

Control maturation and conditioning in brewing

Overview

This standard covers the skills and knowledge needed for you to control maturation and conditioning in brewing. This standard details the skills required to removing heat to achieve the required change in the condition of the product or to preserve the product state and/or quality. It details the skills required to start up, run and shut down equipment, as well as being able to take the appropriate action should operating problems occur. It is also about working to product specifications and production schedules. Complying with and understanding health and safety, food safety and organisational requirements are essential features of this standard. This standard also covers understanding the principles of maturation and cooling for beers in brewing, understanding the principles of maturation and chilling for beers intended as chilled and filtered beers in brewing and understanding the principles of chilling and carbonation/nitrogenation of beers intended as chilled and filtered beers in brewing. This standard is for you if you carry out operative tasks which involve controlling temperature of cask beers, chilled or filtered beers or if you are involved in the carbonation/nitrogenation of chilled and filtered beers.

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Performance criteria

You must be able to:

Prepare for temperature reduction

1. prepare for temperature reduction in accordance with the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and instructions
2. check product specifications at the right time
3. set up equipment according to specification
4. check that material for temperature reduction is available and fit for use
5. check that services meet requirements
6. start up the plant and check that it is running to specification
7. take effective action in response to operating problems
8. maintain communication in accordance with organisational procedures

Carry out temperature reduction

9. carry out temperature reduction in accordance with the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and instructions
10. use equipment and check that it is supplied with materials and services
11. achieve the required output to the correct specification
12. check the product is transferred to the next stage in the manufacturing operation
13. take effective action in response to operating problems within the

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limits of your responsibility

14. maintain communication in accordance with organisational procedures
- Finish temperature reduction
15. finish temperature reduction in accordance with the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and instructions
16. time shut down according to specifications
17. follow procedures to shut down equipment
18. deal with items that can be re-cycled or reworked
19. dispose of waste in accordance with organisational requirements
20. make equipment ready for future use after completion of the process
21. maintain communication in accordance with organisational procedures
22. complete all necessary documentation

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Knowledge and understanding

You need to know and understand:

1. the organisational health and safety, hygiene, environmental and quality standards and instructions
 2. the personal protective equipment required
 3. the work area tools and equipment needed
 4. why it is important to check the cleanliness of work area, tools and equipment
 5. the purpose and importance of the process
 6. what materials to use and in what quantity
 7. how to obtain and interpret the relevant process or ingredient specification
 8. what action to take when the process specification is not met
 9. how to carry out the necessary pre start checks and why it is important to do so
 10. how to follow the start up procedures for the process and why it is important to do so
 11. how to follow the relevant process control procedures and why it is important to do so
 12. different ways to carry out the process
 13. how to carry out the process in an efficient manner and why it is important to do so
 14. the different types of cask beers, chilled and filtered beers and

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their key characteristics

15. what the purpose of maturation is

16. what the typical times and temperatures appropriate to different

beer types are

17. what changes occur in the beer during maturation which affect

beer flavour

18. what the purposes of chilling and cold storage are

19. what the purposes of cooling in vessel are

20. the operating principles of beer chillers (plate, shell and tube)

21. what the purposes of carbonation and nitrogenation are

22. what the levels for dissolved carbon dioxide and nitrogen levels

for different beer types are

23. the location of plant control systems for carbonation and

nitrogenation processes

24. the operating principles of a carbonator and nitrogenator

25. what changes occur in the beer during cooling and chilling which

affect beer flavour

26. what the general biochemical principles of stabilisation are

27. what the nature and action of the principal types of stabilising

agents are

28. what haze precursors are and how they function

29. how haze precursors are removed

30. the recommended conditions for storage and handling of chilled

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and filtered beer

31. what factors can adversely affect the condition of chilled and filtered beer

32. how to deal with waste materials in accordance with organisational requirements

33. the need for records to be completed within agreed timescales and to an agreed standard

34. what should be communicated, to whom and why it should be done

35. the limits of your authority and the consequences of exceeding them

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