

Principles of the refrigeration cycle in food technology

Overview

This standard is about the principles of the refrigeration cycle in food technology.

This standard is for you if you require a broad understanding of the technology of the refrigeration cycle. You need to understand how refrigerants work and the how the component parts of the cycle function.

Performance criteria

You must be able to:

See

IMPPO210S Control temperature reduction in food manufacture

Principles of the refrigeration cycle in food technology

Knowledge and understanding

You need to know and understand:

- 1 the definition and purpose of refrigeration
- 2 the definition and purpose of a refrigerant
- 3 the purpose of the refrigeration process
- 4 how liquid refrigerant takes up heat in an evaporator, from the food to be cooled
- 5 how refrigerant vapour is compressed and condensed into a liquid
- 6 the purpose of the expansion valve in the circulation of refrigerant
- 7 what the purpose of the refrigerant reservoir is
- 8 what substances are used as refrigerants
- 9 what the advantages and disadvantages of different types of refrigerants are
- 10 what the energy, sustainability and environmental concerns are in the use, maintenance and disposal of refrigeration equipment
- 11 what the safety precautions are in using and working with refrigerants
- 12 what the term 'latent heat of evaporation' means
- 13 why latent heat of evaporation is important in the refrigeration cycle
- 14 why refrigerants need to have a high latent heat capacity

Principles of the refrigeration cycle in food technology

Developed by	Improve
Version Number	2
Date Approved	November 2015
Indicative Review Date	September 2019
Validity	Current
Status	Original
Originating Organisation	Improve
Original URN	IMPFT122K
Relevant Occupations	Manufacturing technologies
Suite	Food Technology
Keywords	Food; Refrigeration; Temperature; Refrigerant; Evaporation,