

## CONTENTS

### PREFACE

#### **SECTION I:** Refrigeration and Refrigerants

1. Principles of Refrigeration	1
2. Refrigerants and Refrigerant Characteristics	20
3. Atmospheric Air	42
4. Energy Conservation	51

#### **SECTION II:** Warehouse Construction and Equipment

5. Small and Intermediate Sized Cold Storage	57
6. Large and Intermediate Cold Storage Facilities	66
7. Underground Cooler and Freezer Storage	79
8. Insulation For Cold Storage Installations	88
9. The Insulation of Freezer and Cooler Warehouse Floors	102
10. Machine and System Selection for Small and Intermediate Storages	114
11. Machinery and System Selection – Large Cold Storage	130
12. Systems	160
13. Control Components and Measuring Elements	169
14. Refrigeration Control Systems	184
15. Defrost Methods for Cooler and Freezer Coils	196
16. Operation and Maintenance of Cold Storage Warehouses	205
17. Record Maintenance in Cold and Freezer Warehouses	213
18. Lighting and Electrical Facilities and Prime Movers	220

#### **SECTION III:** Warehouse and Freezer Management and Use

19. The Rise and Expansion of the Refrigerated Food Industry	241
20. Meat, Poultry and Fish Cold Storage and Freezer Storage Rooms	253
21. Commodity Storage Requirements	260
22. Tree Nut and Peanut Cold and Freezer Storage	285
23. Specialized Storage and Process Rooms	298
24. Safety of Workmen and Safe Refrigeration Plants	305

#### **Appendix I** Definitions of Terms Commonly Used in

Refrigeration and Cold Storage Operations	315
---	-----

<b>Appendix II</b> Useful Conversion Factors	349
--	-----

INDEX	353
-------	-----