

Overview

This standard is about the skills and knowledge needed for you to control wort boiling, clarification and cooling in brewing. This standard details the skills and understanding needed when applying heat to bring about a change in the condition of a product, when removing heat to achieve the required change in the condition of the product or to preserve the product state and/or quality. It also details the skills and knowledge to competently prepare for, start up and complete hopped wort transfer to the fermentation vessel in brewing. 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 the wort boiling process in brewing including sterilisation, stabilisation of enzyme action, evaporation, coagulation and precipitation of protein (trub formation) and beer haze precursors, flavour development other than hop bitterness and colour formation, and how the control of different factors can affect the wort. It covers what happens during the boiling process, the characteristics of hops, hop bitterness formation and values, the use of other raw materials, process aid additions and the operating principles of wort kettles (coppers). It details the understanding of the principles of wort clarification and cooling in brewing. It covers the impact of trub and spent hops on beer quality and their removal, wort clarification devices, the methods and effects of wort cooling and how wort coolers work. This standard is for you if you require a broad knowledge and understanding of the wort boiling, clarification and cooling process and related activity in brewing.

Performance criteria

You must be able to:

Prepare for wort boiling, clarification and cooling

1.
prepare for wort boiling, clarification and cooling 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 wort boiling, clarification and cooling 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 procedures

Carry out wort boiling, clarification and cooling

9.
carry out wort boiling, clarification and cooling 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

Control wort boiling, clarification and cooling in brewing

manufacturing operation

13.

take action in response to operating problems within the limits of your responsibility

14.

maintain communication in accordance with organisational procedures

Finish wort boiling, clarification and cooling

15.

finish wort boiling, clarification and cooling in accordance with the legal or regulatory requirements, the organisational health and safety, hygiene and environmental standards and instructions

16.

time shut down in accordance with relevant specifications

17.

set up wort transfer equipment according to specification, including ensuring that the fermentation vessel to be used is empty and clean

18.

make sure that hopped wort is ready to be transferred to the fermentation vessel

19.

transfer hopped wort in accordance with the legal or regulatory requirements, the organisational health and safety, the hygiene and environmental standards and the standard operating procedures

20.

use transfer equipment in accordance with organisational policies and procedures and make sure that it is supplied with specified materials and services

21.

achieve the required output to the correct specification

22.

follow procedures to shut down equipment

23.

deal with items that can be re-cycled or reworked

24.

Control wort boiling, clarification and cooling in brewing

dispose of waste in accordance with organisational requirements

25.

make equipment ready for future use after completion of the process

26.

maintain communication in accordance with organisational procedures

27.

complete all necessary documentation

Knowledge and understanding

You need to know and understand:

1.
the organisational health and safety, hygiene, environmental and quality standards and instructions
 - 1.1
the personal protective equipment required
 - 1.2
the work area tools and equipment needed
 - 1.3
why it is important to check the cleanliness of work area, tools and

Control wort boiling, clarification and cooling in brewing

Developed by Improve

Version Number 2

Date Approved 01 Jan 2019

Indicative Review Date 01 Jan 2024

Validity Current

Status Original

Originating Organisation Improve

Original URN imppo208 (skill), impbw103k

Relevant Occupations Food Preparation Trades, Manufacturing Technologies, Plant and Machine Operatives, Process Operatives, Process, Plant and Machine Operatives

Suite Brewing

Keywords Food; Drink; Manufacturing; Brewing; Wort; Hops; Coagulation; Precipitation; Boiling
