



CELIEGE

EUROPEAN CORK FEDERATION



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**International Code of Cork Stopper
Manufacturing Practices (ICCSMP)
- Edition 6.04**

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CHAPTER I

Definitions and General Mandatory Practices

1. DEFINITIONS

1.1. DEFINITIONS OF TERMS RELATED TO THE PRODUCTS

The terms included in the following list are ordered alphabetically.

- **Additive:** adjuvant used in the different stages of manufacturing, semi-finishing and finishing of stoppers.
- **Agglomerated cork stopper with natural cork discs for traditional method effervescent wines:** a cork stopper made of an agglomerated cork body, having one or more discs glued on one of the ends. The thickness of the discs cannot be inferior to 4 mm and height of the discs combined must be between 10 and 13mm. The agglomerate can be obtained from treated granulated cork.
- **Agglomerated cork with natural cork discs for sparkling wines, carbonated drinks, cider and beer:** an agglomerated cork stopper, having one or more cork discs glued on one of the ends. The agglomerate can be composed of treated granulated cork.
- **Agglomerated cork stopper with natural cork discs to be fully inserted inside the bottleneck in still and sparkling wines:** this is a stopper that has an agglomerated cork body with one or more natural cork discs glued on one or both of its ends. The agglomerate can be obtained from cork treated granulate.
- **Agglomerated cork stopper with treated granulated cork:** a cork stopper obtained by the agglutination of treated cork granules, with agglutinants (through a moulding process) with a particle size between 0.25 and 8 mm, and composed of at least 75% of cork granules (weight) of the agglomerated mixture.
- **Agglomerated cork stopper made by extrusion:** cork stopper obtained by the agglutination of cork granules bonded with flexible glue from a process of extrusion, made from granules of cork with a grain size between 0.25 and 8 mm.
- **Agglomerated cork stopper obtained by moulding:** cork stopper obtained by the agglutination of cork granules bonded with flexible glue from a process of moulding, made from granules of cork with a grain size between 0.25 and 8 mm.
- **Bale of cork:** a group of planks of treated cork, classified and selected according to their visual grade and thickness.
- **Bar-top (Capsulated) cork stopper:** is a stopper made of natural cork, colmated cork, agglomerated cork, agglomerated cork of treated granules or multi-piece; and in which the body is cylindrical or tapered 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, it is necessary to specify the materials used (e.g.: stoppers with wooden top, plastic top, etc...).

- **Body:** a cylindrical piece of natural cork, made of one or more cork pieces or of agglomerated cork (obtained by extrusion or moulding) that is used in the manufacture of a cork stopper.
- **Burnt Cork:** Cork board or piece of cork whose bark is wholly or partially scorched, consequence of a fire.
- **Buying Guide:** International Guide for the Purchase of Cork Stoppers for the sealing of still wines.
- **Coloured Coating:** coating applied to the surface of the stopper to improve the quality of the seal and / or standardize its presentation.
- **Cork Stopper Industry:** industry that transforms cork into stoppers for still or effervescent wines, sparkling beverages, beer, cider and spirits.
- **Colmation:** operation which consists in covering the pores of natural cork stoppers with a mixture of glue and cork powder obtained from the finishing operations of both the discs and stoppers, improving thus the visual appearance of the stopper and the quality of the seal.
- **Cork pieces:** pieces of virgin cork bark or reproduction cork bark with a surface area that is less than 400 cm².
- **Cork "race":** treated (boiled) cork that has not yet been classified.
- **Cork for grinding:** boiled cork waste resulting from the preparation of cork bark and/or from the manufacture of cork washers /stoppers.
- **Cork for the manufacture of stoppers:** cork bark that is suitable to be used in the manufacture of cork stoppers.
- **Cork strip:** a piece of cork obtained from a prepared (treated) cork plank, resulting from the cutting of the cork bark radially across the thickness of the plank; the piece thus obtained has the shape of a rectangular parallelepiped.
- **Cork waste:** reproduction cork, of low quality, which cannot be transformed into corks.
- **Disc:** cylindrical piece of natural cork with varying thickness and diameters, obtained by cutting the cork board perpendicular to the corks' growth layers.
- **Drilling machine:** serves to punch cork strips / sections using a system whereby the diameter of the saw (drill) corresponds to the diameter of the stopper or disc to be manufactured.
- **Finished Stopper:** a finished cork stopper, ready for use, obtained after Chapters V and VI of the ICCSMP.
- **Granulated cork:** cork fragments of variable sizes obtained by grinding and/or milling treated cork, manufactured cork stoppers or cork cut pieces and classified according to grain size and bulk density. The dimensions of the granules may vary between 0,25 mm and 8 mm.
- **Granulated treated cork:** Granules that are treated by a process that aims to improve its organoleptic neutrality and is intended for the production of <agglomerated cork stoppers with treated granules>.
- **Green cork:** cork bark that, whilst newly harvested, shows in its belly some cells that have a translucent appearance due to water retention. During the drying process, these cells contract more than the adjacent suberous tissue, causing cork deformation to appear.
- **Sole / "plaquette":** cork, without bark or belly. This is obtained by placing the thin strip of cork board/slab via its transversal axis onto the rolling mills.

- **Lenticels/ Lenticular canals:** canals or pores that are found across the suberous tissue and allow for the gaseous exchange between the tree's living tissue and the atmosphere.
- **Multi-piece cork stopper:** a cork stopper made from several pieces of natural cork glued together.
- **Plank:** raw or treated cork whose visual quality and caliber make it suitable to be processed further by the cutting machine.
- **Punching machine:** Machine used to drill cork strips using a system of blades with a diameter equal to that of the diameter of the stoppers or discs that are to be manufactured.
- **Raw cork bark:** reproduction cork bark that has not been submitted to any treatment after stripping. Throughout the ICCSMP the expression "raw cork" is used.
- **Reproduction cork:** cork bark that is formed after virgin cork has been harvested (stripped from the tree).
- **Rod:** cylinder made of agglomerated cork, obtained by means of extrusion.
- **Semi-finished cork stopper:** semi-manufactured cork stopper processed according to Chapter IV of the ICCSMP.
- **Semi-manufactured stopper:** cork obtained after Chapter III of the ICCSMP.
- **Stopper:** product made of cork and / or agglomerated cork, comprising of one or more parts, that functions as a seal for a bottle - or other container – preserving its contents.
- **Treated (prepared) cork:** reproduction cork bark that has been boiled, flattened, selected and undergone a "selection" process (commonly designated as cork "race" or "strips").
- **Triturated (ground) cork:** fragments of cork obtained by milling or grinding treated cork or that comes from the manufacture of stoppers.
- **Virgin cork:** cork from the first harvest of the cork oak tree's trunk and branches.
- **Washing:** operation that serves to clean and / or disinfect stoppers or discs.
- **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 "calços" in Portugal and "zapatas" in Spain).
- **Yellow stain:** a yellowish stain that develops on the back of the cork bark which may show discoloration on the adjacent suberous tissue, possibly developing a characteristic odor.

1.2 DEFINITIONS OF CONCEPTS

Mandatory practices:	Rules of the trade that are in accordance with the norms of good practice used by the cork industry and cork stopper sector.
SYSTECODE:	Is a system of voluntary enrolment that consists of verifying compliance to the International Code of Cork Stopper Manufacturing Practices (ICCSMP), by means of an annual audit performed by a third party (International Accreditation Entity). If there is conformity, the audited company receives from the International Accreditation Entity a certificate testifying to conformity.
SYSTECODE Legal Framework:	Establishment of a contractual relationship between, on the one hand - the industrial company/ applicant, as well as C.E.Liège, and on the other - the International Accreditation Entity.
Process or document of validation (DVT):	In short, DVT. A set of elements that prove and guarantee the efficiency of an innovative operation that is not described in the current version of the ICCSMP. This file will contain parameters related to functionality, safety, suitability for food contact, product safety and environmental friendliness.
Operation:	A partial phase of the whole production process.
Activity:	Part of the industrial manufacture of a cork stopper. In the ICCSMP the activities are grouped into specialties as follows:
Preparation:	Process by which the cork bark is transformed into raw material suitable for use in the manufacture of cork stoppers.
Manufacture:	Operations that transform the raw material into a semi-manufactured product (stopper or disc) that requires finishing.
Semi-Finishing:	Operations that transform semi-manufactured products into semi-finished products. The semi-finishing activities are: washing / drying, colmation and "surface treatment".
Finishing:	All the operations that transform semi-finished cork stoppers into stoppers ready for use.

Systecode 'BASE' Company:

This is a company that has obtained the certification of conformity to the ICCSMP fulfilling the general requirements (Level N1 in the Table overleaf).

Systecode 'PREMIUM' Company:

This is a company that has obtained the certificate of conformity according to the ICCSMP's general requirements and the requirements of the PREMIUM level (Level N2 in the Table overleaf).

Systecode 'EXCELLENCE' Company:

This is a company that sells finished stoppers directly to wineries; and which is a PREMIUM company in what concerns its finishing activities, and whose semi-finished cork stoppers are produced by one or more 'Premium' companies. (Level N3 in the Table overleaf)

Sub-contractor:

The production mode, for this particular company, consists of performing operations that are commissioned by a third party (another company). We can also say provision of services.

Table of the Cork Industry's processing activities:

CHAPTER	DESCRIPTION OF SPECIALITY	ACTIVITY	Activity Nr.	SUPPLIERS for this activity	CLIENTS of this activity	POSSIBLE LEVEL		
II	PREPARATION (treatment) of the raw material destined for the production of stoppers	Treatment of the cork	1	2,3,4,5	—	N1,N2	N1 N2	N1N 2N3
		Manufacture of granulate	2	6,7,8,9	1,3, 4	N1,N2		
III	MANUFACTURE of stoppers or discs	Discs	3	8,9	1	N1,N2		
		Natural cork stoppers	4	10	1	N1,N2		
		Multipiece cork stoppers	5	10	1	N1,N2		
		Agglomerated cork stoppers	6	8, 9,10	2	N1,N2		
		Agglomerated cork stoppers from treated granulate	7	8, 9,10	2	N1,N2		
		Agglomerated cork stoppers with discs	8	10	3,6,7	N1,N2		
		Stoppers for efervescente wines	9	10, 15	3,6,7	N1,N2		
IV	SEMI-FINISHING of stoppers	Washing/Drying	10	11, 12, 14, 15	4,5,6,7,8	N1,N2		
		Colmation	11	12, 13, 14	10	N1,N2		
		Coloured Coating	12	13,14	10, 11	N1,N2		
V	FINISHING of stoppers that are totally inserted into the bottleneck and capsulated/bar-top stoppers	Gluing of tops	13	Final Client	14	N1,N2,N3		
		Marking and Surface Treatment	14	13, Final Client	10, 11, 12,	N1,N2,N3		
						N1,N2,N3		
VI	FINISHING of stoppers for effervescent wines	Marking and Surface Treatment	15	Final Client	9	N1,N2,N3		

Individual Operations (individual audit guides):**A / Boiling****B / Trimming and Punching****C / Dimensional rectification/ chamfering / rounding****D / Selection**

2. GENERAL MANDATORY PRACTICES

2.1 OPERATIONAL PRINCIPLES

1. The International Accreditation Entity is solely responsible for conducting audits and possible subsequent allocation of Certification of Conformity. This certification is the only document that proves that the audited companies work in accordance with the ICCSMP – International Code of Cork Stopper Manufacturing Practices.
2. Suppliers and subcontractors must also have the (attestation) Certification of Conformity to the ICCSMP, valid and current, for activities and individual operations certified under SYSTECODE.
3. The company shall have records of their suppliers and sub-contractors for each activity or operation carried out and for each type of product coming from its manufacture.
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 invoice numbers and delivery forms, names of the suppliers or sub-contractors and amounts traded.
5. The company/manufacturer shall have up-dated records that evidence (at any stage of the process) the conformity to the ICCSMP. These records must be kept for a minimum period of one year.
6. The company must have written work instructions for each operation and ensure its implementation.
7. Each worker must be protected with personal protective equipment adapted to the tasks carried out.
8. The company must identify the liquid and gaseous effluents that it produces and implement the necessary means for their treatment.
9. The company must implement a control plan corresponding to the activities it conducts and which must be in accordance with the ICCSMP.
10. Any technical innovation will be admitted, as long as the innovation process is validated by a Validation Dossier - DVT validated.
11. The use of pallets that do not comply with Annex 2 - ' authorized pallet-materials ' of the ICCSMP are prohibited.
12. The company must comply with the legislation concerning brands.

2.2 CHEMICAL PRODUCTS AND OTHER

1. The company must have all technical files on the lubricant and cleaning products used for the cleaning of surfaces (machinery and / or miscellaneous equipment), in contact with the cork, to prove that these products are suitable for a casual or incidental contact with foodstuffs.
2. The manufacturer shall have all the technical files on the chemicals used in the cork stopper manufacturing process to prove that these are in compliance with the regulations concerning materials in contact with foodstuffs (Regulation EC n° 1935 of 27 October 2004, and Resolution of the Council of Europe ResAP(2004)2 for cork stoppers and other materials in contact with foodstuffs).
3. The company must ensure the compatibility between different types of additives used in the production of corks.
4. The chemical products and their packages:
 - 4.1 shall be correctly identified;
 - 4.2 shall indicate their expiry date and shall not be used beyond that date;
 - 4.3 shall be in a good state of conservation;
 - 4.4 shall respect the storage conditions prescribed by the supplier of the chemical products.
5. The chemicals used in the manufacture of cork stoppers / agglomerated cork bodies, and all other types of stoppers:
 - 5.1 must be recommended for such use;
 - 5.2 must be used according to the usage and application instructions set out by the manufacturer of these products.
6. The manufacturer shall not use products containing active halogen substances during the cork stopper manufacturing process - this applies also to cleaning products used in the cleaning of the premises.
7. The manufacturer shall evidence that the inks used in the cork stopper marking process conform to the current legislation concerning the admissible values for heavy metals.
8. The use of a chemical that is new to the cork industry can only be accepted provided that it presents a DVT. This validation dossier must be submitted by the supplier of the product or the company that uses it, and must conclude that the product is approved for use for the purpose it is intended. *Note:* The chemicals used in the manufacture of Champagne stoppers must have a CESPROP certificate.

2.3 CORK - RAW MATERIAL

1. The cork intended for the manufacture of stoppers should be reproduction cork with a minimum of 9 years of growth.
2. The use of burnt cork, cork with yellow stain and green cork is prohibited.

3. Cork bark with yellow stain shall be segregated, at all stages along the cork manufacturing process, once it is detected.

2.4 INFRASTRUCTURES / PREMISES

1. The manufacturer shall have a cleaning plan for the factory and shall demonstrate that cleaning is done in compliance with that plan.
2. The company must have a pest control plan for the premises, ensure its implementation and keep records concerning the control plan; the products used must not be in contact with the cork stoppers and boxes must be fixed to the ground.
3. The company must keep records concerning the monitoring of humidity and temperature environments in the storage locations.
4. The company must implement appropriate means to avoid the presence of domestic animals on premises and reduce the population of wildlife species throughout all facilities.
5. It is prohibited to smoke and eat on the premises of the factory.
6. At the work place, workers should only drink water; any other kind of beverage is not accepted.
7. After the activity of washing corks (activities 10 to 15), drinking is only allowed at the distribution point that exists in the working section to prevent water contact with the stoppers.
8. All “prohibited behavior” referred to earlier should be communicated by clearly visible written warnings on the premises of the factory.
9. In the areas where colmation and coloured coating based on solvents is carried out there should be an air extraction system and these locations must be protected by anti-deflagrating systems.
10. The use of vehicles equipped with internal combustion engines is prohibited inside the facilities.
11. There can be no stoppers or cork discs on the ground.
12. The company should not use wooden greenhouses.
13. The company must not perform the drying process of unwashed and washed stoppers in conjunction, regardless of the subsequent treatment that is given to them.
14. The company must have a plan for the maintenance of the equipment and apply it.
15. The company shall ensure that there are no unwanted stoppers /discs in all operations of manufacture / semi-finishing / finishing.
16. The company should ensure that the machines and transport systems used prevent the breakage of the cork stoppers.

2.5 STORAGE, COUNTING, PACKAGING AND TRANSPORT OF CORK PRODUCTS

2.5.1 STORAGE – GENERAL

1. The baskets (or containers) containing stoppers, discs and other cork products must be clean, dry and odorless.
2. All stored products must be correctly identified.
3. The use of natural fiber bags is prohibited.

2.5.2 STORAGE OF TREATED CORK

1. Treated cork should be stored in a covered, clean and airy location.
2. Treated cork should never be in contact with walls.
3. Treated cork should be stored on a concrete floor, or on pallets in accordance with Annex 2 - 'pallets -approved materials'.

2.5.3 STORAGE OF CORK FOR GRINDING

1. All the cork that is for grinding and comes from the preparation/treatment of cork process and the manufacture of stoppers or discs must be correctly identified and stored in covered, clean and dry conditions, and in a different location to that of cork stoppers and discs.
2. The company must ensure the storage management of ground cork by applying the FIFO method, for each type of raw material.

2.5.4 STORAGE OF GRANULATE, DISCS, RODS, BODIES AND STOPPERS.

1. Storage of cork granulate, discs, rods, bodies and stoppers must be in closed, well ventilated location with dry walls and floor.
2. The company must keep records of the humidity in the storage sites.
3. During storage, the company must ensure that the bags containing the discs or stoppers are placed on pallets in accordance with the attached “pallets” [Annex 2]. The pallets used to transport the finished, ready for use, stoppers can be made of untreated wood, or treated wood HT, with the exception of current restrictive legislation.
4. When there is an overlapping of containers/baskets containing washed stoppers and/or discs, the bottom side of the containers that are on top must not be in contact with the stoppers and/or discs which are in the containers beneath them.
5. The storage of cardboard boxes is permitted in the storage area of packaged finished stoppers or in a specific area that is separated from the location where the finishing operations of stoppers and discs is taking place; the presence of cardboards in the finishing operations is only permitted at the time of product packaging.

6. In the handling of the bags, any practice that is liable to break the corks [example: hit/shake the bags on the floor, toss them vigorously, etc.] is prohibited.
7. Prior to use, control all products (cork stoppers, bodies, rods, granules, agglomerated bodies and discs), that have been stored for more than six months, according to the conditions defined in the control plan.

2.5.5 COUNTING

1. The company shall ensure that every six months, the counting equipment is verified, that the data is recorded on file and the machines tuned/regulated, if necessary.
2. Install a material protection system to prevent pieces of glass from falling, in the event that any lighting equipment should break, or windows, etc.

2.5.6 PACKAGING

1. The use of natural fiber bags is prohibited
2. Install a material protection system to prevent pieces of glass from falling, in the event that any lighting equipment should break, or windows, etc.

2.5.7 TRANSPORT

1. The transport of cork or cork products with other products that may release odors, is prohibited.
2. The transportation of all cork and cork products should be registered, namely type of transport, origin, product destination, and the control check carried out to verify the cleanliness of the container / truck.
3. Before loading, the manufacturer must verify and keep on record how the products are being transported, if in open containers/trucks, that the area where the products will be placed is clean, dry and odorless, and that in its interior there are no products that may contaminate the cork products.

3. GENERAL MANDATORY PRACTICES FOR <PREMIUM> COMPANIES

1. Employees / workers must wear work clothes suited for the job.
2. The company must control the nonconforming products and handle customer complaints;
3. The company must ensure the traceability of cork products since its entry (at the factory) to the final stage of sales to the customer.
4. The company must have a team of specialized personnel (trained and qualified) responsible for quality control, and/or subcontract the task of quality control to a competent entity.
5. The company must conduct a statistical analysis and explore the control data, in order to monitor its indicators.
6. The company must formally assess and qualify all suppliers of chemicals, used during the whole production process, as well as cork products suppliers.

7. The company shall ensure the appropriate storage of cardboard boxes in a proper and separate location from the storage of semi-finished stoppers and should monitor the storage boxes according to the conditions defined in the control plan.
8. The liquid chemicals must be stored in a specific location for this purpose.
9. The glues, washing and coloured coating products must be placed in containment basins to avoid any leakage of these products onto the floor. The containment basins cannot be connected to the sewer.
10. The company must perform a greenhouse control, at least once a year, for the absence of Haloanisoles and Halophenols contamination, by using VOC [volatile organic compounds] atmosphere monitoring devices.
11. The company must implement a management plan concerning the packaging of chemical products.
12. The company must use new containers [bags] when delivering goods to the end customer.
13. The company must ensure the storage management of all products by applying the FIFO method.
14. The company must treat the wastewater that is the result of its industrial activity.
15. The company must have an energy savings plan and limit its impact on the environment.
16. The company should monitor the premises, once a year, for the absence of Haloanisoles and Halophenols contamination using VOC [volatile organic compounds] atmosphere monitoring devices.
17. The company shall have a control plan on the emptying and cleaning of the circuits and counting machines, to avoid mixtures of stoppers, discs and granulates from different batches.

CHAPTER II

Activities of preparing the raw material for the production of cork stoppers

Activity 1 – Preparation/ Treatment of cork

Activity 2 - Manufacture of cork granulate for the cork stopper industry

ACTIVITY 1 – PREPARATION/ TREATMENT OF CORK

1. CORK DELIVERY / RECEPTION

- 1.1. Definition:** A set of actions to be followed by the company for the delivery/reception of cork.
- 1.2. Objective:** To guarantee the traceability of raw cork, and ensure that the wedges, burnt cork or cork with yellow stain, amongst other defects that make it unsuitable for cork stopper production, have been segregated.
- 1.3. Mandatory practices:**
 - 1.3.1.** The manufacturer shall keep up-dated records with date of delivery (receipt) of the bales of cork; these records shall mention the harvesting region, forest or property, the quantities, year of harvest and other data referred to in the chapter General Mandatory Practices.
 - 1.3.2.** Ensure segregation of wedges, cork with yellow stain, burnt cork and other defects, that make it unsuitable for the production of cork stoppers/ discs.
 - 1.3.3.** The bales of cork bark that come from different harvesting years (stripping years) shall be clearly identified and stacked separately from each other in an area in the factories yard.
 - 1.3.4.** Wedges, cork with yellow stain, burnt cork and cork with other defects (not suitable for the manufacture of stoppers/discs) must be separated, whereby the company must ensure its storage in an appropriate and identified zone on the premises, reserved specifically for cork that is inappropriate for the manufacture of stoppers/discs.

1.4. REQUIREMENTS FOR PREMIUM LEVEL

- 1.4.1.** Cork that comes from different cork forests must be separated from each other, when stored on premises, and clearly identified.
- 1.4.2.** The company should buy cork from cork forests that are certified in terms of sustainable management (FSC, PEFC, Subercode, or complying with Regulation (EC) No 834/2007 on organic production) or cork that comes from a forest with an implemented management plan approved by a public authority (AFN), or from a natural protected area (Code 9330 from Natura 2000 under Directive 92/43 or RAMSAR).

2. STORAGE OF CORK PLANKS

- 2.1. Definition:** Period during which the planks are stored outside waiting to be submitted to the first boiling.
- 2.2. Objectives:** Stabilization of the raw material (cork bark).

2.3. Mandatory practices:

- 2.3.1.** The cork will be stored in a terrain slope (or chute), and / or drained to facilitate the flow of water, thus avoiding the formation of puddles.
- 2.3.2.** Place the planks solely on ground made of materials listed in Annex <<1-Floor/ground>> in steep terrain and / or drained.
- 2.3.3.** The cork must be stored in piles constructed in rectangular form or loose, but always positioned so as to facilitate air circulation between them.
- 2.3.4.** The length of the stacks of cork plank's must be always perpendicular to the predominant wind direction.
- 2.3.5.** Every stack of cork planks or loose cork must have their origin and harvesting year identified.
- 2.3.6.** After harvesting (stripping the cork bark from the tree), the cork should stabilize at least 6 months.

2.4. REQUIREMENTS FOR 'PREMIUM' LEVEL

- 2.4.1.** The stabilization of raw cork should be done in a place specifically reserved for this purpose and never in the forest.
- 2.4.2.** It is prohibited to cover the cork (which stabilizes whilst it is stacked and / or loosely) with PVC coverings or sheets that may cause condensation and prevent good aeration and ventilation of the cork.
- 2.4.3.** The planks should be separated from the soil by inert structures (when placed on pallets, they must conform to the specified in Annex 2 - pallets).

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, separate all cork with green.
- 3.3.2.** The first boiling must be carried out after cork has been stabilized for a minimum period of 6 months after the harvesting date.
- 3.3.3.** The manufacturer must have equipment that measures the amount of water before it enters the boiler.
- 3.3.4.** The cork planks must be boiled for at least an hour, as per the traditional method, in water that is boiling at a temperature close to 100°C.

- 3.3.5.** The manufacturer shall have records concerning the consumption of water for each change of boiler water.
- 3.3.6.** Regularly change the water [single change or by continuous renovation] at least twice a week when in continuous use, and after a one-day interruption;
- 3.3.7.** The boilers must be cleaned whenever the water is changed, removing all solid residue and foam that originates during the boiling process and the boilers must be watered down with clean water.
- 3.3.8.** Use clean water and in conformity to «annex 3- Water Analysis». Any addition of substances to the boiling water besides those contained in the natural water should be mentioned in the Technical Validation Dossier (DVT).
- 3.3.9.** At least once a year, the manufacturer must prove that the water used in the boilers is analyzed.
- 3.3.10.** In situations where the water used comes from the public supply system, the company may make use of the parameters laid out in the Testing Report of the public water supply system, and, as for the other requested parameters of Annex 3 - Water Analysis, the manufacturer can request additional specific analysis.
- 3.3.11.** The collection and analysis of the water samples must be performed by a laboratory authorized to undertake these analysis.

3.4. REQUIREMENTS FOR 'PREMIUM' LEVEL

- 3.4.1.** The cork preparer must ensure that the water used in the boilers is analyzed at least once every semester.
- 3.4.2.** The cork preparer must change the boiling water at least once every day, regardless if the boiling was undertaken via a traditional process or continuous process.
- 3.4.3.** The tank, where the boiling operation is performed, must be made of stainless steel; the pallets, the boiling platforms and the hoisting chains/cables must be of stainless steel or galvanized steel.
- 3.4.4.** The preparer / manufacturer shall ensure that the foam formed during cooking, is eliminated and treated as an effluent / waste.

4. POST-BOILING STABILISATION

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

4.2. Objective: To flatten planks, to allow the cork bark to rest sufficiently until it reaches an adequate consistency and it has an homogeneous moisture content that will allow for trimming (cutting the planks into strips).

4.3. Mandatory Practices:

4.3.1. The cork planks must be stabilized for a period of between 1 to 4 weeks [maximum], so that it reaches a moisture content of 8-16%.

Note: If the boiling process used is different from the traditional one, the duration required for post-boiling stabilization can be less than one week.

4.3.2. The boiled cork planks must be identified with boiling date and origin batch number.

5. SELECTION OF CORK PLANKS

5.1. Definition: Ranking the cork that is destined for the cork stopper sector according to thickness and quality [visual aspect]; separation of all cork with defects and that is unsuitable to be used in the manufacture of stoppers/discs.

5.2. Objective: To grade cork depending on its use, eliminating the cork that is unsuitable.

5.3. Mandatory Practices:

5.3.1. Constitutes batches of cork planks according to thicknesses and qualities [visual aspect];

5.3.2. Identify and separate cork with green.

5.4. REQUIREMENTS FOR PREMIUM LEVEL:

5.4.1. The company must ensure that the selection of core planks is performed in homogeneous batches, with the cork origin and harvesting year identified, to enable its traceability.

6. STORAGE OF CORK PLANKS

6.1. Definition: Phase following the selection of the cork planks and that occurs prior to transport and / or processing.

6.2. Objective: Maintain the physical and sanitary characteristics of cork after its transformation.

6.3. REQUIREMENTS FOR PREMIUM LEVEL:

6.3.1. The company must ensure that the batches are separated and identified [harvesting year and geographical origin] until the time of shipping or processing.

7. CONSTITUTION OF BALES (Optional operation)

7.1. Definition: To group the treated cork planks, according to thickness and visual classification.

7.2. Objective: Constitution of units for transport and commercialization.

7.3. Mandatory Practices:

7.3.1. The company must not use corrosive materials (wire or metal tape);

7.3.2. Bales of cork planks with a moisture content exceeding 14% should not be constituted.

7.4. REQUIREMENTS FOR PREMIUM LEVEL:

7.4.1. All bales must identify the manufacturer, quality rating, year of origin and the cork's geographic region.

8. STORAGE OF CORK BARK FOR GRINDING

8.1. Definition: The processing phase that is previous to the grinding process.

8.2. Objective: To preserve and ensure the stability of the raw material that will be used in the manufacture of granulate for the cork stopper industry.

9. MANAGEMENT OF CORK THAT IS UNSUITABLE FOR THE MANUFACTURE OF STOPPERS / DISCS

9.1. Definition: The treatment of cork that is unsuitable for the manufacture of cork stoppers/discs and that is detected during the preparation process.

9.2. Objective: To eliminate the risks of contamination, in order to guarantee cork that is suitable for the manufacture of stoppers/discs.

9.3. Mandatory Practices

9.3.1. Throughout all the manufacturing practices, the company must identify and segregate the cork that is unsuitable for the manufacture of stoppers/discs placing it in a specific and isolated location.

9.3.2. The company must be able to prove sales of the unsuitable cork, with the mention of 'inappropriate cork' for the manufacture of stoppers/discs.

9.3.3. This information will be contained in the company's records that must be established with regards to the management of inappropriate cork for the manufacture of stoppers/discs.

10. TRANSPORT OF PLANKS / BALES OR GROUND CORK

- 10.1. Definition:** : Transportation of cork planks, or bales of cork, or ground cork to the transformation location.
- 10.2. Objective:** To ensure that the cork planks, bales or ground cork is protected from any contamination as well as preserve its stability.

ACTIVITY 2 –MANUFACTURE OF GRANULATE CORK FOR THE CORK STOPPER INDUSTRY

1. RECEPTION / ENTRY CONTROL OF CORK FOR GRINDING

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

1.2 Objective: To guarantee the quality of the cork for granulation.

1.3 Mandatory Practices:

1.3.1 The cork for trituration must only constitute boiled cork waste, cork pieces (derived from the preparation of cork planks) or waste from the manufacture of stoppers or discs;

1.3.2 The moisture content of the cork that is destined for trituration needs to be controlled before storage.

2. STORAGE OF CORK FOR GRINDING

2.1 Definition: Period of time between the reception of cork and the grinding process.

2.2 Objective: To keep the cork destined for grinding in the best conditions, in order to avoid any alteration to its characteristics.

2.3 Mandatory Practices:

2.3.1 The storage area should be easy to clean and should be thoroughly cleaned at least once a month. The manufacturer shall ensure that cork grinding is used according to their order of entry (to prevent accumulations).

2.3.2 Apply the FIFO methodology, according to type of raw material.

3. GRINDING /TRITURATION

3.1 Definition: First operation that breaks up cork bark into smaller 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 The grinding zone must be physically separate from the storage area of the cork that is to be ground.

- 3.3.2** The equipment / grinding machine must possess systems that ensure the separation of metals and non-cork elements (ex: stones).

4. GRANULATION

- 1.1. Definition:** Fragmentation of the cork that comes from the grinding operation.
- 4.2 Objective:** To obtain fragments of cork (cork granules) that will be subsequently graded according to their granule size (between 0.25 and 8.0 mm).
- 4.3 Mandatory Practices:**
- 4.3.1** Verify the grinding results and periodically record the integrity of the sieves to prevent the mixture of granules of different sizes.

5. DENSIMETRIC SEPARATION

- 5.2 Definition :** Separation of granules according to bulk density.
- 5.3 Objective:** To obtain specific granules for the manufacture of different types of stoppers.
- 5.4 Mandatory Practices:**
- 5.4.1** Control the density of the granules that are obtained, at every hour of the production process.
- 5.4.2** If the values are outside of the specifications, the machines should be regulated by a corrective action.

6. DRYING OF THE GRANULES

- 6.1 Definition:** Operation process whereby the moisture content of the granules is reduced.
- 6.2 Objective:** Ensure the correct moisture content is established for the operation which follows.
- 6.3 Mandatory Practices:**
- 6.3.1** The infrastructures and drying devices should be clean and without odors.
- 6.3.2** Check and record the moisture content of the granules. If these are intended for storage then the humidity content must not exceed 8%.

7. STORAGE OF CORK GRANULATE

7.1 Definition: Conservation period of cork granules for future use.

7.2 Objective: To keep the granulated cork in the best conditions for future use, avoiding alteration to its characteristics.

7.3 Mandatory Practices:

7.3.1 The granulate shall be kept in silos, that are not hermetically sealed, or in bags made of synthetic materials allowing for ventilation.

7.4 REQUIREMENTS FOR PREMIUM LEVEL

7.4.1 When the granulate is stored in bags / bales, these should be placed on pallets, in accordance with the specified in Annex 2-pallets.

8. TRANSPORT OF GRANULATED CORK

8.1 Definition: Loading and transport of granulates from the manufacturing location.

8.2 Objective: To deliver granulates to the manufacturers of cork bodies/ rods / stoppers.

CHAPTER IIII

Manufacture of discs or stoppers

Activity 3 – Manufacture of natural cork discs

Activity 4 - Manufacture of natural cork stoppers and cork bodies for bar-top stoppers

Activity 5 - Manufacture of multi-piece natural cork stoppers

Activity 6 - Manufacture of cork rods, bodies and agglomerated cork stoppers for still wines, sparkling wines, spirits, beer and cider

Activity 7 - Manufacture of stoppers / agglomerated treated cork granule bodies for still wines, sparkling wines, spirits, beer and cider

Activity 8 - Manufacture of agglomerated cork stoppers with natural cork discs for still wines, sparkling wines, gaseous wines, spirits, beer and cider.

Activity 9 - Manufacture of agglomerated cork stoppers with natural cork discs for effervescent wines

ACTIVITY 3 – MANUFACTURE OF NATURAL CORK DISCS

1. STORAGE OF TREATED CORK

- 1.1. Definition:** Storage period of the raw material, which precedes the processing of cork discs.
- 1.2. Objective:** To maintain the characteristics of cork, avoiding possible contamination, thus permitting its usage in subsequent operations.
- 1.3. Mandatory Practices:**
 - 1.3.1.** Identify the planks and bales of treated cork, by stating the batch, origin, boiling date and type of cork.

2. SECOND BOILING (OPTIONAL OPERATION)

- 2.1. Definition:** Immersion of the treated cork planks in clean boiling water.
- 2.2. Objective:** To increase cork flexibility and make it smooth.
- 2.3. Mandatory Practices:**
 - 2.3.1.** Boil the cork for at least 30 minutes.
 - 2.3.2.** Follow all mandatory practices required for First Boiling - listed in Activity 1.
 - 2.3.3.** Stabilize the cork to obtain a moisture content of 8% -16%.

Note: When using a non-traditional boiling method, this method must be specifically described and validated by a **DVT**.

3. TRIMMING (CUTTING INTO STRIPS)

- 3.1. Definition:** Cutting of the treated cork planks in various perpendicular sections, across its thickness.
- 3.2. Objective:** Prepare the cork for the following process phases – lamination and separation of bark.
- 3.3. Mandatory Practices:**
 - 3.3.1.** Use cork with a moisture content of 8 - 16% .

4. REMOVAL OF THE BARK AND SLICING

- 4.1. Definition:** Operation of cutting slices/strips of cork in accordance with the desired

thickness, eliminating the plank's back(cork bark) or rectifying the inner belly.

4.2. Objective: Eliminate the bark and belly and obtain slices thick enough for the manufacture of discs.

4.3. Mandatory Practices:

4.3.1. Use blades that are correctly sharpened, in order to obtain slices that have regular parallel sides;

4.3.2. Identify, store and separate the waste in a specific, clean, airy location.

5. PUNCHING OF THE STRIPS / SOLES

5.1. Definition: Cutting of the cork strips / soles with a punching machine.

5.2. Objective: To obtain discs with no deformation and within the dimensional limits required.

5.3. Mandatory Practices:

5.3.1. Use drilling heads that are correctly sharpened in order to pierce the cork on a regular basis and obtain discs of equal size.

5.3.2. Separate the discs that have a defect in shape.

5.3.3. Identify the waste from the drilling operation.

6. DRYING OF DISCS

6.1. Definition: Operation that consists of reducing the moisture content by applying thermal treatment to the discs.

6.2. Objective: Obtaining the adequate moisture content in order to ensure microbiological and dimensional stability, and subsequently a good bonding of the discs to the bodies of the stoppers.

6.3. Mandatory Practices:

6.3.1. The premises and drying devices must be clean and free of odors.

6.3.2. The manufacturer must have a plan for cleaning **the** premises and drying devices and apply it.

6.3.3. Control and record on file the moisture content of the discs after the drying operation.

7. SANDING OF THE DISCS

7.1. **Definition:** Mechanical operations of sanding the sides of the discs.

7.2. **Objective:** : Ensure dimensional specifications and that the desired surface of the discs presents no scratches.

7.3. **Mandatory Practices:**

7.3.1. Obtain a surface that is smooth, unmarked and without scratches.

7.3.2. Extract, vacuum and store the cork powder that is produced in this operation.

7.3.3. The cork powder to be used in the colmation process shall be identified and stored on palettes and/or in a covered, clean, dry location, free from odors.

8. SELECTION OF DISCS

8.1. **Definition:** Operation carried out to separate the discs into different visual grades.

8.2. **Objective:** To grade the discs according to their visual aspect and potential applications.

8.3. **Mandatory Practices:**

8.3.1. Classify and separate the discs according to visual grade references.

8.3.2. The discs with defects shall be separated and placed in identified containers.

9. STORAGE OF DISCS

9.1. **Definition:** Period of warehousing the cork discs.

9.2. **Objective:** To retain the cork discs' characteristics.

10. COUNTING AND PACKAGING OF DISCS

10.1. **Definition:** Operation that consists in counting the number of discs and guarantee that they are transported in the correct conditions.

10.2. **Objective:** To ensure that the discs are delivered to the customer adequately packed and according to the quantities agreed upon.

11. TRANSPORT

11.1. **Definition:** Change of location and/or dispatch of the discs.

11.2. **Objective:** To place the discs on hand for the manufacture of stoppers.

ACTIVITY 4 – MANUFACTURE OF NATURAL CORK STOPPERS AND CORK BODIES FOR BAR-TOP STOPPERS

1. STORAGE OF TREATED CORK

1.1. Definition: Period of storage of the raw material which precedes the phase of cork stopper processing.

1.2. Objective: To preserve the characteristics of the cork and allow for subsequent operations.

1.3. Mandatory Practices:

1.3.1. Identify the planks and bales of treated cork, by stating the batch, origin, year of harvesting, boiling date and type of cork.

2. SECOND BOILING (OPTIONAL OPERATION)

2.1. Definition: Immersion of planks of treated cork in clean, boiling water.

2.2. Objective: To soften the cork.

2.3. Mandatory Practices:

2.3.1. Boil the cork for at least 30 minutes.

2.3.2. Follow all Mandatory Practices required for First Boiling - listed in Activity 1.

2.3.3. Stabilize the cork in order to obtain a moisture content of 8% -16%.

Note: When using a non-traditional boiling method, this method must be specifically described and validated by a DVT.

3. TRIMMING (CUTTING INTO STRIPS)

3.1. Definition: Operation that consists of cutting the treated cork planks in various transversal perpendicular sections.

3.2. Objective: Prepare the cork to perform the following operation, the preparation of squares.

3.3. Mandatory Practices:

3.3.1. Use cork bark with a moisture content of 8-16 %.

- 3.3.2.** Cut the strips larger in width than the nominal length of the cork stopper, so that it allows for dimensional rectification.

4. MANUFACTURE OF STOPPERS

4.1. PUNCHING

4.1.1. Definition: Cutting the cork strip using a punching machine.

4.1.2. Objective: Obtain a cylindrical cork stopper without deformation and within the dimensional limits required.

4.1.3. Mandatory Practices:

- 4.1.3.1.** Use cork that is sufficiently thick, with regards to the diameter of the punching drill and punching method [automatic or manual].
- 4.1.3.2.** Punch as close to the belly as possible.
- 4.1.3.3.** Keep a space between each perforation so as to avoid any punching defects (stopper with a tubing stab / “gutter” formation).
- 4.1.3.4.** When the cork plank is thick do not punch twice in the width of its thickness.
- 4.1.3.5.** Use drills that have a diameter greater than the nominal diameter of the stoppers, in order to allow for the dimensional rectification of the stopper.
- 4.1.3.6.** Use very sharp, undented, and fixed drills that turn at an adequate speed in order to avoid any scuffing on the surface of the cork stopper.
- 4.1.3.7.** Regularly change the devices that lubricate the drills.
- 4.1.3.8.** The oil containers used for lubrication must be clean and clearly identified.
- 4.1.3.9.** Identify and store the cork that is destined for grinding (drill/blocker waste).

4.2. FROM NATURAL CORK SQUARED PIECES

4.2.1. PREPARATION OF SQUARES

- 4.2.1.1. Definition:** Operation of cutting the cork strips in rectangular parallelepipeds and of an appropriate size.
- 4.2.1.2. Objective:** Obtain a 'square' with an adequate size for the manufacture

of cylindrical stoppers.

4.2.1.3. **Mandatory Practices:**

- 4.2.1.3.1. To cut the squares in order that they have a greater width in comparison to the nominal value of the stoppers' diameter, so as to allow for the dimensional rectification of the stopper.
- 4.2.1.3.2. Regularly change the devices that lubricate the blades.
- 4.2.1.3.3. The oil containers used for lubrication must be clean and clearly identified.
- 4.2.1.3.4. Identify and store the waste that is the result of cutting.

4.2.2. **TURNING SQUARES**

- 4.2.2.1. **Definition:** Operation of cutting squares to obtain one cylindrical cork stopper.
- 4.2.2.2. **Objective:** Obtain a cylindrical cork stopper without deformation and within the dimensional limits required.

4.2.2.3. **Mandatory Practices:**

- 4.2.2.3.1. To cut the squares in order that they have a greater width in comparison to the nominal value of the stoppers' diameter, so as to allow for the dimensional rectification of the stopper.
- 4.2.2.3.2. Regularly change the devices that lubricate the blades.
- 4.2.2.3.3. The oil containers used for lubrication must be clean and clearly identified.
- 4.2.2.3.4. Identify and store the waste from the operation of turning squares.

5. **PRE-SELECTION (CONTROL CHECK)**

- 5.1. **Definition:** Operation destined to separate the corks that are deformed and broken, and separate the pieces as well as the lignified cork stoppers.
- 5.2. **Objective:** To improve productivity and prevent defective stoppers accessing the operations that follow.
- 5.3. **Mandatory Practices:**
 - 5.3.1. The corks bearing defects will be placed in separate containers and properly identified.

5.3.2. Identify and store the cork waste from the selection operation.

6. DRYING OF THE STOPPERS

6.1. **Definition:** Operation that consists of reducing the moisture content by applying thermal treatment to the semi-manufactured stoppers.

6.2. **Objective:** Ensuring adequate moisture to maintain dimensional stability of the stoppers.

6.3. **Mandatory Practices:**

6.3.1. The premises and drying devices must be clean and free of odors.

6.3.2. The company must have a plan for cleaning the premises and / or drying devices and should apply it.

6.3.3. Control and record the humidity of the corks before the process of dimensional rectification ($6 \pm 2\%$).

7. DIMENSIONAL RECTIFICATION/ ROUNDING AND CHAMFERING OF STOPPERS

7.1. **Definition:** Mechanical operations of sanding both ends as well as the body of the cork stopper (chamfering).

7.2. **Objective:** To ensure accurate dimensional specifications of the stoppers.

7.3. **Mandatory Practices:**

7.3.1. Ensure the fineness of the grain and avoid faceted surfaces.

7.3.2. Extract, vacuum and store the cork powder produced during this operation.

7.3.3. Should the cork powder be for usage in the colmation process, it must be stored in identified bags which are placed on pallets (see annex pallets) in a covered and clean location, free from odours.

8. CORK STOPPER SELECTION

8.1. **Definition:** Operation to separate the cork stoppers into a set number of visual choices.

8.2. **Objective:** Categorize the corks according to their visual appearance.

8.3. **Mandatory Practices:**

8.3.1. The corks bearing defects will be separated and placed in containers that are properly identified.

9. STORAGE OF STOPPERS

- 9.1. **Definition:** Period of warehousing the cork stoppers.
- 9.2. **Objective:** To retain the cork stoppers' characteristics.

10. COUNTING AND PACKAGING OF STOPPERS

- 10.1. **Definition:** Operation that consists of counting the number of cork stoppers and guarantee that they are correctly conditioned for transportation.
- 10.2. **Objective:** To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

11. TRANSPORT

- 11.1. **Definition:** Change of location and/or dispatch of stoppers.
- 11.2. **Objective:** Deliver the stoppers to manufacturers and companies who will carry out the semi-finishing processing operations.

ACTIVITY 5 - MANUFACTURE OF MULTI-PIECE CORK STOPPERS

1. STORAGE OF TREATED CORK

- 1.1. Definition:** Storage period of the raw material which precedes the cork stopper process.
- 1.2. Objective:** Retain the characteristics of cork, to allow for subsequent operations.
- 1.3. Mandatory Practices:**
 - 1.3.1.** Identify the treated planks and cork bales, making a registry of the batch number, origin, boiling date and type of cork.

2. SECOND BOILING (OPTIONAL OPERATION)

- 2.1. Definition:** Immersion of the cork planks in clean boiling water.
- 2.2. Objective:** To increase cork's flexibility and make it smooth.
- 2.3. Mandatory Practices:**
 - 2.3.1.** Boil the cork for at least 30 minutes.
 - 2.3.2.** Follow all mandatory practices required for First Boiling - listed in Activity 1.
 - 2.3.3.** Stabilize the cork to obtain a moisture content of 8% -16%.

***Note:** When using a non-traditional boiling method, this method must be specifically described and validated by a **DVT**.*

3. TRIMMING (CUTTING INTO STRIPS)

- 3.1. Definition:** Cutting the treated cork planks in various transversal perpendicular sections.
- 3.2. Objective:** Prepare the cork for the following operation.
- 3.3. Mandatory Practices:**
 - 3.3.1.** Use cork with a moisture content of 8-16 %.

4. REMOVAL OF THE BARK AND SLICING

- 4.1. Definition:** Operation of cutting strips/soles of cork in accordance with the desired thickness, eliminating the plank's back/bark (and/or removing the inner belly).
- 4.2. Objective:** Obtain strips / soles of a desired thickness.
- 4.3. Mandatory Practices:**
 - 4.3.1.** Use blades that are correctly sharpened, in order to obtain slices that have regular parallel sides;
 - 4.3.2.** Identify, store and separate the waste (the bark) in a specific, clean, airy location.

5. GLUING OF CORK PIECES

- 5.1. Definition:** Operation that consists of applying glue to the sides of the cork pieces followed by a pressing process.
- 5.2. Objective:** : Gluing the pieces together.
- 5.3. Mandatory Practices:**
 - 5.3.1.** Effectively joining the cork parts, taking care to connect the pieces back to back, and simultaneously associate the texture and tone of cork.
 - 5.3.2.** Verify the effective bonding of the parts.
 - 5.3.3.** The glues used must be apt to be in contact with drinks that have an alcohol content, which corresponds to that of the drink that will be sealed by the cork stopper.

6. PUNCHING

- 6.1. Definition:** Cutting the cork using a punching machine.
- 6.2. Objective:** Obtain a cylindrical cork stopper without deformation and within the dimensional limits required.
- 6.3. Mandatory Practices:**
 - 6.3.1.** Use glued cork pieces that are sufficiently thick, with regards to the diameter of the punching drill and the method of punching [automatic or manual];
 - 6.3.2.** Keep a space between each perforation so as to avoid any punching defects (stopper with a tubing stab / "gutter" formation).
 - 6.3.3.** Use drills that have a diameter greater than the nominal diameter of the stoppers,

in order to allow for the dimensional rectification of the stopper.

6.3.4. Punch the center of the glued pieces.

6.3.5. Use drills that are correctly positioned, that are sharp, undented, and that turn at an adequate speed in order to avoid any scuffing on the surface of the cork stopper.

6.3.6. Regularly change the lubricating devices.

6.3.7. The oil containers used for lubrication must be clean and clearly identified.

6.3.8. Identify and store the blocker (punching) waste in a covered, clean, airy and odorless location.

7. PRE-SELECTION (CONTROL CHECK)

7.1. Definition: Operation destined to separate the corks that are deformed and broken, and separate the pieces as well as the woody stoppers.

7.2. Objective: To prevent defective stoppers accessing the following operations.

7.3. Mandatory Practices:

7.3.1. The corks bearing defects should be placed in separate containers and properly identified.

7.3.2. Identify and store the waste that is a result of the selection process.

8. DRYING THE STOPPERS

8.1. Definition: Operation that consists of reducing the moisture content by applying thermal treatment to the semi-manufactured stoppers.

8.2. Objective: Ensuring adequate moisture to maintain dimensional stability of the stoppers.

8.3. Mandatory Practices:

8.3.1. The premises and drying devices should be clean and odor free.

8.3.2. The company must have a plan for cleaning the premises and / or drying devices and should apply it.

8.3.3. Control and record the moisture content of the corks before removal from the greenhouse.

9. DIMENSIONAL RECTIFICATION/ ROUNDING AND CHAMFERING OF STOPPERS

9.1. Definition: Mechanical operations of sanding both ends as well as the body of the cork stopper (chamfering).

9.2. Objective:. To ensure accurate dimensional specifications of the stopper and desired form.

9.3. Mandatory Practices:

9.3.1. Ensure the fineness of the grain and avoid faceted surfaces.

9.3.2. Extract, vacuum and store the cork powder that is produced in this operation.

9.3.3. The cork powder to be used in the colmation process shall be identified and stored on pallets and/or in covered and clean, dry location free from odors.

10. CORK STOPPER SELECTION

10.1. Definition: Operation carried out to separate the stoppers into a set of different visual grades.

10.2. Objective: To grade the stoppers according to their visual aspect.

10.3. Mandatory Practices:

10.3.1. The stoppers with defects shall be separated and placed in identified containers.

11. STORAGE OF STOPPERS

11.1. Definition: Period of warehousing the cork stoppers.

11.2. Objective: To retain the cork stoppers' characteristics.

12. COUNTING AND PACKAGING

12.1. Definition: Operation that consists of counting the number of cork stoppers and guarantee that they are correctly conditioned for transportation.

12.2. Objective: To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

13. TRANSPORT

13.1. Definition: Change of location and/or courier of stoppers.

13.2. Objective: To deliver the stoppers to manufacturers and companies who will carry out the semi-finishing operations.

ACTIVITY 6 - MANUFACTURE OF CORK RODS, BODIES AND AGGLOMERATED CORK STOPPERS FOR STILL WINES, SPARKLING WINES, SPIRITS, BEER AND CIDER

1. RECEPTION / ENTRY CONTROL 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 specific weight of the granulate shall be inferior to 75 kg/m³;
 - 1.3.2.** The particle size should be between 0.25 and 8mm.
 - 1.3.3.** Control the granule moisture and implement any corrective actions.

2. STORAGE OF THE CORK GRANULATE

- 2.1. Definition:** Cork granule conservation period.
- 2.2. Objective:** To maintain the characteristics of the granulated cork for future use.
- 2.3. Mandatory Practices:**
 - 2.3.1.** The granulate shall be kept in silos or bags made of synthetic materials allowing for ventilation.
- 2.4. REQUIREMENTS FOR PREMIUM LEVEL**
 - 2.4.1.** If the manufacturer uses bags for storage, these shall be placed on palettes.

3. AGGLOMERATION

- 3.1. Definition:** Agglutination of cork granules, usually by thermal treatment, with addition of a binder (glue) and additives.
- 3.2. Objective:** To make/shape an agglomerated cork body/rod/stopper.
- 3.3. Mandatory Practices:**
 - 3.3.1.** Ensure complete polymerization of the glue.

- 3.3.2. The mixture (cork, glue and agglutinant) shall contain at least 75% of granulated cork (in weight).

4. DIMENSIONAL RECTIFICATION/ ROUNDING AND CHAMFERING OF STOPPERS

- 4.1. **Definition:** Mechanical operations of polishing both ends as well as the body of the agglomerated cork stopper.
- 4.2. **Objective:** To ensure accurate dimensional specifications of the cork bodies/stoppers.
- 4.3. **Mandatory Practices:**
 - 4.3.1. Ensure the fineness of the grain and the parallelism of the cork body/stopper, avoiding faceted surfaces.
 - 4.3.2. Extract, vacuum and store the cork powder that is produced in this operation.

5. SELECTION OF CORK AGGLOMERATED BODIES/STOPPERS

- 5.1. **Definition:** Operation that consists of segregating defects.
- 5.2. **Objective:** Ensure the characteristics and functionality of the cork stoppers / bodies.
- 5.3. **Mandatory Practices :**
 - 5.3.1. The cork bodies / stoppers bearing defects must be separated and placed in properly identified containers.

6. STORAGE OF CORK AGGLOMERATED RODS / BODIES AND STOPPERS

- 6.1. **Definition:** Period of warehousing the cork bodies / rods and stoppers.
- 6.2. **Objective:** To keep these products (cork bodies / rods and stoppers) in the best conditions of conservation in order to avoid alteration of their characteristics.

7. COUNTING AND PACKAGING OF CORK AGGLOMERATED BODIES/ RODS AND STOPPERS

- 7.1. **Definition:** Operation that consists in counting the number of cork bodies / rods and stoppers and guarantee that they are transported in the correct conditions.
- 7.2. **Objective:** To ensure that the cork bodies / rods and stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

8. TRANSPORT OF CORK AGGLOMERATED BODIES/ RODS AND STOPPERS

- 8.1. Definition:** Change of location and/or dispatch of cork bodies/rods and stoppers.
- 8.2. Objective:** To deliver these products (cork bodies/rods and stoppers) to manufacturers and companies who will carry out the semi-finishing and finishing operations.

ACTIVITY 7 - MANUFACTURE OF AGGLOMERATED TREATED CORK GRANULE BODIES FOR STILL WINES, SPARKLING WINES, SPIRITS, BEER AND CIDER

1. CONTROL OF THE GRANULATED CORK AT RECEPTION

- 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 specific weight of the granulate shall be inferior to 75 kg/m³;
 - 1.3.2.** The particle size should be between 0.25 and 8mm;
 - 1.3.3.** Control the granule moisture and implement any corrective actions.

2. STORAGE OF THE CORK GRANULATE

- 2.1. Definition:** Storage period of the cork granules.
- 2.2. Objective:** To maintain /retain the characteristics of the granulated cork in adequate conditions for future use.
- 2.3. Mandatory Practices:**
 - 2.3.1.** The granulate shall be kept in silos or bags made of synthetic materials allowing for ventilation.
- 2.4. REQUIREMENTS FOR PREMIUM LEVEL**
 - 2.4.1.** When the granulate is stored in bags, these should be placed on pallets, in accordance with the specified in Annex 2- <Pallets – Authorized Materials>.

3. IMPROVING THE ORGANOLEPTIC NEUTRALITY OF THE GRANULATE

- 3.1. Definition:** Procedure whereby possible existing volatile compounds are cleaned/extracted.
- 3.2. Objective:** To enhance the organoleptic neutrality of the cork granulate.

3.3. Mandatory Practices:

- 3.3.1.** Companies have to present a technical validation dossier (DVT) in accordance with chapter I - General Mandatory Practices.
- 3.3.2.** Control the content of releasable TCA and perform the sensory analysis of the granulate as per the conditions defined in the control plan.
- 3.3.3.** The company must ensure the records of the control checks are well kept.

4. AGGLOMERATION

- 4.1. Definition:** Agglutination of the cork granules, usually by thermal treatment, with addition of a binder (glue) and additives.
- 4.2. Objective:** To make/shape an agglomerated cork with treated granulate.
- 4.3. Mandatory Practices :**
 - 4.3.1.** Ensure that agglomeration is carried out by a moulding process.
 - 4.3.2.** Ensure complete polymerization of the glue.
 - 4.3.3.** The mixture (cork, glue and agglutinant) shall contain at least 75%(in weight) of treated granulated cork.

5. DIMENSIONAL RECTIFICATION/ ROUNDING AND CHAMFERING OF STOPPERS

- 5.1. Definition:** Mechanical operations of sanding both ends as well as the body of the cork stopper (chamfering).
- 5.2. Objective:** To ensure accurate dimensional specifications of the cork bodies / stoppers.
- 5.3. Mandatory Practices:**
 - 5.3.1.** Ensure the fineness of the grain and avoid faceted surfaces.
 - 5.3.2.** Extract, vacuum and store the cork powder produced during this operation.

6. SELECTION OF CORK AGGLOMERATED BODIES/STOPPERS

- 6.1. Definition:** Operation that consists of segregating defects.
- 6.2. Objective:** Ensure the characteristics and functionality of the cork stoppers / bodies.

6.3. Mandatory Practices :

- 6.3.1.** The cork bodies / stoppers bearing defects must be separated and placed in properly identified containers.

7. STORAGE OF AGGLOMERATED CORK STOPPERS/ BODIES

- 7.1. Definition:** Period of warehousing the cork bodies/ stoppers.

- 7.2. Objective:** To retain the cork stoppers / bodies' characteristics.

8. COUNTING AND PACKAGING OF CORK BODIES /STOPPERS

- 8.1. Definition:** Operation that consists of counting the number of cork bodies / stoppers and guarantee that they are correctly conditioned for transportation.

- 8.2. Objective:** To ensure that the cork bodies / stoppers are delivered to the customer adequately packed and according to the quantities that were agreed upon.

9. TRANSPORT

- 9.1. Definition:** Change of location and/or dispatch of cork bodies /stoppers.

- 9.2. Objective:** Place the corks on hand to be forwarded to semi-finishing operations.

ACTIVITY 8 - MANUFACTURE OF AGGLOMERATED CORK STOPPERS WITH NATURAL CORK DISCS FOR STILL WINES, SPARKLING WINES, GASEOUS WINES, SPIRITS, BEER AND CIDER.

1. RECEPTION / ENTRY CONTROL OF DISCS AND AGGLOMERATED CORK BODIES

1.1. Definition: Proceedings to be put in practice by the manufacturer regarding the reception of discs and agglomerated cork bodies.

1.2. Objective: To guarantee the quality of the discs and agglomerated cork bodies.

1.3. Mandatory Practices:

1.3.1. According to the conditions specified in the control plan, the manufacturer must monitor the quality of the discs and agglomerated cork bodies.

1.3.2. Segregate the discs that have a dry vein and folded corkwood.

2. SELECTION OF DISCS (Optional operation)

2.1. Definition: Operation carried out to separate the discs into a set number of different visual grades.

2.2. Objective: To grade the discs according to their visual aspect and potential applications.

2.3. Mandatory Practices :

2.3.1. Classify and separate the discs according to visual grade references.

2.3.2. The discs with defects shall be separated and placed in identified containers.

3. STORAGE OF AGGLOMERATED CORK STOPPERS/ BODIES

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

3.2. Objective: To maintain the cork stoppers / bodies' characteristics and in adequate conditions for future use.

4. GLUING OF THE DISCS

- 4.1. **Definition:** Operation that consists of gluing the discs to the agglomerated cork body.
- 4.2. **Objective:** Ensure the correct gluing of the discs to the body of the cork agglomerate.
- 4.3. **Mandatory Practices:**
 - 4.3.1. Ensure that the discs are well glued.

5. DIMENSIONAL RECTIFICATION OF THE STOPPERS

- 5.1. **Definition:** Mechanical operations of sanding both ends and/or the body of the cork stopper (chamfering).
- 5.2. **Objective:** To ensure accurate dimensional specifications of the stoppers.
- 5.3. **Mandatory Practices:**
 - 1.3.3. Ensure the fineness of the grain and avoid faceted surfaces.
 - 1.3.4. Extract, vacuum and store the cork powder that is produced in this operation.

6. CORK STOPPER SELECTION

- 6.1. **Definition:** Operation carried out to separate the stoppers into a set number of different visual grades of the discs.
- 6.2. **Objective:** To grade the stoppers according to their visual aspect.
- 6.3. **Mandatory Practices:**
 - 6.3.1. The stoppers with defects shall be separated and placed in identified containers.

7. STORAGE OF STOPPERS

- 7.1. **Definition:** Period of warehousing the cork stoppers.
- 7.2. **Objective:** : To retain the cork stoppers' characteristics.

8. COUNTING AND PACKAGING OF THE STOPPERS

- 8.1. **Definition:** Operation that consists of counting the number of stoppers and guarantee that they are correctly conditioned for transportation.
- 8.2. **Objective:** To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities that were agreed upon.

9. TRANSPORT

- 9.1. **Definition:** Change of location and/or dispatch of stoppers.
- 9.2. **Objective:** Deliver the stoppers to manufacturers and companies who will carry out the semi-finishing operations.

**ACTIVITY 9 - MANUFACTURE OF AGGLOMERATED CORK STOPPERS
WITH NATURAL CORK DISCS FOR EFFERVESCENT WINES
(TRADITIONAL METHOD)**

- 1. RECEPTION / ENTRY CONTROL OF DISCS AND AGGLOMERATED CORK BODIES**
 - 1.1. Definition:** Proceedings to be put in practice by the manufacturer regarding the reception of discs and agglomerated cork bodies.
 - 1.2. Objective:** To guarantee the quality of the discs and agglomerated cork bodies.
 - 1.3. Mandatory Practices:**
 - 1.3.1.** Control the quality of the discs and agglomerated cork bodies according to the conditions defined in the control plan.
 - 1.3.2.** The thickness of the discs shall not be inferior to 4mm.
 - 1.3.3.** Segregate the discs that have a dry vein and folded corkwood.
- 2. SELECTION OF DISCS (Optional operation)**
 - 2.1. Definition:** Operation carried out to separate the discs into a set number of different visual grades.
 - 2.2. Objective:** To grade the discs according to their visual aspect and potential applications.
 - 2.3. Mandatory Practices:**
 - 2.3.1.** Classify and separate the discs according to visual grade references;
 - 2.3.2.** The discs with defects shall be separated and placed in identified containers.
- 3. STORAGE OF AGGLOMERATED CORK STOPPERS/ BODIES**
 - 3.1. Definition:** Period of warehousing the cork bodies/ stoppers.
 - 3.2. Objective:** To maintain the cork stoppers / bodies' characteristics and in adequate conditions for future use.

3.3. REQUIREMENTS FOR PREMIUM LEVEL:

- 3.3.1. When the discs and agglomerated cork bodies are stored in bags, these should be placed on pallets, in accordance with the specified in «Annex 2-pallets».

4. GLUING OF THE DISCS

- 4.1. **Definition:** Operation that consists of gluing the discs to the agglomerated cork body.
- 4.2. **Objective:** Ensure the correct gluing of the discs to the body of the cork agglomerate.
- 4.3. **Mandatory Practices:**
 - 4.3.1. The thickness of the discs shall not be inferior to 4mm and the height of the combined discs should be between 10 and 13mm.
 - 4.3.2. Ensure that the discs are well glued.

5. DIMENSIONAL RECTIFICATION OF THE STOPPERS

- 5.1. **Definition:** Mechanical operations of sanding both ends and/or the body of the cork stopper (chamfering).
- 5.2. **Objective:** To ensure dimensional specifications of the stoppers.
- 5.3. **Mandatory Practices:**
 - 5.3.1. Ensure the fineness of the grain and avoid faceted surfaces.
 - 5.3.2. Extract, vacuum and store the cork powder that is produced in this operation.

6. CORK STOPPER SELECTION

- 6.1. **Definition:** Operation to separate the cork stoppers into a set number of visual categories.
- 6.2. **Objective:** Categorize the corks according to the visual appearance of the discs.
- 6.3. **Mandatory Practices:**

6.3.1. The cork stoppers bearing gluing defects (total or partial) of the discs will be eliminated;

6.3.2. The stoppers with defects shall be separated and placed in identified containers.

7. STORAGE OF STOPPERS

7.1. Definition: Storage period of the cork stoppers.

7.2. Objective: To retain the characteristics of the stoppers.

8. COUNTING AND PACKAGING OF THE STOPPERS

8.1. Definition: Operation that consists of counting the number of cork stoppers and guarantee that they are correctly conditioned for transportation.

8.2. Objective: To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

9. TRANSPORT

9.1. Definition: Change of location and/or dispatch of the stoppers.

9.2. Objective: Deliver the stoppers to manufacturers and companies who will carry out the semi-finishing or finishing operations.

CHAPTER IV

SEMI-FINISHING CORK STOPPER ACTIVITIES

Activity 10 - Washing and drying

Activity 11 – Colmation of cork stoppers

Activity 12 - Coloured coating

ACTIVITY 10 - WASHING AND DRYING

1. RECEPTION / ENTRY CONTROL OF CORK 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 specifications of the products.
- 1.3. Mandatory Practices :**
 - 1.3.1.** Control the quality of the cork stoppers according to the conditions defined in the control plan.

2. STORAGE OF STOPPERS

- 2.1. Definition:** Period of warehousing the cork stoppers.
- 2.2. Objective:** To keep the cork stoppers' characteristics.
- 2.3. Mandatory Practices :**
 - 2.3.1.** In accordance with the conditions defined in the control plan, the cork stoppers stored longer than six months must be controlled prior to use.

3. WASHING (GENERAL)

- 3.1. Definition:** Set of operations to ensure the cleaning, dusting and disinfecting of the stoppers.
- 3.2. Objective:** Prepare the corks for the finishing operations.
- 3.3. Mandatory Practices:**
 - 3.3.1.** The washing locations must be clean and tidy.
 - 3.3.2.** The water used must be in conformity with Annex 3 - Analysis of water.
 - 3.3.3.** The company must, at least once a year, carry out water analysis concerning the water that is intended for the washing processes, according to the parameters listed in annex on waters (Annex 3 - Analysis of water).
 - 3.3.4.** In situations where the water used comes from the public supply system, the company may make use of the parameters laid out in the Testing Report of the public water supply system, and, as per the other requested parameters

of Annex 3 - Water Analysis, the manufacturer can request additional specific analysis.

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

3.3.6. The washing must produce effluents.

3.4. REQUIREMENTS FOR PREMIUM LEVEL:

3.4.1. The company must, at least once per semester, carry out the analysis of the water that is intended for washing.

4. WASHING WITH WATER

4.1. Definition: Immersion of corks in clean water without additives.

4.2. Objective: Clean and remove dust from the stoppers.

4.3. Mandatory Practices :

4.3.1. The washing of the cork stoppers with water is insufficient to clean and limit the growth of micro-organisms; it is necessary to carry out additional cleaning and disinfection of the corks.

5. TREATMENT WITH SULPHAMIC ACID

5.1. Definition: Treatment of stoppers, whereby sulphamic acid is used.

5.2. Objective: Clean, remove dust and lighten the (colour tone) stoppers.

5.3. Mandatory Practices :

5.3.1. The treatment of the cork stopper with sulphamic acid is insufficient to clean and limit the growth of micro-organisms; additional cleaning and disinfecting of the corks is required.

6. TREATMENT WITH METABISULFITE

6.1. Definition: Treatment of stoppers, whereby metabisulfite acid is used.

6.2. Objective: Clean, remove dust and lighten the (colour tone) stoppers.

6.3. Mandatory Practices:

- 6.3.1.** The treatment of cork stoppers with metabisulfite is insufficient to clean and limit the growth of micro-organisms, additional cleaning and disinfecting of the corks is required.

7. TREATMENT WITH PEROXIDES

- 7.1. Definition:** Treatment of stoppers, whereby hydrogen peroxide or peracetic acid is used.

- 7.2. Objective:** Clean, remove dust and sanitize stoppers.

7.3. Mandatory Practices:

- 7.3.1.** Treatment should not leave peroxide residue greater than 0.2 mg / stopper;
- 7.3.2.** The practice known as "dry washing", with a small volume of solution and no effluent production, is one that performs a single discoloration process and may leave peroxide residue. This practice is prohibited.
- 7.3.3.** The treatment with peroxides without the production of effluent is allowed, as an additional stopper disinfecting process, as long as the corks have been previously subjected to a treatment with sulphamic acid or with metabisulfite, resulting in the production of effluents.

8. DRYING

- 8.1. Definition:** Operation that consists of reducing the moisture content by applying thermal treatment to the stoppers.

- 8.2. Objective:** Ensure both a good mechanical behavior and microbiological stability.

8.3. Mandatory Practices:

- 8.3.1.** The premises and drying devices must be clean and free of odors.
- 8.3.2.** The manufacturer must have a plan for cleaning the premises and the drying devices and apply it.
- 8.3.3.** Control and record on file the moisture content after drying the cork stoppers and, if necessary, apply appropriate corrective measures.
- 8.3.4.** Dry the stoppers immediately after washing, in the same equipment (preferentially) or in the same section where the stoppers underwent the washing process.

9. CORK STOPPER SELECTION

9.1. Definition: Operation to separate the cork stoppers into a set number of visual categories and separate the stoppers with defects.

9.2. Objective: Categorize the corks according to their visual appearance.

9.3. Mandatory Practices:

9.3.1. The corks bearing defects will be separated and placed in containers that are properly identified.

10. STORAGE OF STOPPERS

10.1. Definition: Period of warehousing the cork stoppers.

10.2. Objective: To retain the cork stoppers' characteristics.

11. COUNTING AND PACKAGING OF THE STOPPERS

11.1. Definition: Operation that consists in counting the number of stoppers and guarantee that they are transported in the correct conditions.

11.2. Objective: To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

12. TRANSPORT

12.1. Definition: Change of location and/or dispatch of stoppers.

12.2. Objective: Place the stoppers on hand for the finishing operations.

ACTIVITY 11 – COLMATION OF CORK STOPPERS

1. COLMATION

- 1.1. Definition:** Operation which consists in covering the pores of natural cork stoppers with a mixture that is constituted solely of glue and cork powder obtained from the finishing of both the discs and stoppers.
- 1.2. Objective:** To improve the visual appearance of the natural cork stoppers and to obtain a better seal.

2. RECEPTION / ENTRY CONTROL OF CORK STOPPERS

- 2.1. Definition:** Proceedings to be put in practice by the manufacturer regarding the reception of cork stoppers.
- 2.2. Objective:** To guarantee the specifications of the products.
- 2.3. Mandatory Practices :**
 - 2.3.1.** Control the quality of the cork stoppers according to the conditions defined in the control plan.
 - 2.3.2.** The company shall maintain a record of the origin of the corks.

3. STORAGE OF STOPPERS

- 3.1. Definition:** Period of warehousing the cork stoppers.
- 3.2. Objective:** To retain the cork stoppers' characteristics.

4. COLMATION USING GLUES BASED SOLVENT

- 4.1. Mandatory Practices:**
 - 4.1.1.** Only colmate stoppers that have already been washed.
 - 4.1.2.** The company must ensure no migration of pigments and dyes.
 - 4.1.3.** The glues and cork powder must not be stored in the same location as where colmation takes place.

- 4.1.4. The manufacturer must only use powder that comes from the rectification of stoppers and / or natural cork discs.
- 4.1.5. The mixture (glue-powder) surplus must not be re-used.
- 4.1.6. The company must have an appropriate system, which removes the surplus that falls off the colmating drums.
- 4.1.7. The colmation facilities should have air extraction systems and must be protected by fire-proof systems.
- 4.1.8. The premises must:
 - 4.1.8.1. Be built – flooring, walls and ceilings - with materials that are fire and explosion resistant. In relation to the risk of explosion, adequate and properly distributed “zones of safety” must be created to direct the explosion wave and then allow its attenuation /extinguishing.
 - 4.1.8.2. Be sufficiently ventilated/aired and have effective suction and extraction mechanical systems, with anti-electrostatic and flameproof features. It should observe the following precautions:
 - 4.1.8.2.1. Machinery and equipment must not have any ignition point;
 - 4.1.8.2.2. The drums and the equipment for collecting and transporting the stoppers must allow for the discharge of static electricity by earthing conductors.

4.1.9. REQUIREMENTS FOR PREMIUM LEVEL:

- 4.1.9.1. The company must have a control plan for powder moisture.
- 4.1.9.2. Inflammable products shall be stored in a separate warehouse isolated from other sectors, built with fire-resistant materials, an impermeable, sloping floor that allows for flow into a separate drainage system that is not connected to the sewage. Access doors must be fireproof, easy to open (opening in the exit direction).
- 4.1.9.3. The premises must be separated from other sectors and be located in a place isolated from other facilities, to allow for the establishment of a security perimeter.

5. COLMATION USING A WATER BASED GLUE

5.1. Mandatory Practices:

- 5.1.1.** The cork powder cannot be stored in the same place where colmation is carried out.
- 5.1.2.** The company must have a DVT concerning the colmation products used.
- 5.1.3.** The colmation water must be eliminated by specific drying.
- 5.1.4.** The company can only use cork powder from the rectification of stoppers and / or natural cork discs.
- 5.1.5.** Only colmate stoppers that have already been washed.
- 5.1.6.** The premises must be equipped with an adequate system of air extraction.
- 5.1.7.** Any mixture (glue-powder) surplus must not be re-used.
- 5.1.8.** The company must have an appropriate system, which removes the surplus that falls off the colmating drums.

5.2. REQUIREMENTS FOR PREMIUM LEVEL:

- 5.2.1.** The company must have a control plan for powder moisture.

6. CORK STOPPER SELECTION

- 6.1. Definition:** Operation to separate colmated cork stoppers with defects.
- 6.2. Objective:** Categorize the corks according to their visual appearance.
- 6.3. Mandatory Practices:**

- 6.3.1.** The corks bearing defects will be separated and placed in containers that are properly identified.

7. STORAGE OF STOPPERS

- 7.1. Definition:** Storage period of the cork stoppers.
- 7.2. Objective:** To maintain /retain the characteristics of the stoppers.

8. COUNTING AND PACKAGING OF STOPPERS

- 8.1. **Definition:** Operation that consists of counting the number of cork stoppers and guarantee that they are correctly conditioned for transportation.
- 8.2. **Objective:** To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

9. TRANSPORT

- 9.1. **Definition:** Change of location and/or dispatch of stoppers.
- 9.2. **Objective:** Deliver the stoppers to manufacturers and companies who will carry out the semi-finishing or finishing operations.

ACTIVITY 12 - COLOURED COATING

1. RECEPTION / ENTRY CONTROL OF WASHED CORK 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 specifications of the products.
- 1.3. Mandatory Practices:**
 - 1.3.2.** Control the quality of the cork stoppers at reception according to the conditions defined in the control plan.

2. STORAGE OF STOPPERS

- 2.1. Definition:** Storage period of the cork stoppers.
- 2.2. Objective:** To maintain /retain the characteristics of the stoppers.

3. COATING - GENERAL

- 3.1. Definition:** Operation that consists of coating the surface of the cork stopper with a pigment.
- 3.2. Objective:** To standardize the colour of the surface and improve the sealing capability.
- 3.3. Mandatory Practices:**
 - 3.3.1.** Only coat stoppers that have already been washed.
 - 3.3.2.** The company must ensure no migration of pigments and dyes.
 - 3.3.3.** The stoppers must not be stored in the same location where the coating process is carried out.
 - 3.3.4.** The stoppers must only be coated with products compatible with those used in previous operations.
 - 3.3.5.** The company must clean the surplus that falls off the coating drums.

3.4. REQUIREMENTS FOR PREMIUM LEVEL:

- 3.4.1.** Use stainless steel equipment.

4 SOLVENT-BASED COATING:

- 4.1** The use of copolymers in solution in organic solvents (including acrylic resins and vinyl) is prohibited.
- 4.2** Eliminate, by drying, the solvents from the coating.
- 4.3** Do not dry coated cork stoppers and unwashed cork stoppers in conjunction.
- 4.4** Use rubber based products.
- 4.5** The premises must:
 - 4.5.1** Be built – flooring, walls and ceilings - with materials that are fire and explosion resistant. In relation to the risk of explosion, adequate and properly distributed “zones of safety” must be created to direct the explosion wave and then allow its attenuation /extinguishing.
 - 4.5.2** Be sufficiently ventilated/aired and have effective suction and extraction mechanical systems, with anti-electrostatic and flameproof features. It should observe the following precautions:
 - 4.5.2.1** Machinery and equipment must not have any ignition point;
 - 4.5.2.2** The drums and the equipment for collecting and transporting the stoppers must allow for the discharge of static electricity by earthing conductors.

4.6 REQUIREMENTS FOR PREMIUM LEVEL:

- 4.6.1** Inflammable products shall be stored in a separate warehouse isolated from other sectors, built with fire-resistant materials and an impermeable, sloping, floor that allows for flow into a separate drainage system that must not be connected to the sewage. Access doors must be fireproof, easy to open (opening in the exit direction).
- 4.6.2** The premises must be separated from other sectors and be located in a place isolated from other facilities, to allow for the establishment of a security perimeter.

5 WATER BASED COATING

5.1 Mandatory Practices:

- 5.1.1** The company must have a DVT concerning the coating products used.

- 5.1.2 Observe the application conditions indicated by the chemical manufacturers.
- 5.1.3 The coating water must be eliminated by specific drying.
- 5.1.4 The drying devices must be clean and free of odor.
- 5.1.5 Do not dry coated cork stoppers and unwashed cork stoppers in conjunction.
- 5.1.6 The premises must be equipped with an adequate system of air extraction.
- 5.1.7 The company must ensure the adherence of the coating.

6 CORK STOPPER SELECTION

- 6.1 **Definition:** Operation to segregate coated cork stoppers that have defects.
- 6.2 **Objective:** Categorize the cork stoppers according to their visual appearance.
- 6.3 **Mandatory Practices:**

6.3.1 The corks bearing defects will be separated and placed in containers that are properly identified.

7. STORAGE OF STOPPERS:

- 7.1 **Definition:** Period of warehousing the cork stoppers.
- 7.2 **Objective:** To retain the cork stoppers' characteristics.

8. COUNTING AND PACKAGING

- 8.1 **Definition:** Operation that consists of counting the number of cork stoppers and guarantee that they are correctly conditioned for transportation.
- 8.2. **Objective:** To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

9. TRANSPORT

- 9.1. **Definition:** Change of location and/or dispatch of cork stoppers.
- 9.2. **Objective:** Place the corks on hand to for the semi-finishing operations.

CHAPTER V

FINISHING OF STOPPERS THAT ARE FULLY INSERTED INTO THE BOTTLENECK AND OF BAR-TOP CORKS

Activity 13 - Gluing of the capsules (for bar-top stoppers)

Activity 14 - Marking and surface treatment of stoppers that are fully inserted into the
bottleneck and of bar-top stoppers

ACTIVITY 13 - GLUING OF THE CAPSULES (FOR BAR-TOP STOPPERS)

1. RECEPTION / ENTRY CONTROL OF CORK BODIES

- 1.1. Definition:** Proceedings to be put in practice by the manufacturer regarding the reception of the cork bodies.
- 1.2. Objective:** To ensure that the product specifications have been respected.
- 1.3. Mandatory Practices :**
 - 1.3.1.** Control the quality of the cork bodies (stoppers) at reception according to the conditions defined in the control plan.
 - 1.3.2.** The company must keep an updated registry of the origin of the cork bodies.

2. SELECTION OF CORK BODIES (Optional operation)

- 2.1. Definition:** Operation carried out to separate the cork bodies into different visual grades.
- 2.2. Objective:** To grade the cork bodies according to their visual aspect.
- 2.3. Mandatory Practices:**
 - 2.3.1.** The cork bodies with defects shall be separated and placed in identified containers.

3. GLUING OF THE CAPSULES

- 3.1. Definition:** Operation that consists of gluing the capsule to the cork stopper body.
- 3.2. Objective:** Glue the capsule to the cork stopper body, in a manner that guarantees the repetitive action of sealing and opening.
- 3.3. Mandatory Practices:**
 - 3.3.1.** Respect the polymerization (drying) time periods that are laid out by the glue manufacturers.
 - 3.3.2.** The glues used must be apt to be in contact with drinks with an alcohol content superior to 15% in volume (or in accordance with the amount of alcohol in the drink that is to be sealed by the cork stopper).
 - 3.3.3.** The capsules that the company purchases or manufactures must be able to fortuitously or occasionally be in contact with foodstuffs.

4. CORK STOPPER SELECTION

4.1. Definition: Operation to separate the cork stoppers that have gluing defects.

4.2. Objective: Separate the cork stoppers that are incorrectly glued.

4.3. Mandatory Practices :

4.3.1. The corks bearing critical defects, defects in shape, verticality defects, that are poorly glued, or other defects, shall be separated and placed in containers that are correctly identified.

5. STORAGE OF STOPPERS

5.1. Definition: Storage period of the cork stoppers.

5.2. Objective: To maintain /retain the characteristics of the stoppers.

6. TRANSPORT

6.1. Definition: Change of location and /or dispatch of stoppers.

6.2. Objective: Place the stoppers at the disposal of the clients.

ACTIVITY 14 - MARKING AND SURFACE TREATMENT OF STOPPERS THAT ARE FULLY INSERTED INTO THE BOTTLENECK AND BAR-TOP STOPPERS

1. RECEPTION / ENTRY CONTROL OF CORK STOPPERS

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

1.2. Objective: To ensure that the product specifications have been respected.

1.3. Mandatory Practices :

1.3.1. Control the quality of the cork stoppers at reception according to the conditions defined in the control plan.

1.3.2. The company must keep an updated registry of the origin of the cork stoppers.

2. STORAGE OF STOPPERS

2.1. Definition: Storage period of the cork stoppers.

2.2. Objective: To maintain the characteristics of the stoppers.

2.3. REQUIREMENTS FOR PREMIUM LEVEL :

2.3.1 Apply the FIFO methodology showing its application.

3. CORK STOPPER SELECTION

3.1. Definition: Operation carried out to separate the stoppers with defects.

3.2. Objective: To grade the stoppers according to their visual aspect.

3.3. Mandatory Practices:

3.3.1. The stoppers with defects shall be separated and placed in identified containers.

4. MARKING

4.1. Definition: Operation that consists of marking, on the surface of the stopper, a text and / or logo, and the countermark and vendor code.

4.2. Objective: To customize the cork stopper and ensure its traceability from supplier to customer.

4.3. Mandatory Practices:

- 4.3.1.** The company shall maintain a record of the origin of the corks.
- 4.3.2.** The marking shall be done prior to surface treatment.
- 4.3.3.** The tops of the corks must be marked solely with fire.
- 4.3.4.** When the marking is done with ink, the company must have a certificate or test results showing that the heavy metal content complies with regulations.
- 4.3.5.** Companies that carry out the finishing stopper processes should always apply their countermark or other identifier and affix a code to ensure traceability of the stopper, unless the customer requests otherwise.
- 4.3.6.** Companies that carry out the finishing operations for stoppers must report their countermark(s) to C.E.Liège.
- 4.3.7.** The company must only treat the cork stopper when the ink is dry.

5. PARAFFIN COATING

- 5.1. Definition:** Operation designed to deposit a paraffin layer on the surface of the cork stopper.
- 5.2. Objective:** To lubricate the surface of the stopper, in order to facilitate its introduction into the bottleneck and subsequent extraction, as well as improve its sealing capability..

5.3. Mandatory Practices :

- 5.3.1.** The paraffin's used and the packaging shall:

- be correctly identified;
- carry the expiry date and shall not be used after that date;
- be in a good state of conservation;
- respect the storage conditions indicated by the suppliers of these products.

- 5.3.2.** This process shall not be applied if hot bottling (thermolisation) or pasteurization in the bottle are practiced and also cannot be applied if the bottling process uses corking machines with heated jaws.

5.4. REQUIREMENTS FOR PREMIUM LEVEL:

- 5.4.1** The equipment used for applying the paraffin should be of stainless steel and the paraffin must be at an appropriate temperature in the case of undergoing a hot application.

6. SILICONE COATING

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

6.2. Objective: To lubricate the surface of the stopper, in order to facilitate its introduction into the bottleneck and subsequent extraction, as well as improve its sealing capability.

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. Do not use silicones that migrate.

6.3.3. The company must use silicone elastomers, and / or, in the case of using other types of silicones, must present a DVT.

6.3.4. For applied silicones, the usage time frames recommended by the manufacturers of these products must be respected.

6.4 REQUIREMENTS FOR PREMIUM LEVEL

6.4.1. The company must detain a specific study on the migration of silicones into the wine.

6.4.2. The equipment used for applying the silicon must be of stainless steel and at an appropriate temperature in the case of undergoing a hot application.

7. COUNTING AND PACKAGING OF STOPPERS

7.1. Definition: Operation that consists in counting the number of stoppers and guarantee that they are transported in the correct conditions.

7.2. Objective: To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.

7.3. Mandatory Practices :

7.3.1. In the case of packaging with So₂, the company must control the amount of SO₂ in the bags.

7.3.2. For packaging with So₂, the company must install vacuums above the machinery responsible for sealing the bags.

7.3.3. For packaging with So₂, the company must have masks for use in the event of a So₂ leakage.

8. TRANSPORT

8.1. Definition: Change of location and/or dispatch of stoppers.

8.2. Objective: Place the stoppers at the disposal of clients.

CHAPTER VI

FINISHING PROCESS OF STOPPERS FOR EFFERVESCENT WINES

Activity 15 - Marking and surface treatment of stoppers for sparkling, effervescent and gaseous wines, beer and cider.

ACTIVITY 15 - MARKING AND SURFACE TREATMENT OF STOPPERS FOR SPARKLING, EFFERVESCENT AND GASEOUS WINES, BEER AND CIDER.

1. RECEPTION / ENTRY CONTROL OF CORK 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 specifications of the products.
- 1.3. **Mandatory Practices :**
 - 1.3.1. Control the quality of the cork stoppers according to the conditions defined in the control plan.
 - 1.3.2. The company must keep an updated registry of the origin of the cork stoppers.

2. STORAGE OF STOPPERS

- 2.1. **Definition:** Storage period of the cork stoppers.
- 2.2. **Objective:** To maintain the characteristics of the stoppers.
- 2.3. **REQUIREMENTS FOR PREMIUM LEVEL:**
 - 2.3.1. Apply the FIFO methodology showing its application.

3. CORK STOPPER SELECTION

- 3.1. **Definition:** Operation carried out to separate the stoppers with defects.
- 3.2. **Objective:** To grade the stoppers according to the visual aspect of the discs.
- 3.3. **Mandatory Practices:**
 - 3.3.1. The stoppers with defects shall be separated and placed in identified containers.

4. MARKING BY FIRE

- 4.1. **Definition:** Operation that consists of marking, on the surface of the stopper, a text and / or logo, and the countermark and vendor code.
- 4.2. **Objective:** To customize the cork stopper and ensure its traceability from supplier to customer.
- 4.3. **Mandatory Practices :**
 - 4.3.1. The marking shall be done prior to surface treatment.

4.3.2. Companies that carry out the finishing operations for stoppers must report their countermark(s) to C.E.Liège.

4.3.3. Companies that carry out the finishing stopper processes should always apply their countermark or other identifier and affix a code to ensure traceability of the stopper, unless the customer requests otherwise.

5. PARAFFIN COATING

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

5.2. Objective: Improve the tightness of the seal.

5.3. Mandatory Practices:

5.3.1. Use a paraffin with a melting point of 52°C / 54°C.

5.3.2. The paraffins used and the packaging shall:

- be correctly identified;
- carry the expiry date and shall not be used after that date;
- be in a good state of conservation;
- respect the storage conditions indicated by the suppliers of these products.

6. SILICONE COATING

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 into the bottleneck and subsequent extraction and to improve its sealing capability.

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. Do not use silicones that migrate.

6.3.3. The company must use silicone elastomers and / or in the case of using other types of silicones, must present a DVT.

6.3.4. For applied silicones, the usage time frames recommended by the manufacturers of these products must be respected.

6.4. REQUIREMENTS FOR PREMIUM LEVEL:

- 6.4.1.** The company must detain a specific study on the migration of silicones into wine.

7. COUNTING AND PACKAGING OF STOPPERS

- 7.1. Definition:** Operation that consists in counting the number of stoppers and guarantee that they are transported in the correct conditions.
- 7.2. Objective:** To ensure that the stoppers are delivered to the customer adequately packed and according to the quantities agreed upon.
- 7.3. Mandatory Practices:**
 - 7.3.1.** In the case of packaging with So₂, the company must control the amount of SO₂ in the bags.
 - 7.3.2.** For packaging with So₂, the company must install vacuums above the machinery responsible for sealing the bags.
 - 7.3.3.** For packaging with So₂, the company must have masks for use in the event of a So₂ leakage.

8. TRANSPORT

- 8.1. Definition:** Change of location and/or dispatch of stoppers.
- 8.2. Objective:** Place stoppers at the disposal of the clients.

CHAPTER VII

ANNEXES:

- *Annex 1: Floor / ground - authorized materials*
- *Annex 2: Pallets - authorized materials*
- *Annex 3: Water analysis*
- *Annex 4: List of applicable standards*
- *Annex 5: Applicable legislation*

Annex 1: Floor / ground - authorized materials

- Concrete
- Stone flooring
- Tiled floors

Other ground types which allow for drainage and with a sufficient thickness to prevent any mixture with the soil (periodically adding a new layer of that type of floor, to ensure drainage):

- Tout-venant
- Broken stones
- “Albero”
- Gravel

Annex 2: Pallets - authorized materials

Materials	Raw Cork	Treated Cork	Products stored in bags				
			Granulate	Discs	Cork bodies / Rods	Cork Stoppers	Cork for Grinding
Treated Wood HT	X	0	X	X	X	X	X
Plastic	X	X	X	X	X	X	X
Galvanized Steel	X	X	X	X	X	X	X
Stainless Steel	X	X	X	X	X	X	X

X - may be used

0 – prohibited

Annex 3: Water analysis

PARAMETER	UNITS	PV ⁽¹⁾
pH ⁽²⁾	Units of pH	$5,5 \leq \text{pH} \leq 9,5$
Odor (at 25°C)	Dilution factor	3
Turbidity	UNT	4
Oxidisability	mg/l O ₂	5,0
Available residual chlorine	mg/l Cl ₂	0,1
Iron	µg/l	200
Manganese	µg/l	50
Organochlorine pesticide (individual)	µg/l	0,10
Organochlorine pesticide (total)	µg/l	0,50
2,4,6 – Trichloroanisol	ng/l	2
2,4,6 – Trichlorophenol	µg/l	0,10
2,3,4,6 - Tetrachlorophenol	µg/l	0,10
Pentachlorophenol	µg/l	0,10

<p align="center">Pesticides List - Water for the ICCSMP</p> <p align="center">(Pesticides to be controlled in the water used during the process)</p>
<p align="center">Legal framework: Directive 98/83/EC + Mix Organochlorine Pesticides</p>

	Designation	Specification	Boiling	Washing
Pesticides	1,2,3,4-Tetrachlorobenzene	<0,10 µg/L	x	x
	1,2,3,5-Tetrachlorobenzene	<0,10 µg/L	x	x
	1,2,4,5-Tetrachlorobenzene	<0,10 µg/L	x	x
	Aldrin	<0,10 µg/L	x	x
	α - endosulfan	<0,10 µg/L	x	x
	β - endosulfan	<0,10 µg/L	x	x
	a - Hexachlorocyclohexane (a-HCH)	<0,10 µg/L	x	x
	b - Hexachlorocyclohexane (b-HCH)	<0,10 µg/L	x	x
	d - Hexachlorocyclohexane (d-HCH)	<0,10 µg/L	x	x
	γ - Hexachlorocyclohexane (γ-HCH)	<0,10 µg/L	x	x
	Dieldrin	<0,10 µg/L	x	x
	Endrin	<0,10 µg/L	x	x
	Hexachloroethane	<0,10 µg/L	x	x
	Heptachlor	<0,10 µg/L	x	x
	cis-Heptachlor epoxide	<0,10 µg/L	x	x
	trans-Heptachlor epoxide	<0,10 µg/L	x	x
	Hexachlorobenzene (HCB)	<0,10 µg/L	x	x
	Hexachlorobutadiene (HCBd)	<0,10 µg/L	x	x
	Isodrin	<0,10 µg/L	x	x
	Methoxychlor	<0,10 µg/L	x	x
	Dichloro-diphenyl- <i>op</i> of dichloroethylene (DDE- <i>op</i>)	<0,10 µg/L	x	x
	Dichloro-diphenyl <i>pp'</i> of dichloroethylene (DDE- <i>pp'</i>)	<0,10 µg/L	x	x
	<i>op</i> -dichlorodiphenyltrichloroethane (DDT- <i>op</i>)	<0,10 µg/L	x	x
	<i>pp'</i> dichlorodiphenyl-trichloroethane (DDT- <i>pp'</i>)	<0,10 µg/L	x	x
	<i>op</i> -dichlorodiphenyl dichloroethane (DDD- <i>op</i>)	<0,10 µg/L	x	x
	<i>pp'</i> dichlorodiphenyl-dichloroethane (DDD- <i>pp'</i>)	<0,10 µg/L	x	x
	Pentachlorobenzene	<0,10 µg/L	x	x
	Telodrina	<0,10 µg/L	x	x
	Trifluralin	<0,10 µg/L	x	x
	2,4-D	<0,10 µg/L		x
	Atrazine	<0,10 µg/L		x
	Deethylatrazine	<0,10 µg/L		x
	Bentazone	<0,10 µg/L		x
	Diuron	<0,10 µg/L		x
	Linuron	<0,10 µg/L		x
	S-Metolachlor	<0,10 µg/L		x
	Terbutylazine	<0,10 µg/L		x
	Desetiltterbutylazine	<0,10 µg/L		x

Annex 4: List of applicable standards

The following list of standards serves as guideline for the companies:

EN ISO 5667-1	Water quality -- Sampling -- Part 1: Guidance on the design of sampling programmes
EN ISO 5667-2	Water quality -- Sampling -- Part 2: Guidance on sampling techniques
EN ISO 5667-3	Water quality -- Sampling -- Part 3: Guidance on the preservation and handling of water samples
EN ISO 5667-4	Water quality -- Sampling -- Part 4: Guidance on sampling from lakes, natural and man-made
EN ISO 5667-5	Water quality -- Sampling -- Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems
ISO 10523	Water quality -- Determination of pH
EN 27888	Water quality. Method for the determination of electrical conductivity
EN ISO 8467	Water quality -- Determination of permanganate index
EN ISO 7887	Water quality -- Examination and determination of colour
EN 1622	Water quality - Determination of the threshold odour number (TON) and threshold flavour number (TFN)
EN ISO 7027	Water quality -- Determination of turbidity
EN ISO 6468	Water quality -- Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes -- Gas chromatographic method after liquid-liquid extraction
EN ISO 7393-1	Water quality -- Determination of free chlorine and total chlorine -- Part 1: Titrimetric method using N,N-diethyl-1,4-phenylenediamine
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
EN ISO 7393-3	Water quality -- Determination of free chlorine and total chlorine -- Part 3: Iodometric titration method for the determination of total chlorine

ISO 633	Cork -- Vocabulary
ISO 1215	Commercially dry virgin cork, ramassage, gleanings, corkwood refuse and corkwaste -- Definitions and packaging
ISO 1216	Corkwood in planks -- Grading, classification and packing
ISO 1997	Environmental management -- Life cycle assessment -- Principles and framework
NP ISO 2030	Granulated cork -- Size analysis by mechanical sieving
NP ISO 2031	Granulated cork -- Determination of bulk density
ISO 2067	Granulated cork -- Sampling
NP ISO 2190	Granulated cork -- Determination of moisture content
ISO 2385	Corkwood in planks, virgin cork, cleanings, cork pieces, corkwood refuse and corkwaste -- Sampling to determine moisture content
ISO 2386:	Corkwood in planks, virgin cork, ramassage, gleanings, corkwood refuse and corkwaste -- Determination of moisture content
ISO 3863:	Cylindrical cork stoppers -- Dimensional characteristics, sampling, packaging and marking
ISO 4710	Cork -- Cylindrical stoppers for sparkling wines and gasified wines -- Characteristics
ISO 9727-1	Cylindrical cork stoppers -- Physical tests -- Part 1: Determination of dimensions
ISO 9727-2:	Cylindrical cork stoppers -- Physical tests -- Part 2: Determination of mass and apparent density for agglomerated cork stoppers
ISO 9727-3	Cylindrical cork stoppers -- Physical tests -- Part 3: Determination of humidity content
ISO 9727-4	Cylindrical cork stoppers -- Physical tests -- Part 4: Determination of dimensional recovery after compression
ISO 9727-5	Cylindrical cork stoppers -- Physical tests -- Part 5: Determination of extraction force
ISO 9727-6	Cylindrical cork stoppers -- Physical tests -- Part 6: Determination of liquid tightness
ISO 9727-7	Cylindrical cork stoppers -- Physical tests -- Part 7: Determination of dust content
NP ISO 10106	Cork stoppers -- Determination of global migration
ISO 10718	Cork stoppers -- Enumeration of colony-forming units of yeasts, moulds and bacteria capable of growth in an alcoholic medium
ISO 20752 :	Cork stoppers -- Determination of releasable 2, 4, 6-trichloroanisole (TCA)
ISO 21128	Cork stoppers -- Determination of oxidizing residues -- Iodometric titration method
ISO 22308	Cork stoppers -- Sensory analysis
ISO 16419	Cork stoppers for still wines -- visual anomalies
ISO 16420	Cork stoppers for still wines -- Mechanical and physical specifications

Annex 5: Applicable legislation

- Resolution ResAP(2004)2 of the Council, regarding cork stoppers and other products made of cork and intended to be in contact with foodstuffs.
- Commission Regulation (EC) No 2023/2006 of 22 December 2006 on good manufacturing practice for materials and articles intended to come into contact with food
- Regulation (EC) No 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 repealing Directives 80/590/EEC and 89/109/EEC.
- Directive 98/83/EC of the Council of Europe of 3 November 1998 concerning water quality of water intended for human consumption.
- Directive 94/62/EC of the European Parliament and of the Council, of 20th December 1994, concerning packaging and packaging waste
- Directive 2008/95/EC of the European Parliament and the Council of 22 October 2008 to approximate the laws of the Member States relating to trade marks.