning regime and keep records of cleaning carried out.</p> <p>Cleaning and disinfection products shall comply with national legislation/company policies and be labelled/stored in a manner that prevents them from contaminating raw materials, process streams or the finished product.</p> <p>Empty cleaning material containers shall not be re-used for other purposes.</p> <p>The company shall keep a record of the chemicals on site and retain a copy of the relevant safety data sheets that are accessible and available for reference, when needed.</p>	<p>Building fabric and structure will be maintained in a manner appropriate for its age without compromising food safety particularly in processing or storage areas. Where buildings are old and the fabric not easily maintained it may be advisable to have covered or protected vessels.</p> <p>All process equipment and facilities must be made of suitable materials that can be cleaned.</p> <p>The site HACCP study will identify the specific site/process requirements for positioning metal detection systems to remove metal from both the product and co-products streams.</p> <p>Records of debris found on magnets should be maintained</p> <p>Cleaning is essential and must be well-planned with records available to confirm that it has been done.</p> <p>Products and cleaning materials need to be food grade, used as specified by the manufacturer and kept away from the product to prevent contamination.</p> <p>Chemicals kept on site must be recorded and the safety data sheets held so that, in the event of any problems, it is clear what actions must be taken. It is also necessary to ensure that any facilities (e.g. eye wash) or personal protective equipment specified in the data sheets are available to Operators and that the Operators are aware of the need to use them.</p>
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<p><b>Glass</b></p> <p>The company shall document a glass policy which stipulates where glass and brittle plastics may or may not be used or taken into the plant.</p> <p>Any glass or brittle plastic that is situated in the plant shall be recorded in a (regularly updated) glass register and a documented procedure available to deal with the discovery of broken glass and the actions to take.</p> <p><b>Jewellery and Loose Items</b></p> <p>A Jewellery and loose items policy will be in place and appropriate signage displayed</p> <p><b>Planned maintenance</b></p> <p>The company shall establish a planned maintenance programme and ensure that all equipment is kept in a safe and operational condition.</p> <p>Spraying equipment used for the application of pesticides and other agrochemicals shall be specifically covered by the maintenance programme, calibrated and a record kept.</p>	<p>The company needs to identify where glass/brittle plastic is not acceptable within the site and make sure that employees understand the need to comply with these requirements.</p> <p>If there is any fixed glass in the storage or production areas this needs to be listed in a “glass register” and checks carried out at a suitable frequency to make sure the glass is still in place.</p> <p>A written policy will address the following: prevention of the wearing of jewellery that could easily drop into the process, removal of watches, care of mobile phones.</p> <p>A planned maintenance programme is important not only to prevent production downtime but to prevent poorly maintained equipment contaminating the product and also to keep the workplace safe for employees. All equipment needs to be covered but the frequency of actual maintenance is clearly dependant on factors such as the age/condition of the equipment, frequency of use etc.</p>
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## 2.6 Storage

**The Company shall ensure that storage conditions are suitable to keep the product safe, traceable and to prevent deterioration.**

AUKM Requirement		Guidance
2.6.1	<p><b>General</b></p> <p>The company shall develop a written stores cleaning schedule. Stores shall be comprehensively swept or vacuumed to remove residues and fumigated or treated with approved insecticides after complete discharge and prior to re-filling.</p> <p>A record of the cleaning and the inspection shall be kept. Only chemicals that conform to national legislation and are approved by the malting and brewing industries shall be used. All agrochemicals shall be clearly labelled and may</p>	<p>Cleaning is important and needs to be controlled by a well thought through plan that identifies not only what cleaning is required but when and how it should be carried out.</p> <p>The company needs to take extreme care that cleaning chemicals are legal and food safe are used and that they are stored used correctly.</p> <p>Simple cleaning records need to be kept.</p>

	<p>not be transferred to alternative containers – they shall be stored in a secure place away from the production areas.</p> <p>Operators using pesticides shall be trained and also registered, as required by national legislation and a record kept of the application of all chemicals. Any chemicals used shall be approved under national legislation and also by the BBPA as suitable for intended purpose. The dose of chemicals used shall be controlled and conform to national and industry limits. Records shall be kept and include the chemical used, the dose, the date of application and the responsible Operator.</p> <p>Stores shall be kept secure against any form of unnecessary and unauthorized access.</p> <p>Stores shall be constructed of durable material that protects the material from the elements and pests.</p>	<p>Pest control is also an essential site requirement and must be carried out either by a contractor or a competent in-house person. The company must ensure that strict systems are followed and the success of the pest control work is carefully monitored.</p> <p>Stores need to be secured when access is not needed for monitoring or filling/emptying operations. The stores must be constructed so that they keep the weather and pests out.</p>
<p>2.6.2</p>	<p><b>Barley Storage</b></p> <p>The company shall comply with the principles set out in the HGCA Grain Storage Guide and HGCA Topic sheet No 60 (ensuring good germination in malting barley).</p> <p>Barley shall be stored in sound dedicated stores and protected from water ingress.</p> <p>Barley with a moisture level in excess of 18% shall not be stored for more than a total of 2 weeks. The company shall carry out periodic spot tests on grain in store to detect the presence of “Ochratoxin A”</p> <p>If barley is to be long term stored the grain shall be quickly dried to below 13% moisture and held at a temperature of less than 15°C.</p> <p>Barley held within flat stores shall be monitored for insect activity through the use of insect traps. A plan of trap layout will be available, traps shall be regularly inspected and a record kept of findings and any actions taken.</p> <p>To ensure that barley quality is maintained flat stores shall be sampled at appropriate intervals. A plan of sampling points will be available and a record kept of analytical data at each sampling interval.</p> <p>Barley held in vertical silos shall be monitored for insect activity and quality.</p>	<p>Further information and guidance is given in the HGCA documents – this must be followed and will be evaluated during the AUKM audit.</p> <p>This will normally be by traps, temperature monitoring, or by movement to another silo</p>

	<p>The temperature of the barley shall be regularly recorded and actions taken to deal with any upward trend in temperature.</p> <p>The storage shall be constructed and managed so as to eliminate the risk of inter-mixing between different grades, varieties and types of barley.</p> <p>All controls applicable to on-site stores shall also apply to company off-site storage. If responsibility for an off-site store is contracted out, then the store operation shall be audited at least once annually.</p>	with sampling during transfer.
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## 2.7 Transport

**The Company shall ensure that material is transported in safe conditions that will not cause contamination or degradation of the product.**

AUKM Requirement		Guidance
2.7.1	The company shall ensure that the haulage of all barley, malted barley and co-products complies with the requirements of the AIC Code of Practice for Road Haulage or an equivalent protocol.	Compliance to the AIC requirements can be confirmed by checking the AIC website for the list of approved Hauliers or by the company auditing Hauliers themselves.
2.7.2	<p><b>Packaging materials e.g. bags, boxes, polypropylene sacks, plastic container liners</b></p> <p><b>All packaging materials that come into direct contact with the final product will be certified by an appropriate body as being suitable for food use.</b></p>	<p><b>The certification will state the migration properties of any the chemicals within the packaging relevant to the transport of malt e.g. no residues after acetic acid reflux testing.</b></p>
2.7.3	<p>Containerised shipping: where malt is shipped in metal containers (e.g. 20 or 40 foot containers), these will be suitable to keep the malt food safe during transit to the customer.</p> <p>A container checking system will be in place and records kept.</p>	<p>Checks will be made to ensure no holes are present that would allow rain, water or rodent ingress, absence of deleterious taint or extraneous debris from previous loads or cleaning activities. Door seals will be checked for integrity.</p>

## 2.8 Laboratories

**The Company shall ensure that sampling and testing schemes are actioned to evidence adequate control of product quality.**

AUKM Requirement		Guidance
2.8.1	<p><b>Analytical Laboratories</b></p> <p>The Company shall ensure the validity of analytical results by appropriate management of internal laboratories and/or by engaging external laboratories on the basis of their performance or accreditation.</p>	
2.8.2	<p><b>Internal Laboratories</b></p> <p>The Company shall ensure that internal laboratories have written analytical procedures, trained staff and that equipment is maintained and calibrated as appropriate to the application. The Company shall implement an analytical quality assurance (AQA) program to validate results.</p> <p>Sampling plans, sample storage periods and the reporting and storage of results will be defined in documented procedures.</p>	<p>AQA programs typically incorporate the use of check malts and barleys, trend charts (statistical process control) and participation in a recognised proficiency testing scheme eg MAPS</p>
2.8.3	<p><b>Sample Retention</b></p> <p>The company shall ensure that both internal batch samples and out-loading / delivery samples are retained for a minimum of six months.</p>	<p>These samples will form a key part of the traceability trail and therefore the company may wish to retain particular samples for longer than the minimum period of time.</p>

## **3** Glossary of Abbreviations

Abbreviation	Full name
BBPA	British Beer and Pub Association
BRi	Brewing Research International
CCP	Critical Control Point
CODEX	Codex Alimentarius
COPR	Control of Pesticide Regulations
COSHH	Control of Substances Hazardous to Health
DEFRA	Department for Environment, Food and Rural Affairs
GM	Genetically modified
GMO	Genetically modified organism
HACCP	Hazard Analysis Critical Control Point
HGCA	Home Grown Cereals Authority
MAGB	Maltsters Association of Great Britain
MAPS	Malt Analysis Proficiency Scheme
OTA	Ochratoxin A
PRP	Pre-Requisite Programme
SWA	Scotch Whisky Association
UKAS	United Kingdom Accreditation Service

## **4** Associated Literature

<b>Publication (All publications – current version)</b>
The MAGB HACCP Guide to Malting
HGCA Grain Storage Guide
HGCA Guide to Malting Barley
Assured Combinable Crops Scheme Manual
Scottish Quality Cereals Farm Assurance Scheme Standards
British Beer and Pub Association Technical Note on Agrochemicals for use on brewing raw materials
HGCA funded survey at BRI of UK malts made from the 2000, 2001, 2002, 2003, 2004 and 2005 barley crop.
Information on malting barley and malting on the MAGB website, accessed via either <a href="http://www.ukmalt.com">www.ukmalt.com</a> or <a href="http://www.malt.info">www.malt.info</a>
Information on 'Assured UK Malt' on the MAGB website, accessed via <a href="http://www.assuredmalt.com">www.assuredmalt.com</a>
Codex Alimentarius Commission Food Hygiene Basic Texts. Includes guidelines for the application of HACCP principles.
HGCA Topic Sheet 60

# **5** The Audit Protocol

## **Scheme Operations and Regulations**

### **General**

Companies seeking certification to the Assured UK Malt standard shall comply with these scheme regulations, the requirements of the Assured UK Malt Standard and the requirements of the Certification Body providing the certification.

Applicants and companies already approved to the UKAM standard shall inform the Certification Body of any changes to their business that is relevant to their certification, typically;

- Company ownership
- Sites
- Scope of operations
- Key Personnel

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### **New Applicants**

New Applicants should contact the Certification Body nominated by MAGB to apply for certification.

The Certification Body will ask for various company details, such as;

- Name, address and contact details
- Nature and scale of operations
- Sites to be covered by the certification
- Other approvals required (eg BRC, TASC etc)

The Certification Body will provide a quotation for the certification. When the Applicant accepts and signs the quotation, the Certification Body will contact the Applicant to arrange the Initial Assessment.

### **Initial Assessment**

A Certification Body Assessor will contact new Applicants to arrange a suitable date and time for the Initial Assessment and also to confirm the details of the assessment (i.e. sites to visit, scope, programme etc).

The Certification Body will confirm the details of the assessment by letter prior to the visit.

The assessment will be conducted by a technical specialist with extensive practical experience of the malting industry.

The assessor will visit each site covered by the scope of the certification and conduct a thorough audit to confirm compliance with the UKAM standard. If there are any aspects of the standard that are not carried out in accordance with the UKAM standard, the Assessor will identify these as “noncompliances”.

The Assessor provides a written report at the end of the visit that summarises the details of the visit and lists any noncompliances that might have been identified.

### **Certification**

New Applicants are required to respond to any noncompliances within 30 days of the assessment, giving the Certification Body a clear description of the actions taken to resolve the problem and prevent re-occurrence. The Applicant must also enclose a copy of any supporting information that confirms that the action has been taken (e.g. copies of documents, photos etc). In cases where documentary evidence is not sufficient to confirm completion of the noncompliances, the Certification Body will need to carry out a short revisit to the Applicant's site.

When the Certification Body receives all the information needed to confirm that all noncompliances have been fully resolved, the Certification Body will issue a Certificate of Conformity. The certificate will be valid from the date that the satisfactory corrective action was received at the Certification Body through to the anniversary of the original audit date.

### **Routine Assessments**

Routine assessments must be carried out at all certificated sites every year. Visits must be carried out within a month of the expiry date shown on the certificate in order for a back-to-back continuation certificate to be issued.

The Certification Body will conduct a full Routine Assessment of each site in the same manner as the original "Initial Assessment". If any noncompliances are identified they are reported, and must be responded to, the same way as the Initial Assessment.

The Company must respond to the noncompliances in the same way/timescale as the Initial Assessment in order to retain their certification status.

### **Complaints**

Complaints about either a UKAM certified Company or the Certification Body should be directed to the Certification Body. Complaints will be acknowledged, reviewed and actions taken to resolve the cause of any problems.

The Certification Body is accredited by the UK Accreditation Service and works to strict codes of practice. If a company is not satisfied with the way in which the Certification Body handles a complaint they should refer the matter to MAGB.

### **Appeals**

Applicants and existing certificate holders have the right to appeal to the Certification Body against decisions regarding certification made by the Certification Body.

Appeals must be made in writing to the Certification Body within 14 days of being advised of the decision that is the subject of the appeal. The Appellant must provide full and factual details of the justification for the appeal.

If the Certification Body does not support the decision on which the appeal is based then the erroneous decision will be reversed.

If the Certification Body supports the decision on which the appeal is based then an independent appeals panel is convened within 30 days of receipt to review and rule on the appeal. Both the Certification Body and the Company are entitled to attend the appeals panel meeting and present information.

The independent appeals panel makes a ruling based on the information supplied by the Appellant and the Certification Body. The ruling of the Appeals Panel is binding and final on the Certification Body and the Company.

**Ownership and Use of the Assured UK Malt logo.**

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Use of this logo is only permissible with the formal written agreement of the Maltsters Association of Great Britain.

This logo can only be used if the company is registered with MAGB as an Assured UK Malt supplier, supplying malt that fully complies with the terms and conditions of the Assured UK Malt Technical Standard.

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