

## Overview

This standard is about the mixing and refining process in chocolate manufacture. It covers the equipment and refining methods that are used and why. It also covers the importance of these processes and their affect on the final product.

This standard is about physically combining two or more constituents to produce a whole. It details the skills required to start up, run and shut down equipment, as well as being able to take 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 is for you if you require a basic knowledge of the initial mixing and refining of chocolate for manufacture.

## Performance criteria

*You must be able to:*

### **Prepare for mixing and refining**

1. prepare for mixing and refining 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 mixing and refining 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 action in response to operating problems
8. maintain communication in accordance with organisational requirements

### **Carry out mixing and refining**

9. carry out mixing and refining 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 specification in accordance with organisational requirements
12. check the product is transferred to the next stage in the manufacturing operation
13. take action in response to operating problems within the limits of your responsibility
14. maintain communication in accordance with organisational requirements

### **Finish mixing and refining**

15. finish mixing and refining in accordance with the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and instructions
16. check specifications to time shut down
17. shut down equipment in accordance with organisational procedures

18. deal with items that can be re-cycled or reworked in accordance with organisational procedures
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 requirements
22. complete all necessary documentation

## Knowledge and understanding

*You need to know and understand:*

1. what the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and instructions are and what may happen if they are not followed
2. the potential food safety risks and control procedures associated with chocolate mixing and refining processes
3. what the main purpose and the main methods of mixing are in chocolate manufacturing
4. what equipment is used to batch or continuously mix chocolate ingredients
5. what materials to use and in what quantity
6. what the purpose of refining chocolate is and the components and operation of five roll and two roll refiners
7. what the affect of refining is on particle size distribution, the texture and the taste of chocolate
8. what process is involved in refining, including double refining and the importance of the plasticity of the chocolate mass to the final refiner
9. why different types of chocolate need to undergo a different refining process
10. what recording, reporting and communication is needed and how to carry this out and the reasons why it is important to do so
11. what action to take when the process specification is not met
12. how to carry out the necessary pre start checks and why it is important to do so
13. how to follow the start up procedures for mixing and refining and why it is important to do so
14. how to obtain the necessary resources for mixing and refining chocolate
15. common sources of contamination during processing, how to avoid these and what might happen if this is not done
16. how to operate, regulate and shut down the relevant equipment
17. when it is necessary to seek assistance and how to seek it
18. different ways to carry out mixing and refining of chocolate
19. how to deal with items that can be re-cycled or re-worked
20. how to dispose of waste
21. how to make equipment ready for future use

## Mix and refine chocolate

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