

INTERNATIONAL CODE OF CORK STOPPER MANUFACTURING PRACTICES

VERSION 5 | 2006



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FOREWORD

The technical and technological evolution acquired since 1996, year of publication of the 1st edition of the International Code of Cork Stoppers Manufacturing Practices (CODE) has led to successive improvements of the original text, in order to offer the reader an up-dated manual of reference for our profession, and thus to meet adequately the needs and requests of the market.

This progress is notorious and most of the companies representative of this industry attest of this, including the cork industry plants established outside the European Community (for example: Morocco). This certainly shows how strong is the influence of this referential for the reality of the industrial procedures of preparation of cork planks, manufacturing cork stoppers, finishing and control of the product.

Additionally we witnessed a change of attitudes of the international wine market; which explains why the stoppers' industry is more and more aware of the real output associated to the image with the introduction of the CSMP and subsequent implementation of the System SYSTECODE responsible for auditing cork stoppers manufacturing practices. The Code and the adjacent system of audits imply permanent mobility in the research of new methods, new techniques and innovative technology, which will require more qualified human resources and where computers play also an important role.

The sector has known how to innovate thanks to the investment of the companies that have endeavoured efforts in order to comply entirely with the recommendations of the CODE and the sector has also gained a lot with the introduction of new methods of control in the process of manufacturing and finishing stoppers.

The worldwide globalisation and the world economy as regards international exchange commerce relations have created a situation every day full of challenges that demand quick and accurate answers and actions, like for example this 5th edition of the CODE.

THE CORK STOPPER – THE PREFERENCE OF THE CONSUMERS AND THE ECOLOGY

Taking in account that the results we have got until today with the implementation of the CODE, we notice the market is plainly conscious that the SYSTECODE (managed by an international and independent body) is a necessary and indispensable tool as well as positive measure to be applied so that the cork stopper achieves its best performance. Therefore, C.E.Liège has decided to lead that permanent effort in order to guarantee the system will continue to meet with the needs and requirements of the users and final consumers.

In fact, we cannot deny that cork is a renewable and ecological raw material, and these characteristics make that the consumers of all over the world continue to prefer cork stoppers to bottle their wines.

The cork oak forest located in the Mediterranean Basin is today a notable and important barrier against desertification and is unquestionably one of the richest existing ecosystems where co-habit a diversity of animal species, some of them in risk of extinction.

This dichotomy between on one side the defense of the great cork oak forests and on the other side a Code of progress for the adequate use of cork, demonstrates how it is possible to assure the exploitation of the raw-material and at the same time its durability and the survival of the ecosystems that share the same space. Most of all, we cannot forget that as long as the cork stopper will be used, we shall be contributing for a healthy management and a durable growth of the cork oak forests.

We must outline that the cork industry reuses most of the subproducts coming from the processing of cork stoppers, and reprocesses them to obtain other products or even to produce combustible energy (e.g.: cork dust); this is a positive attribute because like this we put an end to the problem of the waste production.

THE NEW EDITION

Following a strategy of progress, the present edition includes the insertion of a new terminology; the structure allows the reader to understand and access the text more easily and this has implied an increase of requirements in the mandatory practices and of C.E.Liège recommendations.

Terminology has thus been up-dated in conformity with the revision of the standard ISO 633, which has summarized the definitions contained in the 4th edition and has transformed them in other existing standards; Therefore, the cork sector has now a work device (working tool) more adapted to the inherent needs of its day-to-day activity.

In this new structure of the Code, the different phases of Preparation of the Cork Planks, Manufacture of granulated cork, Manufacture of cork stoppers and Washers and Finishing of the stoppers are presented separately which allows a quicker access to each different step of the whole industrial process.

As concerns technical questions, the text has been amended in accordance to the technological progress and with the implicit objective of responding to the requests of the new consumers, so that the Code continues to be a tool of great and vital importance for the evolution of the sector.















We highlight as well the reference in the text to the Resolution n° AP(2004) 2 of the Council of Europe, which concerns cork products (of which cork stoppers) intended to be in contact with foodstuffs and the references make to all the European Directives.

















In this unstable world constantly in mutation, the new edition of the CODE aims to be first of all the source of technical and technological knowledge of a vigilant and cautious industry willing to present itself plainly and transparently of the final users, consumers and trade, obviously with the guarantee of a SYSTEM OF ACCREDITATION of the cork stoppers manufacturing units which comply with the Code's requirements.

A. DEFINITIONS

A.1 DEFINITIONS OF TERMS RELATED TO THE PRODUCTS *

The words listed below are in alphabetical order. The number placed next to each word gives the corresponding word in the other languages

- 7 **Agglomerated cork stopper with natural cork washers for bottling sparkling wines, gaseous beverages, beer and cider:** stopper having an agglomerated cork body with one or more natural cork washers glued on one of its ends. 
- 16 **Cork for the manufacture of stoppers:** cork bark suitable to be used in the manufacture of cork stoppers. 
- 3 **Agglomerated cork stopper made by extrusion:** Cork stopper obtained by agglutination of cork granules bonded with flexible glue from a process of extrusion, made from granules of cork with a granulometric size between 0.25 and 0.8 mm. 
- 4 **Agglomerated cork stopper made by moulding:** cork stopper obtained by agglutination of cork granules bonded with flexible glue from a process of moulding, made from granules of cork with a granulometric size between 0.25 and 0.8 mm. 
- 6 **Agglomerated cork stopper with natural cork washers, for bottling still wines, sparkling wines and semi-sparkling wines:** stopper having a body made of agglomerated cork with one or more natural cork washers (discs) glued on one or on both ends. 
- 12 **Bale of cork :** A group of planks of prepared cork, classified and selected according to their visual grade and thickness. 
- 8 **Bartop cork stopper:** natural cork stopper, colmated cork stopper, composite cork stopper or a multipiece cork stopper having a cylindrical or tapered body with a diameter that is smaller than that of the top. 
- Note:** when the top is made of materials different from those from which the body is made, the manufacture shall specify the materials used (e.g.: stoppers with wooden top, plastic top, etc...).
- 15 **Cork “race”:** prepared cork that has not been classified. 
- 26 **Cork bark pieces:** pieces of virgin cork bark or reproduction cork bark whose surface is smaller than 400 cm². 
- 25 **Cork body:** cylindrical piece of natural cork, made from one or more pieces, or in agglomerated cork obtained by extrusion or molding, or even by punching after moulding which will be submitted for further manufacturing into cork stoppers. 
- 20 **Cork for trituration:** Boiled cork waste resulting from the preparation of cork bark and/or from the manufacturing of cork washers /stoppers. 
- 27 **Cork plank:** raw cork or prepared cork whose quality make it suitable to be processed by the punching machine. 
- 10 **Cork stopper manufacture:** industry concerned with cork bark processing into cork stoppers used for bottling still wines, fizzy wines, and also used for bottling other gaseous beverages, ciders, beers and spirits. 
- 11 **Cork washer:** cylindrical piece made of natural cork with variable thickness and diameter, and obtained from cork bark cut with its diameter perpendicular to the growing layers of the cork bark plank. 

- 28 **Cork Waste:** reproduction cork, of lower quality which makes it not suitable to be processed and transformed by punching into cork stoppers. 
- 13 **Granulated cork:** cork fragments of variable sizes obtained by grinding prepared cork and/or by milling manufactured cork stoppers or cork cut pieces, with dimensions generally between 0,25 mm and 8 mm, and already classified by grain size and bulk density. 
- 24 **Green cork:** cork bark that, while it's fresh, shows in the belly some cells having a translucent appearance because they still retain water. During the drying process, these cells contract more than the adjoining suberous tissue, which generates some malformation of the cork bark. 
- 14 **Lenticular canals:** structures allowing the gaseous exchange between the tree's living tissue and the atmosphere. 
- 23 **Milled cork:** fragments of cork, of various sizes, obtained by milling and/or grinding manufactured cork or cork cut pieces. 
- 9 **Multi-piece cork stopper:** cork stopper made from several pieces of natural corkwood glued together. 
- 5 **New generation agglomerated cork stopper:** Cork stopper obtained by agglutination of cork granules bonded with flexible glue from a process of moulding with 51% of the cork granules (by weight) with a granulometric size between 0.25 and 0.8 mm.. This cork is prepared using a procedure which is intended to reduce the organoleptic neutrality and which can contain synthetic materials. 
- 22 **Prepared cork:** reproduction cork bark that has been boiled, flattened, selected and trimmed (commonly designated as "race" or "traços"). 
- 30 **Punching machine:** Machine used to cut thin slices of cork, by using blades whose diameter is equal to that of the diameter of the washers to be produced. 
- 17 **Raw cork bark:** reproduction cork bark that has not been submitted to any treatment after stripping. 
- 19 **Reproduction cork bark:** cork bark that is formed after virgin cork has been harvested and taken out of the tree. 
- 2 **Stopper:** product obtained from cork and/or agglomerated cork, made up from one or several pieces and intended to seal bottles and other containers in order to preserve their contents. 
- 1 **Strip of cork plank:** piece obtained from prepared cork, resulting from the cutting of the cork bark in the thickness of the plank; the piece thus obtained has the shape of a rectangular parallelepiped. 
- 21 **Virgin cork bark:** cork from the first harvest of the cork oak tree's trunk and branches. 
- 18 **Wedges:** part of the cork bark situated at the base of the trunk, in direct contact with the soil (this type of cork is named by "calços" in Portugal and by "zapatas" in Spain). 
- 29 **Yellow stain:** cork which shows greyish stains and, sometimes, discoloration on adjacent suberous tissue, which may develop a characteristic smell. Cork with yellow stain is not suitable for food use. 

A.2. DEFINITIONS OF CONCEPTS

Mandatory practice: State of art in accordance with the rules of good practice used by cork professionals and cork stopper manufacturers.

C.E.LIÈGE recommendation: Changes proposed by C.E.LIÈGE to improve the mandatory practices

Process or document of validation : Well-founded and solid evidence which guarantee and corroborate the degree of efficiency of one operation according to parameters concerning performance, innocuity, alimentary and safety characteristics, economy and the environmental respect of the product.

Activity: Industrial process in order to obtain a product

Operations: The different phases/stages of the productive process that form part of the whole industrial activity

Preparation: Process through which the cork bark is transformed into raw material suitable for use in cork stopper manufacture.

Stopper manufacturing: All the operations that transform the raw material into a cork stopper that requires finishing.

Finishing: All the operations that transform raw stoppers into stoppers ready for use.

B. PRACTICES AND TREATMENT

B.1. MANDATORY GENERAL PRACTICES

- 1.1. The international entity hired to audit the cork stoppers' companies (through the Systecode-System of certification of companies in compliance with the Code) is the only official body responsible to carry out the audits and to award the companies that have successfully been audited a certificate of conformity. This attestation represents the sole evidence and warranty that the companies certified have implemented correctly the practices in the International Code of Stopper Manufacturing Practice (hereafter called the 'Code').
- 1.2. Suppliers and sub-contractors must also have the attestation of conformity to the Code.
- 1.3. The company shall have records of their suppliers and sub-contractors recording the quantities / amount of merchandise (goods) purchased for each activity or operation carried out and for each type of product coming from its manufacture.
- 1.4. These records shall mention the date of receipt (delivery) of the raw material and products purchased (at a raw state), and shall also indicate numbers of invoices and delivery forms, names of the suppliers or sub-contractors and amounts traded. *
- 1.5. The company/manufacturer shall have up-dated records that evidence (at any stage of the process) the conformity to the Code. These records must be kept for a minimum period of one year.
- 1.6. The manufacturer shall have all the technical files on the chemicals used in the cork stopper manufacturing process and these files shall prove the chemical used are in compliance with the regulations concerning materials in contact with foodstuffs (Regulation CE n° 1935 of 27.10.2004, and Resolution of the Council of Europe ResAP(2004)2 for cork stoppers and other materials in contact with foodstuffs) and also with the legislation of the country to which the products will be exported/commercialized.
- 1.7. The manufacturer shall have all the technical files on the lubricating and cleaning products used in contact with cork bark and these files shall prove they conform to the regulations concerning materials in contact with foodstuffs (Regulation CE n° 1935 of 27.10.2004, and Resolution of the Council of Europe ResAP(2004)2 for cork stoppers and other materials in contact with foodstuffs) and in conformity also with the legislation of the country to which cork and its products will be exported/commercialized.
- 1.8. The chemical products and their packages: *
 - 1.8.1. Shall carry their names correctly identified ;
 - 1.8.2. Shall indicate the limit date for using them and the manufacturer shall know it and shall not use the products beyond that date.
 - 1.8.3. Shall be well preserved ;
 - 1.8.4. Shall respect the storage conditions prescribed by the supplier of the chemical products in use.
- 1.9. The manufacturer shall not use products containing halogenic substances during the stopper cork manufacturing process (this applies also to cleaning products used in the cleaning of the factory).
- 1.10. The manufacturer shall have and apply all the working instructions for each operation which shall be in written form.
- 1.11. Any technical innovation (in conformity with the general conditions of the Code) will be admitted once this innovating process has been validated by a competent entity (external or internal). The manufacturer shall hold an accurate file that demonstrates and certifies the validity and efficiency of the process. *
- 1.12. All new products (in conformity with the general conditions of the Code) will be admitted once the products have been validated by a competent entity (external or internal). The manufacturer shall hold an accurate file that demonstrates and certifies the validity and efficiency of the new products in question.
- 1.13. The manufacturer shall have a cleaning plan for the factory and shall demonstrate the cleaning is done in compliance with that plan.

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- 1.14. It is forbidden to smoke and eat in the premises of the factory.
 - 1.15. At the place of work, the worker shall only drink water; any other kind of beverage is not accepted.
 - 1.16. All 'forbidden behaviour' referred to earlier (at 1.14 and 1.15) shall be visible by written warnings in the premises of the factory. These warnings shall be clearly visible in the different places of work in the factory.
 - 1.17. Workers shall be protected by safety equipment suitable for the task.
 - 1.18. The areas where colmation and coloured coating based on solvents are practiced shall have a system of air extraction and shall be protected with anti-deflagrating systems
 - 1.19. The use of wood palettes treated with chlorinated bioxydes, tribromophenol, or with methyl bromide is forbidden. *Informative note:* Wood palettes submitted to thermal treatment (HT brand) shall comply with these restrictions.
 - 1.20. The use of vehicles equipped with internal combustion engines is forbidden inside closed places.
 - 1.21. No cork stoppers or washers will come in contact with the ground.
 - 1.22. When the containers with washed cork stoppers and/or washers are piled up, their bottom shall not contact with the cork stoppers and/or washers from lower containers.
 - 1.23. The containers with cork stoppers and/or washers and other cork products shall be clean and dry.
 - 1.24. To avoid contact between cork stoppers and washers, pasteboard packaging shall physically be separated, either by a distance of one meter or by a rigid element.
 - 1.25. The cork bark to be used for the cork stopper manufacture shall be reproduction cork having at least 9 years growth.
 - 1.26. It is forbidden to use burnt cork bark.
 - 1.27. Cork bark with yellow stain shall be segregated, at all stages along the cork manufacturing process, once it is detected.
 - 1.28. It is forbidden to transport the cork wood or food grade cork products with pungent products.
 - 1.29. The manufacturer shall evidence that the inks used in the cork stopper printing process conform to the legislation in force concerning the admissible values for heavy metals.
 - 1.30. The manufacturer shall guarantee the traceability of the stoppers ready to use- from the supplier to the final customer.

B.2. PRACTICES AND SPECIFIC TREATMENTS

I. PREPARATION OF RAW CORK BARK

1. RECEPTION OF RAW MATERIAL (CORK)

1.1. Definition: Procedure carried out by the manufacturer when he purchases cork bark and when the planks of cork bark arrive at the plant for preparation.



1.2. Objectives: To guarantee the traceability of raw cork and to ensure that the wedges and all the cork bark with yellow stain have been segregated.

1.3. Mandatory practices:

1.3.1. The manufacturer shall keep up-dated records with date of entrance (receipt) of the bales of cork; these records shall mention the year of the harvest (when the cork has been stripped out of the tree) and the other data referred to in the chapter “General Mandatory Practices” [\(Cf. B 1.1.4\)](#) *

1.3.2. The bales of cork bark that come from different years of extraction (stripping years) shall be immediately identified and stacked separately in an area in the plant specially designated for that purpose.

1.3.3. Wedges as well as cork planks with yellow stain and burnt cork bark not suitable neither for the cork stopper manufacture nor for the manufacturing of washers or cork granules (used for the stoppers manufacture) shall be separated.

1.3.4. When the cork planks with yellow stain are not detected before storage period, but later on during the manufacturing process, the cork shall be segregated immediately when the defect is detected,

1.4. C.E.Liège recommendation:

1.4.1. Wedges, as well as cork planks with yellow stain [\(Cf. A.1\)](#) * and burnt cork bark that arrive at the preparation plant must be separated and placed apart in a clearly identifiable and appropriate area of the plant reserved to receive cork bark not suitable for processing into stoppers. This faulty cork bark can be at the origin of future organoleptical deviations.

2. STORAGE OF THE CORK PLANKS

2.1. Definition: period during which the planks are stored outside waiting to be submitted to the first boiling.

2.2. Objectives: stabilisation of the raw material (cork bark).

2.3. Mandatory practices:

2.3.1. Domestic animals shall be kept away from the piles of cork planks or from the cork planks that lie in bulk on the ground piled at random.

2.3.2. In order to enable run-off of rain water, piles should be built on a sloping ground.

2.3.3. Avoid stacking the cork planks directly in contact with the ground or with stagnant water.

2.3.4. The ground on which the cork planks are stacked or on which they are placed (laid) cannot be made of materials that are not included or listed in the annex C.1.

2.3.5. The cork planks must be stored :

2.3.5.1. In piles built in rectangular form ;

2.3.5.2. In bulk on the ground, but letting the air circulate freely through them.

2.3.6. The seasoning time (stacking /drying) of the cork planks shall not be less than 6 months after stripping.

2.4. C.E.Liège recommendation:

2.4.1. Cork planks shall be stacked in piles built in rectangular form with a width of more than 6 meters at a distance of at least 2 meters between each pile (these sizes and distances shall be kept the same for

the cork planks that lie in bulk in the ground). The piles (or cork planks stacked in bulk) shall be high enough to enable the air to circulate through them and shall be always built with the length at right angles to the prevailing wind and on a sloping ground.

2.4.2. Season until the end of the winter following the harvest.

3. FIRST BOILING

3.1. Definition: Immersion of planks in clean boiling water.

3.2. Objectives: To clean the cork bark, to extract water-soluble substances, to increase the thickness and to improve cork flexibility and elasticity

3.3. Mandatory practices:

3.3.1. Before boiling segregate the wedges and cork wood with yellow stain, when it is detected before the phase of preparation of the cork planks.

3.3.2. Segregate before boiling all the green cork wood.

3.3.3. Before the heater, the manufacturer shall set up an equipment to measure the quantity of water that enters in the heater

3.3.4. Boil for at least 1 hour at a temperature close to 100°C.

3.3.5. Regularly change the water, at least once a week when in continuous use and whenever there is interruption of 2 days.

3.3.6. Clean the heaters whenever the water is changed.

3.3.7. The manufacturer shall have records concerning the consumption of water for the heaters and of the dates when the water has been changed.

3.3.8. The water used in the heaters shall be in accordance with the European Directive 98/83 for the parameters mentioned in Table 1 (Cf. Annex C.2 of this Code) and in accordance with the parameters of Table 2 (also annex C.2).

3.3.9. At least once a year, the manufacturer shall have the water used in the heaters analysed.

3.3.10. When the used water comes from the public water-supply system, the analysis of the parameters listed in the Table I of Annex C.2 and referred on point 3.3.8 can be replaced by a tests' report from the Public (Municipal water-supply system).

3.3.11. Collection and analysis of water samples must be performed by a laboratory authorised to undertake this analysis.

3.4. C.E.Liège recommendation

3.4.1. Keep boiled planks in a covered, clean and ventilated space.

3.4.2. Treat the effluents.

4. POST-BOILING STABILISATION

4.1. Definition: Period between boiling and selection of the cork planks.

4.2. Objectives: To flatten planks, to allow the cork bark to dry in order it reaches the adequate consistency and it has the homogeneous moisture content for cutting the planks.

4.3. Mandatory practices :

4.3.1. Domestic animals shall be kept away from the cork planks.

4.3.2. Stack the planks on a base made of one of the materials referred to in annex C1.

4.3.3. Avoid drying the cork planks too fast and processing them immediately.

4.4. C.E.LIÈGE recommendation:

4.4.1. Stabilise for a minimum of 2 weeks and a maximum of 4 weeks, so that the cork planks' moisture content reaches (16±4)%.

Note: If the boiling process used is innovative (different from the traditional one) the duration required for post-boiling stabilisation can be less than one week.

4.4.2. Store in a covered, clean and ventilated place.

5. SELECTION OF PLANKS

5.1. Definition: Separate cork planks used in stopper manufacture, according to the thickness of the bark and its quality (visual aspect).

5.2. Objectives: To select the cork planks according to the product to be manufactured from them.

5.3. Mandatory practices:

5.3.1. During the preparation, segregate the planks with green cork and store them in a clearly identified area of the factory.

5.4. C.E.LIÈGE Recommendation:

5.4.1. Make bales of planks by thickness and quality.

5.4.2. Never use planks with green cork in cork stopper manufacturing or in the manufacture of granulated cork or washers that will be used for processing into cork stoppers.

6. STORAGE OF PLANKS

6.1. Definition: Preparation period that comes immediately after the phase of selection of the planks.

6.2. Objectives: To preserve the characteristics of cork wood, in order to prevent mutations.

6.3. Mandatory practices:

6.3.1. The piles shall only be built on ground made of materials as defined in annex C.1.

6.3.2. When cork bark with yellow stain is not detected at this phase but later, during processing, it must be immediately segregated.

6.3.3. Domestic animals shall be kept away from the cork piles

6.4. C.E.Liège Recommendation:

6.4.1. Store the cork planks and bales in a covered, clean and ventilated area.

7. STORAGE OF CORK BARK FOR TRITURATION

7.1. Definition: Processing phase previous to the trituration process

7.2. Objectives: To prevent modifications in the characteristics of the cork of trituration.

7.3. Mandatory practices:

7.3.1. Store in a clean ventilated place free of odours.

7.3.2. The ground on which cork is placed (laid) cannot be made of materials that are not included or listed in the annex C.1.

7.3.3. Domestic animals shall be kept away from cork for trituration

7.4. C.E.Liège Recommendation:

7.4.1. Store cork bark for trituration in a covered place.

8. TRANSPORT OF PLANKS / BALES OR CORK OF TRITURATION

8.1. Definition: Transport of corkwood planks or bales of cork or cork of trituration from their preparation place.

8.2. Objectives: To assure that the cork planks, bales or cork of trituration are protected from any contamination.

8.3. Mandatory practices:

8.3.1. Before planks, bales or cork of trituration are placed in trucks and containers, the manufacturer shall verify their cleanness and the absence from odours.

8.3.2. The planks, bales or cork of trituration cannot be transported with other products that can contaminate them.

8.4. C.E.Liège Recommendation

8.4.1. Trucks used to transport planks/bales or cork of trituration shall be covered.

II. MANUFACTURE OF NATURAL CORK WASHERS

1. STORAGE OF PREPARED CORK

1.1. Definition: period before the washers are manufactured.

1.2. Objectives: to keep the cork characteristics in order to achieve stabilization

1.3. Mandatory practices :

1.3.1. Store only on ground made of materials defined in the annex C.1 of this code.

1.4. C.E.Liège Recommendation:

1.4.1. Store the planks and bales in a clean, covered and ventilated place.



2. SECOND BOILING

2.1. Definition: Immersion of the corkwood planks in clean boiling water.

2.2. Objectives: To increase cork flexibility and make it smooth.

2.3. Mandatory practices:

2.3.1. The water used in the heaters shall be in accordance with the European Directive 98/83 for the parameters mentioned in Table 1 (Cf. Annex C.2 of this Code) and in accordance with the parameters of Table 2 (also annex C.2).

2.3.2. At least once a year, the manufacturer shall have the water used in the heaters analysed.

2.3.3. When the water used comes from the public water-supply system, the analysis of the parameters listed in the Table I of Annex C.2 and referred at 2.3.1 can be replaced by test and a written analysis of the municipal water-supply system.

2.3.4. The collecting of water samples must be performed by the laboratory responsible to do the analysis.

2.3.5. Before the heater, the manufacturer shall set up equipment to measure the quantity of water that enters in the heater.

2.3.6. Boil for at least 30 minutes at a temperature close to 100°C.

2.3.7. Regularly change the water, at least once a week when in continuous use and whenever there is interruption of 2 days.

2.3.8. Clean the heaters whenever the water is changed.

2.3.9. The manufacturer shall have records concerning the consumption of water for the heaters and the dates the water has been changed.

2.3.10. After this second boiling, store the planks in a clean, covered and ventilated place.

2.4. C.E.Liège Recommendation:

2.4.1. The second boiling will take place only after storage (seasoning time) for at least four weeks following the first boiling.

2.4.2. Treat the effluents.

3. STRIPPING

3.1. Definition: Cutting of the prepared cork bark planks over its thickness and in perpendicular sections, removing any belly (inner layer) which remains.

Note: if the inner layer (belly) is not removed during this operation, it will be done later.

3.2. Objectives: Prepare cork bark for the laminating process.



3.3. Mandatory practices:

3.3.1. Lubricants for the blades used in this operation shall follow the legislation concerning materials in contact with foodstuffs

3.3.2. Cork with yellow stain, green cork, with ants or worms' holes that become evident during this operation shall be segregated and separated from the cork bark intended to be used in stopper manufacturing.

3.4. C.E.Liège Recommendation:

3.4.1. Use cork bark having a moisture content of $16 \pm 4\%$.

4. CLEANING OF THE BACK OF THE PLANKS AND SLICING

4.1. Definition: Operation of cutting slices of cork in accordance with the thickness of the washer to be produced, eliminating the plank's back (or rectifying the belly).

4.2. Objectives: To get slices of cork with enough thickness to manufacture the washers

4.3. Mandatory practices:

4.3.1. Lubricants for the blades (or saws) used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

4.3.2. Use very sharp blades.

5. PUNCHING OF THE CORK STRIPS

5.1. Definition: Cutting of the cork bark with a punching machine.

5.2. Objectives: to obtain a cylindrical washer without deformation within the dimensional limits required.

5.3. Mandatory practices:

5.3.1. Lubricants for the punches used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

5.3.2. Use very sharp punches, in order to cut washers of regular size, with parallel faces of the same dimension.

6. DIMENSIONAL RECTIFICATION OF WASHERS

6.1. Definition: Mechanical operations of polishing the faces of the washers.

6.2. Objectives: To assure accurate dimensional specifications of the washers.

6.3. Mandatory practices:

6.3.1. Assure grain finesse and avoid faces formation.

6.3.2. Extract, vacuum clean and store the powder produced in this operation.

6.3.3. The powder to be used in the colmating process shall be identified and stored in a covered and clean (dry ground) place, free from odours.

7. SELECTION OF WASHERS

7.1. Definition: Operation carried out to separate the washers into different grades.

7.2. Objectives: To grade the washers by eye according to their visual aspect and to eliminate washers with faults.

7.3. Mandatory practices:

7.3.1. Separate the washer according to references for visual grades;



7.3.2. The faulty cork washers shall be separated and placed in identified containers.

8. SCHEDULE OF CONTROL *

8.1. Definition: Document that specifies, at all phases and for each product, the control's parameters, the methods and/or equipment to be used, when the controls are carried out (operation and frequency), who is the person in charge to make them and also the criteria of acceptance/rejection.

Informative note: This Schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

8.2. Objective: Assure that the product complies with the specifications intended.

8.3. Mandatory practices:

8.3.1. The manufacturer will have an up-dated schedule of the systematic controls relating to the washers which govern their manufacture.

8.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

8.3.3. The parameters to be controlled are the following:

8.3.3.1. Moisture content;

8.3.3.2. Dimensions.

8.4. C.E.LIÈGE Recommendation: **

8.4.1. Look for any sensorial deviations.

9. STORAGE OF CORK WASHERS

9.1. Definition: Period of warehousing the cork washers.

9.2. Objective: To keep the cork washers characteristics in order to achieve stabilization.

9.3. Mandatory practices:

9.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

9.4. C.E.Liège Recommendation:

9.4.1. Store the washers in a specific place with a medium hygrometric range of 40 to 80%.

9.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

9.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

10. COUNTING AND PACKAGING

10.1. Definition: Operation that consists in counting the quantity of cork washers and to guarantee they are well protected during transportation.

10.2. Objective: To assure that the quantity of washers agreed with the customer is delivered to him adequately packaged and correctly protected.



10.3. C.E.Liège Recommendation:

10.3.1. An inspection of the counting equipment (machinery) is recommended.

11. TRANSPORT OF WASHERS

11.1. Definition: Transport and /or delivery of washers.

11.2. Objective: To deliver washers to other processors /manufacturers.

11.3. Mandatory practices:

11.3.1. Use vehicles and containers that are clean, covered and free from odours.

11.3.2. Do not transport the washers with other products that can contaminate them.



III. MANUFACTURE OF NATURAL CORK STOPPERS

1. STORAGE OF PREPARED CORK

1.1. Definition: period before the processing of cork planks into stoppers.

1.2. Objective: Keep the characteristics of the prepared cork in order to achieve stabilization.

1.3. Mandatory practices:

1.3.1. Store only on ground made of materials as defined in the annex C.1 of this code.

1.4. C.E.Liège Recommendation:

1.4.1. Store the planks and bales in a covered, clean and ventilated place.

2. SECOND BOILING

2.1. Definition: Immersion of the planks of prepared cork in clean boiling water

2.2. Objective: To increase cork flexibility and to make it smooth.

2.3. Mandatory practices:

2.3.1. The water used in the heaters shall be in accordance with the European Directive 98/83 for the parameters mentioned in Table 1 (Cf. Annex C.2 of this Code) and in accordance with the parameters of Table 2 (also annex C.2).

2.3.2. At least once a year, the manufacturer shall have the water used in the heaters analysed.

2.3.3. When the water used comes from the public water-supply system, the analysis of the parameters listed in the Table I of Annex C.2 and referred at 2.3.1 can be replaced by tests and a written analysis of the municipal water-supply system.

2.3.4. The collecting of water samples must be performed by the laboratory responsible to do the analysis.

2.3.5. Before the heater, the manufacturer shall set up equipment to measure the quantity of water that enters in the heater

2.3.6. Boil for at least 30 minutes at a temperature close to 100°C.

2.3.7. Regularly change the water, at least once a week when in continuous use and whenever there is interruption of 2 days.

2.3.8. Clean the heaters whenever the water is changed.

2.3.9. The manufacturer shall have records concerning the consumption of water for the heaters and of the dates the water has been changed.

2.3.10. After this second boiling, store the planks in a clean, covered and ventilated place.

2.4. C.E.Liège Recommendation:

2.4.1. The second boiling will take place only after storage (seasoning time) for at least four weeks following the first boiling.

2.4.2. Treat the effluents.

3. MANUFACTURE OF CORK STOPPERS

3.1. WITH TUBE (PUNCHING MACHINE)



3.1.1. STRIPPING

3.1.1.1. Definition: cutting of the prepared cork planks over its thickness and in two perpendicular directions.

Note: if the inner layer (belly) is not removed during this operation, it will be done later.

3.1.1.2. Objectives: Prepare the cork bark for the punching process.

3.1.1.3. Mandatory practices:

a) Lubricants for the blades used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

b) Cork with yellow stain, green cork, with ants or worms' holes that become evident during this operation shall be segregated and separated from the cork bark intended to be used in stopper manufacturing.

c) Cut in order to get strips with a larger width than the nominal diameter of the cork stopper, so that it complies with the length/ size of the stopper ready to use.

3.1.1.4. C.E.Liège Recommendation:

a) Use cork bark having a moisture content of 16 ± 4 %.

3.1.2. PUNCHING

3.1.2.1. Definition: Cutting cork bark using a punching machine.

3.1.2.2. Objective: To obtain a cylindrical stopper without deformation and within the dimensional limits required.

3.1.2.3. Mandatory practices:

a) Use cork bark of enough thickness with regard to the punch (tube) diameter and taking in account the method of punching (automatic or manual).

b) Punch as close to the belly as possible.

c) Keep a space between each perforation.

d) When the cork plank is thick do not punch twice in its thickness.

e) Use tubes with a diameter greater than the nominal diameter of the stoppers, in order to assure the stoppers' diameter meet with the size of the stoppers ready to use and the customer specification.

f) Use very sharp and fixed punches (tubes) without notches, turning with adequate speed in order to avoid scuffing on the surface of the cork stopper.

3.2. NATURAL CORK STOPPERS MANUFACTURED FROM NATURAL CORK SQUARED PIECES

3.2.1. STRIPPING FOR SQUARED PIECES

3.2.1.1. Definition: Operation of cutting prepared cork bark in two perpendicular sections and all over the plank thickness eliminating back and rectifying belly.

3.2.1.2. Objective: To prepare the cork bark for the next step – the cutting of squares.

3.2.1.3. Mandatory practices:

a) Lubricants for the blades used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

b) Cork with yellow stain, green cork, with ants or worms' holes that become evident during this operation shall be segregated and separated from the cork bark intended to be used in stopper manufacturing.



- c) Cut in order to get strips with a larger width than the nominal diameter of the cork stopper, so that it complies with the length/ size of the stopper ready to use.

3.2.1.4. C.E.Liège Recommendation:

- a) Use cork with moisture content of 16 ± 4 %.

3.2.2. PREPARATION OF THE SQUARED PIECES

3.2.2.1. Definition: Operation consisting in cutting from the strips rectangular parallelepiped squares with the adequate size.

3.2.2.2. Objective: Obtain one cylindrical cork stopper from each square.

3.2.2.3. Mandatory practices:

a) Lubricants for the blades used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

b) Cork with yellow stain, green cork, with ants or worms' holes that become evident during this operation shall be segregated and separated from the cork bark intended to be used in stopper manufacturing.

c) Cut in order to get squared pieces with a larger width than the nominal diameter of the cork stopper ready to use.

3.2.3. TURNING SQUARES

3.2.3.1. Definition: Operation of cutting squares to obtain one cylindrical cork stopper.

3.2.3.2. Objectives: Obtain a cylindrical cork stopper without deformation and within the dimensional limits required.

3.2.3.3. Mandatory practices:

a) Lubricants for the blades used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

b) Cork with yellow stain, green cork, with ants or worms' holes that become evident during this operation shall be segregated and separated from the cork bark intended to be used in stopper manufacturing.

c) Cut in order to get squared pieces with a larger width than the nominal diameter of the cork stopper, so that it complies with the length/ size of the stopper ready to use.

4. DIMENSIONAL RECTIFICATION

4.1. Definition: Mechanical operations of polishing both ends and body of the cork stopper..

4.2. Objective: To assure accurate dimensional specifications of the stoppers.

4.3. Mandatory practices:

4.3.1. Assure grain finesse and avoid faces formation.

4.3.2. Extract, vacuum clean and store the powder produced in this operation.

4.3.3. The powder to be used in the colmating process shall be identified and stored in a covered and clean (dry ground) place, free from odours.

5. SCHEDULE OF CONTROL *

5.1. Definition: Document that specifies all the parameters that control the quality of the stopper during manufacture, the methods and/or equipment to be used, when the controls are carried out (operation and frequency),, the person responsible for making them and also the criteria of acceptance/ rejection, concerning each product and every phase of the manufacturing process.



Informative note: This Schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

5.2. Objective: Assure that the product complies with the specifications intended.

5.3. Mandatory practices:

5.3.1. The manufacturer will have an up-dated schedule of the systematic controls relating to the stoppers which govern their manufacture.

5.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

5.3.3. The parameters to be controlled are the following:

5.3.3.1. Moisture content;

5.3.3.2. Dimensions.

5.4. C.E.LIÈGE Recommendation:

5.4.1. Look for any sensorial deviations.

6. STORAGE OF STOPPERS

6.1. Definition: Period of warehousing the cork stoppers.

6.2. Objective: To keep the cork stoppers' characteristics in order to achieve stablization.

6.3. Mandatory practices:

6.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

6.4. C.E.Liège Recommendation:

6.4.1. Store the stoppers in specific place with a medium hygrometric range of 40 to 80%.

6.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

6.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

7. COUNTING AND PACKAGING

7.1. Definition: Operation that consists in counting the quantity of cork stoppers and to guarantee they are well protected during transportation.

7.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and correctly protected.

7.3. C.E.Liège Recommendation:

7.3.1. An inspection of the counting equipment (machinery) is recommended.

8. TRANSPORT OF CORK STOPPERS

8.1. Definition: Transport and /or delivery of stoppers.

8.2. Objective: To deliver the stoppers to manufacturers and companies who finish the product.



8.3. Mandatory practices:

8.3.1. Use vehicles and containers that are clean, covered and free from odours.

8.3.2. Do not transport the stoppers with other products in order to prevent contamination.

IV. MANUFACTURE OF MULTI-PIECE CORK STOPPERS FOR STILL WINES, SEMI-SPARKLING WINES, BEER AND CIDER

1. STRIPPING

1.1. Definition: Operation of cutting prepared cork bark in two perpendicular sections and all over the plank thickness.

Note: if the inner layer (belly) is not removed during this operation, it will be done later.

1.2. Objective: Prepare cork bark for the next process –slicing.

1.3. Mandatory practices:

1.3.1. Lubricants for the blades used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

1.3.2. Cork with yellow stain, green cork, with ants or worms' holes become evident during this operation shall be segregated and separated from the cork bark intended to be used in stopper manufacturing.

1.3.3. Cut in order to get strips with a larger width than the nominal diameter of the cork stopper, so that it complies with the length/ size of the stopper ready to use.

1.4. C.E.Liège Recommendation:

1.4.1. Use cork with moisture content of 16 ± 4 %.

2. SLICING CORK PLANKS

2.1. Definition: Operation of cutting slices/thin sheets of cork in accordance with the thickness wanted for the product, eliminating the plank's back (or rectifying the belly).

2.2. Objectives: To get slices of cork with the thickness required.

2.3. Mandatory practices:

2.3.1. Lubricants for the blades (or saws) used in this operation shall follow the legislation concerning materials in contact with foodstuffs.

2.3.2. Use very sharp blades.

3. PREPARATION OF THE PIECES

3.1. Definition: make pieces from the cork slices obtained at the stage before.

3.2. Objective: to obtain pieces of cork.

3.3. Mandatory practices:

3.3.1. Cork with yellow stain, green cork, with ants or worms' holes that become evident during this operation shall be segregated and separated from the cork bark intended to be used in stopper manufacturing

3.3.2. Use very sharp blades

4. GLUING OF CORK PIECES

4.1. Definition: Operation that consists in laying a spot of glue on the faces of the pieces of cork and pressing them together.

4.1 Objective: To join the pieces together.

4.2 Mandatory practices:

4.2.1. The chemical products and packaging must :

4.2.1.1. Be correctly identified ;

4.2.1.2. Carry the limit date of validity and mustn't be used after that date.

4.2.1.3. Be well preserved;

4.2.1.4. Respect the storage conditions prescribed by the suppliers of these products.

4.2.2. Respect the curing time specified by the manufacturer of these products.

4.3 C.E.Liège Recommendation:

4.4.1. When assembling the pieces together in order to form a stopper, make sure that the pieces have all the same tonality and texture.

5. PUNCHING

5.1. Definition: Cutting cork bark using a punching machine.

5.2. Objective: To obtain a cylindrical stopper without deformation and within the dimensional limits required.

5.3. Mandatory practices:

5.3.1. Use as many slices of cork (glued together) as necessary in order to get the thickness required in accordance with the diameter of the punching machine (tube) and taking into account the method of punching (automatic or manual).

5.3.2. Keep a space between each perforation.

5.3.3. Use tubes with a diameter greater than the nominal diameter of the stoppers, in order to assure the diameter of the stoppers will meet with the size of the stoppers ready to use.

5.3.4. Use very sharp and fixed punches (tubes) without notches, turning with adequate speed in order to avoid scuffing on the surface of the cork stopper.

6. DIMENSIONAL RECTIFICATION OF THE STOPPERS

6.1. Definition: Mechanical operations of polishing both the ends and body of the cork stopper.

6.2. Objective: To assure accurate dimensional specifications of the stoppers.

6.3. Mandatory practices:

6.3.1. Assure grain finesse and avoid faces formation.

6.3.2. Extract, vacuum clean and store the powder produced in this operation.

7. SCHEDULE OF CONTROLS *

7.1. Definition: Document that specifies all the parameters that control the quality of the stopper during manufacture, the methods and/or equipment to be used, when the controls are carried out (operation and frequency), the person responsible for making them and also the criteria of acceptance/ rejection.

Informative note: This Schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

7.2. Objective: Assure that the product complies with the specifications intended.

7.3. Mandatory practices:

7.3.1. The manufacturer shall have an up-dated schedule of the systematic controls relating to the stoppers which govern their manufacture.

7.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

7.3.3. The parameters to be controlled are the following:

7.3.3.1. Moisture content;

7.3.3.2. Dimensions.

7.3.3.3. Quality of the bonding (gluing) of the pieces.

7.4. C.E.LIÈGE Recommendation:

7.4.1. Look for any sensorial deviations.

8. STORAGE OF THE STOPPERS

8.1. Definition: Period of warehousing of the cork stoppers.

8.2. Objective: To keep the cork stoppers' characteristics unchanged.

8.3. Mandatory practices:

8.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

8.4. C.E.Liège Recommendation:

8.4.1. Store the stoppers in specific place with an average hygrometric range of 40 and 80%.

8.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

8.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

9. COUNTING AND PACKAGING

9.1. Definition: Operation that consists in counting the quantity of cork stoppers and in giving a guarantee they are well protected during the transport.

9.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

9.3. C.E.Liège Recommendation:

9.3.1. An inspection of the counting equipment (machinery) is recommended.

10. TRANSPORT OF STOPPERS

10.1. Definition: Transport and /or delivery of stoppers.

10.2. Objective: To deliver the stoppers to other processors / companies who finish the cork stoppers.

10.3. Mandatory practices:

10.3.1. Use vehicles and containers that are clean, covered and free from odours.

10.3.2. Do not transport the stoppers with other products in order to protect them against any contamination.

V. MANUFACTURE OF BARTOP STOPPERS OF NATURAL CORK AND MULTIPIECES FOR STILL WINES, LIQUEURS AND OTHER ALCOHOLIC BEVERAGES



1. MANUFACTURE OF THE BODY OF THE STOPPER

1.1. Definition: Series of operations that are necessary to make the cylindrical body of the stopper (shank).

1.2. Objective: Obtain the stopper's body suited for the top /cap to which it will be glued.

1.3. Mandatory practices:

1.3.1. All the chemicals used in the manufacturing process must be able to be in contact with beverages having a level of alcohol content higher than 15% of the volume.

1.3.2. The manufacturer shall assure the compliance of all the practices used with those prescribed in this code at the following chapters:

1.3.2.1. Natural cork stoppers..... [\(B.2. III.1 to B.2 III.5\)](#) *

1.3.2.2. Natural multipiece cork stoppers [\(B.2 . IV.1 to B.2.IV.7\)](#) *

2. TURNING OF PROFILES AND CHAMFER

2.1. Definition: Mechanical operation that consists in polishing the end of the cork stopper.

2.2. Objective: To prepare the cork stopper and make the bottling and sealing easier.

2.3. Mandatory practices:

2.3.1. Draw up a schedule to control all sizes and assure that the controls are carried out regularly

2.3.2. Avoid formation of facets on the surface

2.3.3. Extract, vacuum clean and store the powder produced in this operation.

2.3.4. The powder produced by the stoppers' manufacturing and to be used in the colmating process shall be identified and stored in a covered and clean (dry ground) place, free from odours.

3. STORAGE OF STOPPERS

3.1. Definition: Period of warehousing the cork stoppers.

3.2. Objective: To keep the cork stoppers' characteristics unchanged.

3.3. Mandatory practices:

3.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

3.4. C.E.Liège Recommendation:

3.4.1. Store the stoppers in specific place with a medium hygrometric range of 40 to 80%.

3.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

3.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.



4. COUNTING AND PACKAGING

4.1. Definition: Operation that consists in counting the quantity of cork stoppers and to guarantee they are well protected during the transportation.

4.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

4.3. C.E.Liège Recommendation:

4.3.1. An inspection of the counting equipment (machinery) is recommended.

5. TRANSPORT OF STOPPERS

5.1. Definition: Transport and /or delivery of stoppers.

5.2. Objective: To deliver the stoppers to other processors / companies who finish the cork stoppers.

5.3. Mandatory practices:

5.3.1. Use vehicles and containers that are clean, covered and free from odours.

5.3.2. Do not transport the stoppers with other products in order to protect them against any contamination.

VI. MANUFACTURE OF GRANULATED CORK

1. CONTROL AT RECEPTION OF CORK FOR TRITURATION

1.1. Definition: Proceedings to be put in practice by the manufacturer regarding the reception of cork for trituration.

1.2. Objective: To guarantee the quality of the cork of trituration.

1.3. Mandatory practices:

1.3.1. The cork for trituration can contain boiled corkwood refuse (cork bark pieces) derived from the preparation of cork planks and waste resulting from the manufacture of stoppers or washers.

1.3.2. The moisture content of the cork for trituration shall be controlled before storage.



2. STORAGE OF CORK FOR TRITURATION

2.1. Definition: Period of time between reception /arrival of the cork wood in the factory and the trituration process.

2.2. Objective: To preserve the cork wood from alterations.

2.3. Mandatory practices:

2.3.1. Store the cork for trituration in a covered, clean place and free from odours.

2.3.2. Store the cork for trituration only on ground made of materials as defined in the annex C.1 of this code, eliminating direct contact with earth.

2.3.3. Domestic animals shall be kept away from the cork for trituration

2.4. C.E.Liège Recommendation:

2.4.1. Store the corkwood for trituration in a covered place.

3. GRINDING /TRITURATION

3.1. Definition: First operation to break up cork bark into small pieces.

3.2. Objective: Obtain small pieces of cork that will be used for the next operation, which is granulation.

3.3. Mandatory practices:

3.3.1. Store the small pieces of cork in a covered, clean and ventilated place, free from odours.

3.3.2. Store the small pieces of cork on a cement, concrete or stone base, eliminating direct contact with earth.

3.3.3. Before the loading of small pieces of cork and to assure protection against any contamination, the manufacturer shall check the cleanliness of the trucks, if they are covered, free of moisture and will assure also that cork is not transported together with other products that can transfer odours.

4. GRANULATION

4.1. Definition: Fragmentation of the cork resulting from the grinding process.

4.2. Objective: To obtain fragments of cork (cork granules) that will be subsequently graded according to their granulometry (generally between 0,25 and 8,0 mm) and mass (volume).

4.3. Mandatory practices:

4.3.1. The manufacturer shall demonstrate he has records regarding the specific weight and moisture content of the granules of cork.



5. STORAGE OF GRANULATES OF CORK

5.1. Definition: Conservation of cork granules.

5.2. Objective: To keep the granulated cork in the best conditions, in order to avoid alteration of their characteristics.

5.3. Mandatory practices:

5.3.1. The granulate shall be kept in silos or sacks made of synthetic materials allowing ventilation

5.3.2. Places for storing granulates shall be clean, dry, ventilated, without odours and be specific for this kind of storage.

5.3.3. If the manufacturer uses sacks for the storage, the sacks shall be placed on a cement or concrete base.

5.4. C.E.Liège Recommendation:

5.4.1. Places for storing granulates shall have an average relative humidity (hygrometric range) between 40 and 80%.

5.4.2. The manufacturer shall have records concerning the relative humidity of the places where granulates are stored.

5.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

6. TRANSPORT OF GRANULATED CORK

6.1. Definition: Loading and transport of granulates from the warehouse to the reception or place where granulates are unloaded (factory /users).

6.2. Objective: To deliver granulates to manufacturers of the bodies (rods)of the stopper and other kind of stoppers made of granulated cork.

6.3. Mandatory practices:

6.3.1. Before the loading of granulated cork and to assure protection against any contamination, the manufacturer shall check the cleanliness of the trucks whether the trucks are covered, verifying also that granulated cork is not transported together with other products that can transfer odours.

6.3.2. The granulated cork must be covered during transport.

VII. MANUFACTURE OF AGGLOMERATED CORK STOPPERS, FOR STILL WINES, SEMI-SPARKLING WINES, BEER AND CIDER



1. CONTROL AT RECEPTION OF GRANULATED CORK

1.1. Definition: Proceedings to be put in practice by the manufacturer regarding the reception of granulated cork.

1.2. Objective: To guarantee the quality of the granulated cork.

1.3. Mandatory practices:

1.3.1. The granules of cork shall have a specific weight between 55 and 75 kg/m³,

1.3.2. As concerns granulometry the size of the granules will be between 0,25 and 8 mm.

2. STORAGE OF GRANULATED CORK

2.1. Definition: Conservation of granulates of cork.

2.2. Objective: To keep the granulated cork in the best conditions, in order to avoid any alteration to their characteristics.

2.3. Mandatory practices:

2.3.1. Granulated cork shall be kept in silos or sacks made of synthetic materials allowing ventilation

2.3.2. Places for storing granulated cork shall be clean, dry, ventilated, without odours and be specific for this kind of storing.

2.3.3. If the manufacturer uses sacks for the storage, the sacks shall be placed on a cement or concrete base

2.4. C.E.Liège Recommendation:

2.4.1. Places for storing granulated cork shall have an average relative humidity (hygrometric range) between 40 and 80%.

2.4.2. The manufacturer shall have records concerning the relative humidity of the places where granulated cork is stored.

2.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

3. AGGLOMERATION

3.1. Definition: Assemble (join) granulates of cork together, usually by thermal treatment, with addition of a binder (glue).

3.2. Objective: To produce the body of the agglomerated cork stopper.

3.3. Mandatory practices:

3.3.1. The chemical products and packaging must:

3.3.1.1. Be correctly identified;

3.3.1.2. Carry the limit date of validity and mustn't be used after that date.

3.3.1.3. Be well preserved;

3.3.1.4. Respect the storage conditions prescribed by these products' suppliers.

3.3.2. Respect the conditions of use/application for these products



3.3.3. Respect the curing time given by the manufacturer of the glues.

4. DIMENSIONAL RECTIFICATION

4.1. Definition: Mechanical operations of polishing the ends and body of the cork stoppers /bodies

4.2. Objective: To assure accurate dimensional specifications of the cork bodies/ stoppers.

4.3. Mandatory practices:

4.3.1. Assure grain finesse and avoid faces formation.

4.3.2. Extract, vacuum clean and store the powder produced in this operation.

5. SCHEDULE OF CONTROL *

5.1. Definition: Document that specifies all the parameters that control the quality of the stopper/body during manufacture, the methods and/or equipment used, when the controls are carried out (operation and frequency), the person responsible for making them and also the criteria of acceptance/ rejection.

Informative note: This Schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

5.2. Objective: Assure that the product complies with the specifications intended.

5.3. Mandatory practices:

5.3.1. The manufacturer shall have an up-dated schedule of the systematic controls relating to the stoppers/bodies which govern their manufacture.

5.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

5.3.3. The parameters to be controlled are the following:

5.3.3.1. Moisture content;

5.3.3.2. Dimensions.

5.3.3.3. Apparent specific density (weight)

5.4. C.E.LIÈGE Recommendation: **

5.4.1. Look for any sensorial deviations. ***

6. STORAGE OF STOPPERS/ BODIES

6.1. Definition: Period of warehousing of the cork bodies/ stoppers.

6.2. Objective: To keep the cork stoppers/ cork bodies' characteristics unchanged.

6.3. Mandatory practices:

6.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

6.4. C.E.Liège Recommendation:

6.4.1. Store the cork bodies/stoppers in specific place with a medium hygrometric range of 40 a 80%.



6.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

6.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

7. COUNTING AND PACKAGING

7.1. Definition: Operation that consists in counting the quantity of cork bodies/stoppers and in giving guarantee they are well protected during the transport.

7.2. Objective: To assure that the quantity of bodies/stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

7.3. C.E.Liège Recommendation:

7.3.1. An inspection of the counting equipment (machinery) is recommended.

8. TRANSPORT OF CORK BODIES / STOPPERS:

8.1. Definition: Transport and /or delivery of cork bodies/stoppers.

8.2. Objective: To deliver the cork bodies/stoppers to other processors / companies who finish the cork stoppers.

8.3. Mandatory practices:

8.3.1. Use vehicles and containers that are clean, covered and free from odours.

8.3.2. Do not transport the cork bodies/stoppers with other products in order to protect them against any contamination.

VIII. MANUFACTURE OF NEW GENERATION AGGLOMERATED CORK STOPPERS FOR STILL WINES, SEMI-SPARKLING WINES, BEER AND CIDER

1. CONTROL AT RECEPTION OF GRANULATED CORK

1.1. Definition: Proceedings to be put in practice by the manufacturer regarding the reception of granulated cork.

1.2. Objective: To guarantee the quality of the granulated cork.

1.3. Mandatory practices:

1.3.1. In terms of granulometry, the size range of the granules of cork shall be between 0,25 mm to 8 mm.

1.3.2. The granules of cork shall have a specific weight of 65 kg/m³ (max.) and a moisture content the suit the technology to be applied.

2. STORAGE OF GRANULATES OF CORK

2.1. Definition: Period of conservation of cork granules.

2.2. Objective: To keep the granulated cork in the best conditions, in order to avoid any change in their characteristics.

2.3. Mandatory practices:

2.3.1. The granulate shall be kept in silos or sacks made of synthetic materials allowing ventilation

2.3.2. Places for storing granulates shall be clean, dry, ventilated, without odours and be specific for this kind of storing.

2.3.3. If the manufacturer uses sacks for the storage, the sacks shall be placed on a base made of cement or concrete.

2.4. C.E.Liège Recommendation:

2.4.1. Places for storing granulates shall have an average relative humidity (hygrometric range) between 40 and 80%.

2.4.2. The manufacturer shall have records concerning the relative humidity of the places where granulates are stored.

2.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

3. IMPROVED PROTECTION OF ORGANOLEPTIC NEUTRALITY

3.1. Definition: Procedure of cleaning/extraction of volatile compounds.

3.2. Objective: To enhance the organoleptic neutrality.

3.3. Mandatory practices:

3.4.1. Companies will have to present a dossier validating conformity with points 1.11 and 1.12 in Chapter B.1 - General Mandatory Practices.

4. AGGLOMERATION

4.1. Definition: Assemble granulates of cork together, usually by thermal treatment, with addition of a binder (glue) and expanding synthetic products.

4.2. Objective: To make an agglomerated cork body increasing the elasticity of the stopper.

4.3. Mandatory practices:

- 4.3.1. The chemical products and packaging must :
 - 4.3.1.1. Be correctly identified;
 - 4.3.1.2. Carry the limit date of validity and mustn't be used after that date.
 - 4.3.1.3. Be well preserved;
 - 4.3.1.4. Respect the storage conditions prescribed by these products' suppliers.
- 4.3.2. Respect the conditions of use/application for these products
- 4.3.3. Respect the curing time given by the manufacturer of the glues.
- 4.3.4. The mixture shall contain at least 51% of granulated cork (in weight).

5. DIMENSIONAL RECTIFICATION OF THE STOPPERS

5.1. Definition: Mechanical operations of polishing both the ends and body of the cork stopper.

5.2. Objective: To assure accurate dimensional specifications of the stoppers.

5.3. Mandatory practices:

- 5.3.1. Assure grain finesse and avoid faces formation.
- 5.3.2. Extract, vacuum clean and store the powder produced in this operation.

6. SCHEDULE OF CONTROLS

6.1. Definition: Document that specifies all the parameters that control the quality of the agglomerate body during manufacture, the methods and/or equipment used, when the controls are carried out (operation and frequency), the person responsible for making them and also the criteria of acceptance/ rejection.

Informative note: This Schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

6.2. Objective: Assure that the product complies with the specifications intended.

6.3. Mandatory practices:

- 6.3.1. The manufacturer shall have an up-dated schedule of the systematic controls relating to the stoppers which govern their manufacture.
- 6.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.
- 6.3.3. The parameters to be controlled are the following:
 - 6.3.3.1. Moisture content;
 - 6.3.3.2 Dimensions.
 - 6.3.3.3. Apparent specific density (weight)

6.4. C.E.LIÈGE Recommendation:

- 6.4.1. Look for any sensorial deviations.

7. STORAGE OF THE CORK STOPPERS

7.1. Definition: Period of warehousing the stoppers.

7.2. Objective: To keep the stoppers' characteristics unchanged.

7.3. Mandatory practices:

7.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

7.4. C.E.Liège Recommendation:

7.4.1. Store the cork stoppers in specific place with a medium hygrometric range of 40 to 80%.

7.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place

7.4.3. The company shall arrange a plan of rodent extermination and shall ensure its application.

8. COUNTING AND PACKAGING

8.1. Definition: Operation that consists in counting the quantity of cork stoppers and in giving guarantee they are well protected during transportation.

8.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

8.3. C.E.Liège Recommendation:

8.3.1. An inspection of the counting equipment (machinery) is recommended.

9. TRANSPORT OF STOPPERS

9.1. Definition: Transport and /or delivery of cork stoppers.

9.2. Objective: To deliver the cork stoppers to other processors / companies who finish the cork stoppers.

9.3. Mandatory practices:

9.3.1. Use vehicles and containers that are clean, covered and free from odours.

9.3.2. Do not transport the cork bodies/stoppers with other products in order to protect them against any contamination.

IX. MANUFACTURE OF AGGLOMERATED STOPPERS, WITH NATURAL CORK WASHERS FOR STILL AND SEMI-SPARKLING WINES, BEER AND CIDER



1. CONTROL AT RECEPTION OF THE CORK WASHERS AND AGGLOMERATED CORK BODIES

1.1. Definition: Procedure to be put in practice by the manufacturer regarding the reception of natural cork washers and agglomerated cork stoppers.

1.2. Objective: To guarantee the products are in compliance with the specifications required.

1.3. Mandatory practices:

1.3.1. Check whether are respect the parameters mentioned in the shedule of controls regarding cork washers [\(B.2.II 8\)](#) * and agglomerated cork stoppers [\(B.2. VII 5\)](#) *

2. STORAGE OF WASHERS AND AGGLOMERATED CORK BODIES

2.1. Definition: Period of warehousing of washers and the agglomerate cork bodies.

2.2. Objective: To keep these products in the best conditions of preservation in order to avoid alteration of their characteristics.

2.3. Mandatory practices:

2.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

2.4. C.E.Liège Recommendation:

2.4.1. Store the cork washers/agglomerated cork bodies in specific place with a medium hygrometric range of 40 to 80%.

2.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

2.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

3. GLUING OF WASHERS

3.1. Definition: Operation that consists of gluing the washers onto the agglomerated cork body or in gluing the washers between themselves (one on top of the other).

3.2. Objective: To assure the adhesion of the washers and to join the washers to the agglomerated body.

3.3. Mandatory practices :

3.3.1. The chemical products and packaging must :

3.3.1.1. Be correctly identified;

3.3.1.2. Carry the limit date of validity and mustn't be used after that date.

3.3.1.3. Be well preserved;

3.3.1.4. Respect the storage conditions prescribed by these products' suppliers.

3.3.2. Respect the curing time given by the manufacturer of the glues.



4. DIMENSIONAL RECTIFICATION

4.1. Definition: Mechanical operations of polishing the ends and body of the cork stoppers.

4.2. Objective: To assure accurate dimensional specifications of the cork stoppers.

4.3. Mandatory practices:

4.3.1. Assure grain finesse and avoid faces formation.

4.3.2. Extract, vacuum clean and store the powder produced in this operation.

5. SCHEDULE OF CONTROL

5.1. Definition: Document that specifies all the parameters that control the quality of the stopper during manufacture, the methods and/or equipment used, when the controls are carried out (operation and frequency), the person responsible for making them and also the criteria of acceptance/ rejection.

Informative note: This Schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

5.2. Objective: Assure that the product complies with the specifications intended.

5.3. Mandatory practices:

5.3.1. The manufacturer shall have an up-dated schedule of the systematic controls relating to the stoppers which govern their manufacture.

5.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

5.3.3. The parameters to be controlled are the following:

5.3.3.1. Dimensions.

5.3.3.2. Quality and perfect bonding (gluing) of the washers to the body.

6. STORAGE OF THE CORK STOPPERS

6.1. Definition: Period of warehousing the cork stoppers.

6.2. Objective: To keep the cork stoppers' characteristics unchanged.

6.3. Mandatory practices:

6.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

6.4. C.E.Liège Recommendation:

6.4.1. Store the cork stoppers in specific place with a medium hygrometric range of 40 to 80%.

6.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

6.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.



7. COUNTING AND PACKAGING

7.1. Definition: Operation that consists in counting the quantity of cork stoppers and to guarantee they are well protected during the transportation.

7.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

7.3. C.E.Liège Recommendation:

7.3.1. An inspection of the counting equipment (machinery) is recommended.

8. TRANSPORT OF STOPPERS

8.1. Definition: Transport and /or delivery of cork stoppers.

8.2. Objective: To deliver the cork stoppers to other processors / companies who finish the cork stoppers.

8.3. Mandatory practices:

8.3.1. Use vehicles and containers that are clean, covered and free from odours.

8.3.2. Do not transport the stoppers with other products in order to protect them against any contamination.

X. MANUFACTURE OF AGGLOMERATED CORK STOPPERS WITH NATURAL CORK WASHERS FOR SPARKLING AND GASEOUS WINES



1. CONTROL AT RECEPTION OF THE CORK WASHERS AND AGGLOMERATED CORK BODIES

1.1. Definition: Procedure to be put into practice by the manufacturer regarding the reception of natural cork washers and agglomerated cork stoppers.

1.2. Objective: To guarantee the products are in compliance with the specifications required.

1.3. Mandatory practices:

1.3.1. Check whether the parameters mentioned in the schedule of controls regarding cork washers [\(B.2.II 8\)](#) ** and agglomerated cork stoppers [\(B.2. VII 5\)](#) ** are respected.

2. STORAGE OF WASHERS AND AGGLOMERATED CORK BODIES

2.1. Definition: Period of warehousing of washers and agglomerated cork bodies.

2.2. Objective: To keep these products in the best conditions of preservation in order to avoid alteration of their characteristics.

2.3. Mandatory practices:

2.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

2.4. C.E.Liège Recommendation:

2.4.1. Store the cork washers/agglomerated cork bodies in specific place with a medium hygrometric range of 40 to 80%.

2.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

2.4.3. The company shall arrange a plan of rodent extermination and shall ensure its application.

3. GLUING OF WASHERS

3.1. Definition: Operation that consists in gluing the washers onto the agglomerated cork body or in gluing the washers between themselves (one upon the other).

3.2. Objective: To assure good adhesion of the washers and good adhesion of the washers bonded to the agglomerate body.

3.3. Mandatory practices:

3.3.1. The chemical products and packaging must :

3.3.1.1. Be correctly identified ;

3.3.1.2. Carry the limit date of validity and mustn't be used after that date.

3.3.1.3. Be well preserved;

3.3.1.4. Respect the storage conditions prescribed by the suppliers of these products.

3.3.2. Respect the curing time given by the manufacturer of the glues.



4. DIMENSIONAL RECTIFICATION

4.1. Definition: Mechanical operations of polishing the ends and body of the cork stoppers.

4.2. Objective: To assure accurate dimensional specifications of the cork stoppers.

4.2.1. Mandatory practices:

4.2.1.2. Assure grain finesse and avoid faces formation.

4.2.2.2. Extract, vacuum clean and store the powder produced in this operation.

5. SCHEDULE OF CONTROLS

5.1. Definition: Document that specifies all the parameters that control the quality of the stopper during manufacture, the methods and/or equipment used, when the controls are carried out (operation and frequency), the person responsible for making them and also the criteria of acceptance/ rejection.

Informative note: this schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

5.2. Objective: Assure that the product complies with the specifications intended.

5.3. Mandatory practices:

5.3.1. The manufacturer shall have and apply an up-dated schedule of the systematic controls relating to the stoppers which govern their manufacture.

5.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

5.3.3. The parameters to be controlled are the following:

5.3.3.1. Dimensions.

5.3.3.2. Quality and perfect bonding (gluing) of the washers to the body.

6. STORAGE OF THE CORK STOPPERS

6.1. Definition: Period of warehousing the cork stoppers.

6.2. Objective: To keep the cork stoppers' characteristics unchanged.

6.3. Mandatory practices:

6.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

6.4. C.E.Liège Recommendation:

6.4.1. Store the cork stoppers in specific place with a medium hygrometric range of 40 to 80%.

6.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

6.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

7. COUNTING AND PACKAGING

7.1. Definition: Operation that consists in counting the quantity of cork stoppers and to guarantee they are well protected during transport.

7.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

7.3. C.E.Liège Recommendation:

7.3.1. An inspection of the counting equipment (machinery) is recommended.



8. TRANSPORT OF STOPPERS

8.1. Definition: Transport and /or delivery of cork stoppers.

8.2. Objective: To deliver the cork stoppers to other processors / companies who finish the cork stoppers.

8.3. Mandatory practices:

8.3.1. Use vehicles and containers that are clean, covered and free from odours.

8.3.2. Do not transport the cork stoppers with other products in order to protect them against any contamination.

XI. FINISHING OF STOPPERS

- NATURAL AND NATURAL COLMATED CORK STOPPERS
- AGGLOMERATED STOPPERS AND NEW GENERATION AGGLOMERATED CORK STOPPERS
- AGGLOMERATED STOPPERS WITH NATURAL CORK WASHERS FOR STILL WINES, SPARKLING WINES, BEER AND CIDER AND NATURAL BARTOP CORK STOPPERS FOR STILL WINES, LIQUEURS AND OTHER ALCOHOLIC BEVERAGES

1. WASHING

1.1. GENERAL WASHING

1.1.1. The place for washing shall be clean and in good order.

1.1.2. The water used in this operation shall be in accordance with the European Directive 98/83 for the parameters mentioned in Table 1 (Cf. Annex C.2 of this Code) and in accordance with the parameters of Table 2 (also annex C.2).

1.1.3. At least once a year, the manufacturer shall do an analysis of the water used in the washing.

1.1.4. When the water used comes from the public water-supply system, the analysis of the parameters listed in the Table I of Annex C.2 and referred on point 1.1.2 can be replaced by test and a written analysis Municipal water-supply system.

1.1.5. The collecting of water samples must be performed by the laboratory responsible to do the analysis.

1.2. WASHING IN WATER

1.2.1. Definition: To soak the stoppers in clean water containing no additives.

1.2.2. Objective: Clean and remove dust (cork powder) from the stoppers.

1.2.3. Mandatory practices:

1.2.3.1. Washing in water is not enough to clean and prevent the growth of micro-organisms; a complementary cleaning and disinfecting process shall be done by using another type of washing, unless there is an opposite requirement by the customer.

1.3. WASHING IN PEROXIDES

1.3.1. Definition: Process of washing cork stoppers using hydrogen peroxide (oxygenated water) or paracetic acid.

1.3.2. Objective: To clean and disinfect cork stoppers.

1.3.3. Mandatory practices:

1.3.3.1. On cork stoppers ready for use, this type of washing shall not deposit quantity of peroxide greater than 0,2 mg/cork stopper.

1.4. WASHING WITH SULPHAMIC ACID

1.4.1. Definition: Process of washing cork stoppers using sulphamic acid.

1.4.2. Objective: To clean and disinfect cork stoppers.

1.4.3. Mandatory practices:

1.4.3.1. A complementary cleaning shall be necessary, unless there is an opposite requirement from the customer.

1.5. WASHING IN METABISULPHITE

1.5.1. Definition: Process of washing cork stoppers using a solution of metabisulphite.

1.5.2. Objective: To clean and disinfect cork stoppers.

1.5.3. Mandatory practices:

1.5.3.1. A complementary cleaning shall be necessary, unless there is an opposite requirement from the customer.

2. DRYING

2.1. Definition: Operation that consists in reducing the moisture content through thermal treatment applied to the stoppers.

2.2. Objective: Assure that submitted to this process the stoppers will gain a better mechanical behaviour and microbial stability.

2.3. Mandatory practices:

2.3.1. The ovens shall be clean and without odours.

2.3.2. In the ovens, exclude the use of wood treated with halogenic substances.

2.3.3. Do not dry washed cork stoppers together with stoppers not washed.

2.3.4. Control the moisture content after drying cork stoppers.

2.4. C.E.Liège Recommendation:

2.4.1. Do not use ovens made of wood.



3. COLMATION

3.1. Definition: Operation that consists in sealing the lenticels of the cork stoppers with a mixture of cork powder and glue.

3.2. Objective: To improve the appearance/aspect of the natural cork stoppers (especially those stoppers have numerous lenticels, and consequently are very porous) and to obtain a better seal when they are used on the bottles.

3.3. COLMATION (SOLVENT BASED METHOD)

3.3.1. Mandatory practices:

3.3.1.1. The glues and the cork powder cannot be stored at the same place where colmation is carried out.

3.3.1.2. For bartop stoppers all the chemicals used in the manufacturing process must be able to be in contact with beverages having a level of alcohol content higher than 15% of the volume (or an average alcohol content similar to the one of the beverage the stopper is going to seal)

3.3.1.3. Use only powder resulting from the rectification of natural cork stoppers and washers.

3.3.1.4. Wash the stoppers before colmating.

3.3.1.5. The places where the colmation is to be carried out shall have air and solvent extraction systems and shall be protected with anti-deflagrating systems.

3.3.2. C.E.Liège Recommendation:

3.2.1.1. Wash again the stoppers after colmation.

3.2.1.2. The place of colmation shall be :

a) Separated from the other sections and situated in a building detached from the other sectors, and there shall be specific zones of security.

b) Built with materials resistant to fire and explosion, as concerns floorings, walls, ceilings and roofs. As for the risk of explosion, adequate "zones of safety" must be created to direct the explosion wave and then allow its attenuation /extinguishing.

c) Be well ventilated and shall have mechanical vacuum and conducting systems, with specific anti-electrostatic and anti-deflagrating characteristics, and the manufacturer shall be careful on the following:

- i) The machinery and equipment used must not have any possible point of ignition;
 - ii) The equipment set up for aspiration must have equipment fitted with an alarm to measure the concentration of the gases in the volatile solvents and to measure the temperature, with specific anti-electrostatic and anti-deflagrating characteristics.
- d) The material from which the shelves are made and the equipment used in the collection and delivery of the stoppers must prevent the discharge of static electricity.
- e) The inflammable products shall be stored in separate buildings specially reserved for that purpose and built with materials resistant to fire, on a water-resistant, sloping floor with a separate drainage system conducting water to a sink not connected to the discharging pipe. The entrance doors shall open in the direction of the issue and shall be easy to open.

3.4. COLMATION USING WATER BASED METHOD

3.4.1. Mandatory practices:

- 3.4.1.1. The glues cannot be stored at the same place where colmation is carried out.
- 3.4.1.2. The manufacturer shall hold a file that attests the validity of the industrial process used in this operation ([Cf B.1. 1.11](#)) *
- 3.4.1.3. Assure a rapid drying of the stoppers.
- 3.4.1.4. For bartop stoppers all the chemicals used in the manufacturing process must be able to be in contact with beverages having a level of alcohol content higher than 15% of the volume (or an average content of alcohol similar to the one of the beverage the stopper is going to seal).
- 3.4.1.5. Use only powder resulting from the rectification of natural cork stoppers and washers.
- 3.4.1.6. Wash the stoppers before submitting them to colmation.
- 3.4.1.7. The place where colmation is done must be equipped with a system of air extraction.

3.4.2. C.E.Liège Recommendation:

- 3.4.2.1. Wash the stoppers again after colmation.



4. COLOURED COATING

4.1. Définition: application of a coloured layer onto the stopper's surface.

4.2. Objective: to make the colour on the surface of the stoppers uniformly.

4.3. COLOURING USING SOLVENT BASED METHOD

4.3.1. Mandatory practices:

- 4.3.1.1. Respect the conditions of application/use specified by the manufacturer of the product.
- 4.3.1.2. On stoppers that have been received a first coloured coating, apply only products compatible (that match) with those applied in the earlier coating.
- 4.3.1.3. For bartop cork stoppers all the chemicals used in the manufacturing process must be able to be in contact with beverages having a level of alcohol content higher than 15% of the volume (or an average content of alcohol similar to the one of the beverage the stopper is going to seal).
- 4.3.1.4. The place of colouring must be equipped with an adequate system of air extraction.
- 4.3.1.5. Ban all organic solvent based copolymers (among others, ban acrylic and vinyl resins).
- 4.3.1.6. Exclude the solvents of the coloured coatings.
- 4.3.1.7. The ovens shall be clean and without odours.
- 4.3.1.8. Exclude the use of wood treated with halogenic substances within the ovens.
- 4.3.1.9. Do not dry stoppers that have been coated with stoppers not washed.



4.3.1.10. The glues or other products shall not be stored at the same place where coloured coating is carried out.

4.3.2. C.E.Liège Recommendation:

4.3.2.1. Use rubber-based products.

4.3.2.2. The places where the operation is carried out shall be:

a) Separated from the other sections and situated in a building detached from the other sectors, and there shall be specific zones of security.

b) Built with materials resistant to fire and explosion, as concerns floorings, walls, ceilings and roofs. As for the risk of explosion, adequate “zones of safety” must be created to direct the explosion wave and then allow its attenuation /extinguishing.

c) Be well ventilated and shall have mechanical vacuum and conducting systems, with specific anti-electrostatic and anti-deflagrating characteristics, and the manufacturer shall be careful on the following:

i) The machinery and equipment used shall not have any possible point of ignition;

ii) The equipment set up for aspiration must have equipment fitted with an alarm to measure the concentration of the gases in the volatile solvents and to measure the temperature, with specific anti-electrostatic and anti-deflagrating characteristics.

d) The material from which the shelves are made and the equipment used in the collection and delivery of the stoppers must prevent the discharge of static electricity.

e) The inflammable products shall be stored in separate buildings specially reserved for that purpose and built with materials resistant to fire, on a water-resistant, sloping floor with a separate drainage system conducting water to a sink not connected to the discharging pipe. The entrance doors shall open in the direction of the issue and shall be easy to open.

4.3.2.3. Do not use ovens made of wood.



4.4. WATER BASED COLOURING

4.4.1. Mandatory practices:

4.4.1.1. Respect the conditions of application/use specified by the manufacturer of the product.

4.4.1.2. On stoppers that have been received a first coloured coating, apply only products compatible (that match) with those applied in the earlier coating.

4.4.1.3. For bartop cork stoppers all the chemicals used in the manufacturing process must be able to be in contact with beverages having a level of alcohol content higher than 15% of the volume (or an average content of alcohol similar to the one of the beverage the stopper is going to seal).

4.4.1.4. The place of colouring must be equipped with an adequate system of air extraction

4.4.1.5. Exclude the solvents of the coloured coatings.

4.4.1.6. The ovens shall be clean and without odours.

4.4.1.7. Exclude the use of wood treated with halogenic substances within the ovens

4.4.1.8. Do not dry stoppers that have been coated with stoppers not washed.

4.4.1.9. Control moisture content after drying, assuring an efficient drying process.

4.4.2. C.E.Liège Recommendation:

4.4.2.1. Use rubber-based products.

4.4.2.2. Do not use ovens made of wood.

5. SELECTION OF THE STOPPERS

5.1. Definition: operation intended to separate finished stoppers into a certain number of grades.

5.2. Objective: To identify the grades of the stoppers by eye according to their visual aspect and to reject the stoppers with faults.

5.3. Mandatory practices:

5.3.1. Separate the stoppers in accordance with visual grades of reference.

5.3.2. Cork stoppers with faults shall be separated and placed in identified containers.



6. PRINTING

6.1. Definition: Operation that consists in printing a text and/or a logo onto the surface of the cork stoppers.

6.2. Objective: To personalise the stoppers and assure their traceability from supplier to customer.

6.3. Mandatory practices:

6.3.1. Respect legislation on marks and labelling (European Directive 89/104/CE of 21th December 1988).

6.3.2. Printing shall be mandatory before surface treatment (paraffin coating or silicone coating)

6.3.3. The tops of the stoppers shall only be printed by hot iron branding.

6.3.4. When the printing is done with ink, the manufacturer shall demonstrate (through a certificate or results of the analysis carried out) that the level of heavy metals is in compliance with the article 11 of the Directive 94/62/CE (regarding packaging and packaging' waste).

6.3.5. The manufacturer responsible for finishing cork stoppers must inform C.E.Liège of the identification marks he uses.

6.3.6. The companies who finish cork stoppers shall lay on the stopper the identification mark used and identification for immediate traceability.

6.3.7. This information (6.3.6) can be omitted if there is a written demand from the customer.



7. PARAFFIN COATING

7.1. Definition: Operation designed to deposit a paraffin layer on the surface of the cork stopper.

7.2. Objective: To lubricate the surface of the stopper, to facilitate its introduction and extraction into and out the neck of the bottle and to improve its sealing capacity.

7.3. Mandatory practices

7.3.1. Chemical products used and their packages shall be:

7.3.1.1. Be correctly identified;

7.3.1.2. Carry the limit date of validity and shall not be used after that date.

7.3.1.3. Be well preserved;

7.3.1.4. Respect the storage conditions prescribed by the suppliers of these products.

7.4. C.E.Liège Recommendation:

7.4.1. This process shall not be applied when the hot bottling (thermolisation) or the pasteurisation in bottle are practiced and also cannot be used in corking machines with heated jaws.

8. SILICONE COATING (surface treatment)

8.1. Definition: Operation designed to deposit a layer of silicone on the surface of the cork stopper.

8.2. Objective: Lubricate the surface of the cork stopper, to facilitate its introduction and extraction into and out the neck of the bottle and to improve its sealing capacity.

8.3. Mandatory practices:

8.3.1. Use silicone in conformity with Resolution AP (2004) 5 of the Council of Europe on silicones used on products in contact with foodstuffs.

8.3.2. Do not use silicones that migrate.

8.3.3. Regarding the elastomeric silicones, respect the reticulation period stated by silicone producers.

8.4. C.E.Liège Recommendation:

8.4.1. Use elastomeric silicones.



9. GLUING OF THE TOPS /CAPS ¹

9.1. Definition: Operation that glues the cap on top to the body of the cork stopper.

9.2. Objective: To fix (glue) the cap onto the top of the cork body in order to obtain a functional stopper which shall comply with its performance (The bonding of the pieces must be strong enough to allow the stopper to be easily introduced and removed from the neck of the bottle).

9.3. Mandatory practices :

9.3.1. Respect the curing time given by the manufacturer of glues.

9.3.2. All glues used in this process must be able to be in contact with beverages having a level of alcohol content higher than 15% of the volume (or an average content of alcohol similar to the one of the beverage the stopper is going to seal).

9.3.3. Cf. Mandatory practices [\(B.1.1.6 and B.1.1.8\)](#) *



10. SCHEDULE OF CONTROL

10.1. Definition: Document that specifies all the parameters that control the quality of the stopper during manufacture, the methods and/or equipment used, when the controls are carried out (operation and frequency), the person responsible for making them and also the criteria of acceptance/ rejection.

Informative note: this schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

10.2. Objective: Assure that the product complies with the specifications intended.

10.3 Mandatory practices:

10.3.1. The manufacturer shall have and apply an up-dated schedule of the systematic controls related to the stoppers which govern their manufacture.

10.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

10.3.3. The parameters to be controlled are the following:

10.3.3.1. Moisture content;

10.3.3.2. Dimensions.

10.3.3.3. Peroxide content (on cork stoppers with surface treatment residual peroxide shall be less than 0.2 mg/cork stopper) for stoppers washed in peroxide;

10.3.3.4. Determination of powder's residues;

10.3.3.5. Force of extraction, excepting for bartop stoppers;



¹ Regards only bartop cork stoppers for still wines, liqueurs and alcoholic beverages.

10.3.3.6. Leakage –liquid tightness, excepting for bartop stoppers;

10.3.3.7. Quality and perfect bonding of the top (cap) to the body, for bartop stoppers.

10.3.3.8. Perpendicularity of the stopper in relation to the cap (top), for bartop cork stoppers.

11. STORAGE OF THE STOPPERS

11.1. Definition: Period of warehousing the cork stoppers.

11.2. Objective: To keep the cork stoppers' characteristics unchanged.

11.3. Mandatory practices:

11.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

11.3.2. The washed cork stoppers shall be physically separated from non-washed stoppers either by a minimum distance of one meter or by a rigid element in order to prevent their contact.

11.4. C.E.Liège Recommendation:

11.4.1. Store the cork stoppers in specific place with an average hygrometric range of 40 to 80%.

11.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

11.4.3. The company shall arrange a plan of rodent extermination and shall ensure its application.



12. COUNTING AND PACKAGING

12.1. Definition: Operation that consists in counting the quantity of cork stoppers and guaranteeing they are well protected during transportation.

12.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

12.3. Mandatory practices :

12.3.1. When stoppers are packed under SO₂, its quantity shall be controlled and reported.

12.4. C.E.Liège Recommendation:

12.4.1. Install a protection system to avoid falling glass pieces from lightning equipment if it breaks.

12.4.2. An inspection of the counting equipment (machinery) is recommended.

13. TRANSPORT OF STOPPERS

13.1. Definition: Transport and /or delivery of cork stoppers.

13.2. Objective: To deliver the cork stoppers to other processors / companies who finish the cork stoppers.

13.3. Mandatory practices:

13.3.1. Use vehicles and containers that are clean, covered and free from odours.

13.3.2. Do not transport the cork stoppers with other products in order to protect them against any contamination.

XII. FINISHING OF AGGLOMERATED CORK STOPPERS WITH NATURAL CORK STOPPERS FOR SPARKLING AND GASEOUS WINES



1. CONTROL AT RECEPTION OF STOPPERS

1.1. Definition: Proceedings to be put in practice by the manufacturer regarding the reception of cork stoppers.

1.2. Objective: To guarantee the quality of stoppers.

1.3. Mandatory practices:

1.3.1. Check whether the stoppers comply with all the parameters required in the control schedule for the manufacturing of the stoppers [\(B.2. VII.5\)](#)***

1.4. C.E.LIÈGE Recommendation:

1.4.1. Look for any sensorial deviations.

2. STORAGE OF STOPPERS

2.1. Definition: Period of warehousing the cork stoppers.

2.2. Objective: To keep the cork stoppers' characteristics unchanged.

2.3. Mandatory practices:

2.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

2.4. C.E.Liège Recommendation:

2.4.1. Store the cork stoppers in specific place with a medium hygrometric range of 40 to 80%.

2.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

2.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

3. SELECTION OF STOPPERS

3.1. Definition: operation intended to separate finished stoppers into a certain number of grades.

3.2. Objective: To identify the grades of the stoppers by eye according to its visual aspect and to reject the stoppers with faults.

3.3. Mandatory practices:

3.3.1. Separate the stoppers in accordance with visual grades' references.

3.3.2. Cork stoppers with faults shall be separated and placed in identified containers.

4. PRINTING

4.1. Definition: Operation that consists in printing a text and/or a logo onto the surface of the cork stoppers.

4.2. Objective: To personalise the stoppers and assure their traceability from supplier to customer.

4.3. Mandatory practices:

4.3.1. Respect legislation on marks and labelling (European Directive 89/104/CE of 21th December 1988).

4.3.2. The ends of the stoppers shall only be printed by fire process.

4.3.3. The manufacturer responsible of the finishing of cork stoppers must inform C.E.Liège of the identification marks he uses.



4.3.4. The companies who finish cork stoppers shall print on the stopper the identification mark used and an identification for immediate rastreability.

4.3.5. This information (4.3.4.) can be omitted if there is a written demand from the customer.

4.4. C.E.Liège Recommendation:

4.4.1. Printing shall be mandatory before surface treatment (paraffin coating or silicone coating)

5. PARAFFIN COATING

5.1. Definition: Operation designed to deposit a paraffin band on the surface of the cork stopper, generally 16 to 18 mm up from the bottom end but its dimension and position is subject to agreement between manufacturer and end users.

5.2. Objective: To lubricate the surface of the stopper, to facilitate its introduction and extraction into and out the neck of the bottle and to improve its sealing capacity.

5.3. Mandatory practices:

5.3.1. Use paraffin with a melting point between 50 and 54 °C

5.3.2. Chemical products used and their packages shall be:

5.3.2.1 Be correctly identified;

5.3.2.2 Carry the limit date of validity and shall not be used after that date.

5.3.2.3. Be well preserved;

5.3.3. Respect the storage conditions prescribed by the suppliers of these products.

6. SILICONE COATING (Surface treatment)

6.1. Definition: Operation designed to deposit a layer of silicone on the surface of the cork stopper

6.2. Objective: Lubricate the surface of the cork stopper, to facilitate its introduction and extraction into and out the neck of the bottle and to improve its sealing capacity.

6.3. Mandatory practices:

6.3.1. Use silicone in conformity with Resolution AP (2004) 5 of the Council of Europe on silicones used on products in contact with foodstuffs.

6.3.2. For the elastomeric silicones, respect the reticulation period stated by silicone producers.

6.3.3. Do not use silicones that migrate and avoid using anti-foaming products.

7. SCHEDULE OF CONTROLS

7.1. Definition: Document that specifies all the parameters that control the quality of the stopper during manufacture, the methods and/or equipment used, when the controls are carried out (operation and frequency), the person responsible for making them and also the criteria of acceptance/ rejection.

Informative note: This Schedule can be either an individual document or be divided into several documents (for instance, the working instructions).

7.2. Objective: Assure that the product complies with the specifications intended.



7.3. Mandatory practices:

7.3.1. The manufacturer shall have and apply an up-dated schedule of the systematic controls relating to the stoppers which govern their manufacture.

7.3.2. The manufacturer will have to demonstrate the existence of records concerning these controls.

7.3.3. The parameters to be controlled are the following:

7.3.3.1. Moisture content;

7.3.3.2. Dimensions.

7.3.3.3. Sensorial deviations

8. STORAGE OF STOPPERS

8.1. Definition: Period of warehousing the cork stoppers.

8.2. Objective: To keep the cork stoppers' characteristics unchanged.

8.3. Mandatory practices:

8.3.1. Store in clean, ventilated (dry walls and ground) place and free from odours.

8.4. C.E.Liège Recommendation:

8.4.1. Store the cork stoppers in specific place with a medium hygrometric range of 40 to 80%.

8.4.2. The manufacturer shall have records concerning the hygrometric conditions of the storing place.

8.4.3. The company shall arrange a plan of rodents extermination and shall ensure its application.

9. COUNTING AND PACKAGING

9.1. Definition: Operation that consists in counting the quantity of cork stoppers and guaranteeing they are well protected during transportation.

9.2. Objective: To assure that the quantity of stoppers agreed with the customer is delivered to him adequately packaged and is in compliance with the conditions of protection.

9.3. Mandatory practices :

9.3.1. When stoppers are packed under SO_2 , its quantity shall be controlled and reported.

9.4. C.E.Liège Recommendation:

9.4.1. Install a protection system to avoid falling glass pieces from lightning equipment if it breaks.

9.4.2. An inspection of the counting equipment (machinery) is recommended.

10. TRANSPORT OF CORK STOPPERS

10.1. Definition: Transport and /or delivery of cork stoppers.

10.2. Objective: To deliver the cork stoppers to other processors / companies who finish the cork stoppers.

10.3. Mandatory practices:

10.3.1. Use vehicles and containers that are clean, covered and free from odours.

10.3.2. Do not transport the cork stoppers with other products in order to protect them against any contamination.

C. ANNEXES

C.1. MATERIALS NOT LISTED IN THE CODE BUT THAT CAN BE USED TO AVOID THE CONTACT OF CORK WITH THE GROUND (EARTH)

1. Cement
2. Concrete
3. Stone floorings
4. Other compacted soils:
 - 4.1. Tout-venant
 - 4.2. Broken stones
 - 4.3. "Albero"
 - 4.4. Gravel
5. Palettes made of non-treated wood or which have in their composition some inert material

For any other material not mentioned above, the manufacturer shall provide a validation technical file that attests to the conformity /validity of the material used.

C.2. PARAMETERS RELATED TO WATER USED IN PROCESS OF CORK PREPARATION, MANUFACTURING AND FINISHING CORK STOPPERS

Table 1: parameters listed in the European Directive 98/83

Parameters	VMA ^(a)
pH (units of pH)	6,5 ≤ pH ≤ 9,5
Conductibility (μS/cm a 20°C)	2500
Colour (mg/L PtCo)	20
Odour (dilution factor)	3 (a 25°C)
Turbidity (UNT – Units of Nephelometric Turbidity)	Without significative alteration
Oxydability	5,0 mg/L O ₂
Organic and chlorinated pesticides (individual) ^(b)	0,1 μg/L
Organic and chlorinated pesticides (total) ^(c)	0,5 μg/L

^(a)VMA-Maximum acceptable value

^(b) The control of organochlorinated pesticides shall be done when these pesticides exist: the information shall be transmitted by the competent regional entities ascribed to give such information in this area.

^(c) The total of chlorinated pesticides regard the addition of all pesticides detected and quantified during the control.

Table 2 : Maximum accepted values for other substances not considered in the Directive

Parameter	Maximum accepted value
Total organic chlorine (mg/L Cl ₂)	0,1
2,4,6-TCA (ng/L)	2
2,4,6-TCP (μg/L)	0,5
2,3,4,6-TeCP (μg/L)	1,0
PCP (μg/L)	2,0

C.3. LIST OF STANDARDISED METHODS FOR THE SAMPLING AND ANALYSIS OF WATER

The list below has been drawn up set out to be used as guideline.

If you cannot open directly the web pages mentioned below, click on the right side of your mouse and choose the 1st option - open weblink in browser.

EN ISO 25667-1: Water quality sampling - Part 1: Guidance on the design of sampling programmes - [CEN - Usages Des Eau](#)

EN ISO 25667-2: Water quality sampling - Part 2: Guidance on sampling techniques - [CEN - Usages Des Eau](#)

EN ISO 5667-3: Water quality sampling - Part 3: Guidance on the preservation and handling of water samples - [CEN - Normes Éssais Eaux - Usages en Général](#)

EN ISO 5667-5: Water quality sampling - Part 5: Guidance on sampling of drinking water and water used for food and beverage processing- [ISO 5667-5:1991](#)

ISO 10523: Water quality - Determination of pH - [ISO 10523:1994](#)

EN 27888: Water quality - Determination of electrical conductivity - [CEN - Usages Des Eau](#)

EN ISO 8467: Water quality - Determination of permanganate index - [CEN - Usages Des Eau](#)

EN ISO 7887: Water quality – Examination and determination of the colour -[CEN - Usages Des Eau](#)

EN 1622: Water analysis - Determination of the threshold odour number (TON) and threshold flavour number (TFN) - [CEN - Normes Eau Potable](#)

EN ISO 7027: Water quality - Determination of turbidity- [CEN - Normes Qualité de l'Eau en Général](#)

EN ISO 6468: Water quality – Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes - Gas chromatographic method after liquid-liquid extraction [CEN - Normes pour Eau d'Origine Naturel](#)

EN ISO 7393-1: Water quality - Determination of free chlorine and total chlorine - Part 1: Titrimetric method using N, N-diethyl-1,4-phenylenediamine - [CEN - Normes de Qualité de l'Eau](#)

EN ISO 7393-2: Water quality – Determination of free chlorine and total chlorine - Part 2: Colorimetric method using N, N-diethyl-1, 4-phenylenediamine, for routine control purposes. [CEN - Normes de Qualité de l'Eau](#)

EN ISO 7393-3: Water quality – Determination of free chlorine and total chlorine - Part 3: Iodometric titration method for the determination of total chlorine - [CEN - Normes de Qualité de l'Eau](#)

C.4. LIST OF INTERNATIONAL STANDARDS RELATED TO CORK AND CORK STOPPERS

The list below has been drawn up to be used as guideline.

If you cannot open directly the web pages mentioned below, click on the right side of your mouse and choose the 1st option - open weblink in browser.

ISO/DIS 633: Cork - Vocabulary

ISO 1215:1986: Commercially dry virgin cork, ramassage, gleanings, corkwood refuse and corkwaste - Definitions and packaging

ISO 1216:1998: Corkwood in planks - Grading, classification and packing

ISO 1997:1992: Granulated cork and cork powder - Classification, properties and packaging

ISO 2030:1990: Granulated cork - Size analysis by mechanical sieving

ISO 2031:1991: Granulated cork - Determination of bulk density

ISO 2067:1998: Granulated cork - Sampling

ISO 2190:1998: Granulated cork - Determination of moisture content

ISO 2385:1993: Corkwood in planks, virgin cork, cleanings, cork pieces, corkwood refuse and corkwaste - Sampling to determine moisture content

ISO 2386:1998: Corkwood in planks, virgin cork, ramassage, gleanings, corkwood refuse and corkwaste - Determination of moisture content

ISO 3863:1989: Cylindrical cork stoppers - Dimensional characteristics, sampling, packaging and marking

ISO 4707:1981: Cork - Stoppers - Sampling for inspection of dimensional characteristics

ISO 4710:2000: Cork - Cylindrical stoppers for sparkling wines and gasified wines - Characteristics

ISO/CD 9727-1: Cylindrical cork stoppers - Physical tests - Part 1: Determination of dimensions

ISO/CD 9727-2: Cylindrical cork stoppers - Physical tests - Part 2: Determination of mass and apparent density

ISO/CD 9727-3: Cylindrical cork stoppers - Physical tests - Part 3: Determination of moisture content

ISO/CD 9727-4: Cylindrical cork stoppers - Physical tests - Part 4: Determination of dimensional recovery after compression

ISO/CD 9727-5: Cylindrical cork stoppers - Physical tests - Part 5: Determination of extraction strength

ISO/CD 9727-6: Cylindrical cork stoppers - Physical tests - Part 6: Determination liquid tightness

ISO/CD 9727-7: Cylindrical cork stoppers - Physical tests - Part 7: Determination of powder

ISO 10106:2003: Cork stoppers - Determination of global migration

ISO 10718:2002: Cork stoppers - Enumeration of colony forming units of yeasts, moulds and bacteria capable of growth in an alcoholic medium

ISO/CD 20752: Cork stoppers - Determination of releasable 2, 4, 6 - trichloroanisol (TCA)

ISO 21128:2006: Cork stoppers - Determination of oxidizing residues - Iodometric titration method

ISO 22308:2005: Cork stoppers - Sensory analysis

C.5. LIST OF EUROPEAN LEGISLATION AND OF THE RESOLUTIONS OF THE COUNCIL OF EUROPE APPLICABLE TO CORK STOPPERS

- ✓ Community Regulationation (EEC) n° 1935/2004 of the European Parliament and of the Council, of 27th October 2004 concerning the materials and objects intended to be in contact with foodstuffs and which annuls and replaces the prior directives 80/590/CEE and 89/109/CEE.

- ✓ Directive 98/83/CE of the Council of Europe of 3 November 1998 concerning water quality of water intended for human consumption.

- ✓ Directive 94/62/CE of the European Parliament and of the Council, of 20th December 1994, concerning packaging and packages' waste

- ✓ Directive 89/104/CEE of the European Council of 21 December 1988 about regulation on marks and labels into force in the EC countries.

- ✓ Resolution ResAP(2004)2 of the Council, regarding cork stoppers and other products made of cork and intended to be in contact with foodstuffs.

- ✓ Resolution AP (99) 3 of the Council of Europe on the applications of Silicones on products in contact with foodstuffs.

Links with interes:

European Legislation: <http://europa.eu.int/eur-lex/en>

Europe Conseil Resolution: http://europa.eu.int/eur-lex/en/search/search_lif.html

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