

**A COMPARISON
BETWEEN THE
2000 UNIFORM
MECHANICAL CODE™
AND THE
2000 INTERNATIONAL
MECHANICAL CODE™**



®

**Copyright © 2000
International Association of Plumbing and Mechanical Officials
20001 Walnut Drive South
Walnut, CA 91789-2825**

All rights reserved. No part of this book may be reproduced or recorded in any form or by any means, except as may be expressly permitted in writing by the publisher.

Preface

This document is an attempt to highlight the differences between the 2000 editions of the Uniform Mechanical Code (UMC) published by the International Association of the Plumbing and Mechanical Officials (IAPMO) and the International Mechanical Code published by the International Code Council. It consists of an executive summary followed by a chapter by chapter cross-reference. Each chapter also has a brief summary. When there are differences, comments are included in the analysis column. This study is provided for the benefit of those entities contemplating the issue of mechanical code adoption. IAPMO welcomes your comments and observations on this document. For additional copies please contact IAPMO at 909-595-8449 x149.

DIFFERENCES BETWEEN THE 2000 UMC AND THE 2000 IMC

Executive Summary

Background:

Until 1991 the Uniform Mechanical Code (UMC) was cosponsored by the International Association of Plumbing and Mechanical Officials (IAPMO) and the International Conference of Building Officials (ICBO) with each organization owning the copyright to the document. That situation changed in 1994, and again in 1997, when each of the two model code bodies published a separate UMC. Currently only IAPMO publishes a 2000 edition of the UMC with ICBO discontinuing publication of their Uniform Codes set. The 1994 versions of the UMC were similar but that was not the case in the 1997 editions of the document. Chapters 3, 4, and 11 of the ICBO UMC were rewritten in their entirety. At that point the documents had diverged. That trend has continued with the 2000 International Mechanical Code (IMC). The 2000 UMC is significantly different from the 2000 IMC in style, philosophy and technical content. The IMC is a publication of the International Code Council (ICC) and sponsored by ICBO.

Technical Content:

Some of the significant technical differences between the 2000 UMC and the 2000 IMC are outlined below:

1. Unvented Room Heaters: The IMC allows for the use of unvented room heaters by reference to the International Fuel Gas Code (IFGC) in Section 301.3. Unvented fuel burning room heaters are specifically prohibited under Section 916.3 of the 2000 UMC
2. LPG Facilities are prohibited in pits or basements and other specific locations by Section 1313.5. The 2000 IMC or the 2000 IFGC do not contain any such restriction.
3. Unlisted Equipment: Table 3-1 provides for clearances for different types of unlisted appliances. There is no equivalent table in the IMC.
4. Referenced Standards: Appendix A contains 7 UMC standards. These standards based on nationally recognized standards are reproduced in their entirety in the UMC. The IMC does not have any standards in it and only mentions them by reference.
5. Fuel Gas provisions: Chapter 13 of the UMC by reference to Appendix B contains these provisions. The IMC refers you to a different document; i.e. the International Fuel Gas Code for these provisions.

6. Text from other codes: The IMC reproduces text from other codes. As an example refer to Section 513 for Smoke Control systems. The UMC does not use this approach. This factor needs to be considered when jurisdictions are considering adopting one document over another.
7. Commercial Cooking Equipment (Chapter 5): There are significant differences between the two codes in this area. The requirements for duct enclosures for Type I Hoods are different; clearances are different with the UMC being more restrictive. The cleanout requirements are different as well.
8. Refrigeration (Chapter 11): Table 1103.1 on the IMC is different from Table 11-1 of the UMC. The refrigerant list in the IMC is more in keeping with ASHRAE 34. There is no comparable table in the IMC for Table 11-2 in the UMC. Part II of Chapter 11 deals with cooling towers; there is no equivalent provision in the IMC. Additionally, Section 1101.8 requires prior approval from the Administrative Authority for change of refrigerant. The UMC has no similar provision.

Conclusion:

As indicated above there are several major differences between the 2000 UMC and the 2000 IMC. Those code users currently using the 1997 UMC (either one) will find it a relatively smooth transition to the 2000 UMC in comparison to adopting the IMC. It is clear from comparing the size of the two books that the UMC 2000 is significantly more prescriptive in its approach, a philosophy that been utilized in the development of the Uniform codes. This philosophy is evident in the fact that the 2000 UMC reproduces important standards in the code for ease of use while the IMC only references them. Jurisdictions considering adoption of one or the other document need to examine these differences and consider their impact on the health and safety of the communities that they serve.

Chapter 1

2000 UMC	2000 IMC	Analysis
101.0 Title	101.1 Title	IMC refers to ICC Fuel Gas Code for fuel gas provisions.
102.0 Purpose 103.0 Scope	101.2 Scope	
104 Application to Existing Mech. Provisions	102 Applicability	Similar language except IMC has a section dealing with referenced standards.
105.0 Alternate Materials and Methods of Const.	105.2 Alt. Materials	UMC language more detailed on this issue.
106.0 Modification	105.1 Modification	Almost identical.
107.0 Tests	107.2 Testing	
Part II 108.0 Powers and Duties of the Admin. Authority	104.1 Duties and Powers of the Code Official	UMC uses 'Admin Authority'; IMC uses 'Code Official'. UMC more detailed in this area.
110.0 Board of Appeals	109 Means of Appeal	IMC spells out the makeup of the Board of Appeal UMC does not.
Part III 112.0 Permits	106 Permits	Exempt work similar.
113.2 Plans and Specifications	106.3.1 Construction Documents	
114.1 Permit Issuance	106.4 Permit Issuance	
115 .0 Fees	106.5 Fees	UMC has Table 1-1 at the end of the chapter; IMC has a permit fees table in the appendix. UMC fee table is broken down in greater detail than the IMC appendix.
116.0 Inspections	107 Inspections and Testing	Similar.

Chapter 1 (Continued)

Summary:

The major difference is that the IMC creates a department of mechanical inspections while the UMC does not specifically require it. The members of the Appeals Board are spelled out as far as qualifications in the IMC but not in the UMC. All aspects of the administrative process for a mechanical code are covered in both documents though the UMC is more prescriptive.

Chapter 2

2000 UMC	2000 IMC	Analysis
201.0 General	201.1 Scope 201.2 Interchangeability	
202.0 Accepted meanings		No specific reference to a dictionary found in the IMC.
203.0 (A thru Z) Definitions	Section 202 Definitions	Definitions in the two documents are varied. Even for the same terms, the definitions are not always identical. The UPC is generic in its building code reference and, therefore, can be used with any building code.

Summary:

The definitions in the two documents have similarities as well as significant differences. There are several terms defined in the UMC 2000 that are not defined at all in the IMC 2000. Examples would be Assembly Building, Cooling Unit/System, Heating degree-day, and Vented Appliance categories among others.

The UMC makes reference to a generic building in the definitions so as to be used with a building code adopted by the jurisdictions. For words not defined at all the UMC refers the user to a specific dictionary.

Chapter 3

2000 UMC	2000 IMC	Analysis
301.0 Scope	301.1 Scope	301.4 /301.5 Similar except the UMC has additional language on BTU ratings at altitude. Though both sections have the title, the provisions in each are different. Some of the material in this section of the IMC is covered.
302.0 Approval		Not covered in this chapter.
303.0 Type of Fuel and Fuel Connections	No comparable provision.	
304.0 Installation	304.0 Installation	
305.0 Access	306 Access and Service Space	The IMC is a combination of UMC 304 and 305. The requirements for clearances are not identical.
306.0 Automatic Control Devices	No such provision in this chapter.	
307.0 Labeling	301.4 Listed and Labeled	The approach to the topic is different. The UMC deals with the marking issue while the IMC goes into the specifics of the listing process.
308.0 Location	304.3 Elevation of Ignition Sources	Similar provisions.
309.0 Electrical Connections	301.7 Electrical	IMC refers to the ICC Electrical Code for all electrical provisions while the UMC spells out the provisions for mechanical equipment.
310.0 Condensate Wastes and Control	307 Condensate Disposal	Provisions are similar except the UMC has a table to size condensate piping based on equipment capacity and specific atmospheric conditions.
311.0 Personnel Protection	304.9 Guards	
312 Air Filters	No comparable provision.	

Chapter 3 (Continued)

2000 UMC	2000 IMC	Analysis
Table 3-1	No comparable table.	
Table 3-2	Table 308.6	Similar though not identical.
Table 3-3 Table 3-4 Table 3-5	No similar tables.	

Summary:

There are some significant differences between the two chapters. The IMC chapter does not contain tables needed to clearances for unlisted appliances. The IMC defers to the listing of the equipment for information pertaining to installations.

UMC has sizing tables for condensate piping while IMC does not. The IMC refers to the ICC electrical code for all electrical provisions while they are spelled out in the UMC 2000.

Chapter 4

2000 UMC	2000 IMC	Analysis
401.0 General	401 General	The scopes of the two chapters are very different. Chapter 4 of the UMC deals with ventilation requirements of direct gas-fired heaters by reference. It has the requirements for evaporative coolers.
402.0 Makeup Air	No comparable provision.	
403.0 Evaporative Cooling Systems	No comparable provision.	
404.0 Location	No comparable provision.	
405.0 Access Inspection and Repair	No comparable provision.	
406.0 Installation	No comparable provision.	

Summary:

Chapter 4 of the UMC 2000 is a brief chapter dealing mainly with evaporative coolers. Chapter 4 of the IMC 200 deals extensively with the issue of ventilation. Some of the issues in the IMC are mechanical ventilation, requirements for outdoor ventilation for different occupancies, ventilation for parking garages. The UMC defers to the building code on many of these issues.

Chapter 5

2000 UMC	2000 IMC	Analysis
501.0 Scope	401.1 Scope	The UMC chapter is divided into two parts with Part I dealing with Environmental Air ducts/product conveying ducts and Part II dealing with commercial hoods and kitchen ventilation. The IMC is laid out differently and has significant portions from the ICC Fire Code and ICC Building Code reproduced in this chapter.
502.0 Definitions	No comparable provision.	
503.0 Motors, Fan and Filters	503 Motors and Fans	Air filter requirements only found in UMC.
504.0 Environmental Air Ducts	508 Commercial Kitchen Makeup Air 504 Clothes Dryer Exhaust Ducts	Maximum length limitation for clothes dryer exhaust is 14 ft under the UMC and 25 feet. IMC allows use of manufacturer installation instructions to reduce this length. UMC does not. Both reduce distance for use of elbows though not identical.
504.3.3 Commercial Clothes Dryers	504.7 Commercial Clothes dryers	Both sections are similar in that they refer to the listing requirements. The UMC refers to manufacturer's installation for ducts while the IMC has specific duct installation provisions.

Chapter 5 (Continued)

2000 UMC	2000 IMC	Analysis
504.5 Termination of Environmental Air Ducts	502.6.3.6 Termination Point	IMC deals with both product conveying and environmental duct termination in this section.
505.0 Design of Product Conveying Ventilation Systems	502 Required Systems	The approach to this subject is different within the two documents. The UMC has the provisions in the chapter while the IMC reproduces whole sections of the ICC Fire Code.
Table 501 Minimum Conveying Velocities	No comparable table.	
506.0 Product Conveying Ducts	511 Dust, Stock and Refuse Conveying Systems	Some of the material covered is the same though they are by no means identical. 506.9 and 511.2 IMC are almost identical.
Part II- Commercial Hoods and Kitchen Ventilation	507 Commercial Kitchen Hoods	
507.0 Definitions	No comparable section.	
508.0 Kitchen Ventilation Systems	507 Commercial Kitchen Hoods	Requirements for the joints and seams for hoods are different The UMC requires all joints and seams to welded or brazed where the IMC provides exceptions under Sec. 507.1.1.
508.2 Prevention of Grease Accumulation	506.3.8 Prevention of Grease Accumulation	The sections are identical except that the UMC has additional language specific to using a centrifugal fan with a bottom horizontal discharge.

Chapter 5 (Continued)

2000 UMC	2000 IMC	Analysis
508.3 Cleanouts and Other Openings	506.3.9 Cleanouts and Other Openings	Identical except for reference to listed door assemblies in the IMC.
508.4 Duct Enclosure	506.3.11 Duct Enclosure	<p>There are major differences. UMC requires a one-hour duct enclosure for a Type I hood. IMC provides for exceptions to this rule.</p> <p>Minimum clearances from the duct to the enclosure are 3" in the UMC and 6" for the IMC.</p>
508.6 Air Velocity	No similar provision.	
508.8 Clearances	No similar provision.	<p>The UMC calls for specific clearance of eighteen inches from combustible construction for a duct for a Type I hood. IMC has no similar provision.</p>
508.9 Exhaust Outlets	506.3.13 Type I Exhaust Outlets	<p>Similar with two differences. Vertical distance above the roof surface is 2 ft. for the UMC and 40 inches for the IMC.</p> <p>Also IMC specifies a minimum horizontal distance from vertical discharge fan and a parapet. UMC does not have a similar provision.</p>
508.10 Fuel Burning Appliances	507.3 Fuel Burning Appliances	Identical.
509.0 Hoods	507 Commercial Kitchen Hoods	

Chapter 5 (Continued)

2000 UMC	2000 IMC	Analysis
509.1 Where Required	507.2 Where Required	Similar in scope except UMC spells out different types of appliances for which a hood is required
509.2 Materials and Installation	507.4 Type I Materials 507.5 Type II Materials	Type II Hoods: 24 gauge UMC 22 gauge IMC.
509.4 Clearances for a Type I Hood	507.9 Clearances for a Type I Hood	UMC is more restrictive. Allows for a 3-inch clearance if combustibles are protected by one hr. fire resistive material. Under IMC, clearance is not required under similar conditions
509.5 Grease Filters	509.5 Grease Filters	Identical except for minimum distance between lowest edge of filter and cooking surface without exposed flame is 2 ft. under the UMC and 0.5 ft. under the IMC.
509.7 Capacity of Hoods	507.13 Capacity of Hoods	Identical.
509.9 Make-up Air	508 Commercial Kitchen Makeup Air	Similar with the following differences:
509.10 Exhaust Outlets	507.16 Exhaust Outlets	Similar except UMC has an exception for listed exhaust hoods.
509.11 Performance Tests	507.17 Performance Tests	Identical.
510.0 Motors Fans and Safety Devices	No comparable provisions.	Major difference; IMC refers to the IBC and IFC. UMC has provisions describing the type of fire protection needed.

Summary:

There are significant differences between the two chapters. The UMC requires a duct enclosure for Type I Hoods while this is not the case with IMC which provides for exceptions. The clearances from ducts serving Type I Hoods are also different. The clothes dryer length provisions are different.

Chapter 6

2000 UMC	2000 IMC	Analysis
Scope 601.0	Scope 601.0	The scope of the two documents is slightly different. Some of the material covered is the same but the UMC has Tables 6-1 thru 6-8 dealing with ducts. The IMC does not have similar tables.
602.1 General	602.1 General	UMC section deals with a reference to tables and prohibition on the use of rated corridors for conveying air to and from rooms. This subject is covered in Section 601.2 IMC. IMC is less restrictive.
602.2 Combustibles within Ducts or Plenums	602.2.1 Materials Exposed within Plenums	Provisions are similar. UMC has one or two more exceptions. IMC specifically mentions requirements for pneumatic tubing.
602.3 Factory-Made Air-Ducts	603 Duct Construction and Installation	There are significant differences in which duct construction is handled within the two chapters. The UMC is very prescriptive giving specifics about joints, seams and installation. References are made to UMC 6-1, 6-2, and 6-3 that are found in the code. The IMC simply references SMACNA standards.

Chapter 6 (Continued)

2000 UMC	2000 IMC	Analysis
605.0 Insulation	604 Insulation	The IMC refers the user to the ICC energy code. The UMC refers to Table 6-4 for minimum R-values.
606.0 Smoke Dampers Fire Dampers and Ceiling Dampers	607 Ducts and Air Transfer Openings	The IMC reproduces this section from the ICC Building Code with the building code regulating these provisions. The UMC only the requirement for dampers while IMC deals with other issues as well.
607.0 Ventilating Ceilings	No similar provision.	
608.0 Use of Under- Floor Space as Supply Plenum	No similar provision.	
610.0 Product- Conveying Ducts	511 Dust Stock and Refuse Conveying Systems	
Table 6-1 thru Table 6-7	No comparable tables.	

Summary:

There are similarities in some of the provisions of the two chapters. However, the UMC does not allow air to be conveyed between rated corridors and adjoining rooms. The IMC refers the reader to the ICC Building Code on this issue. UMC refers to the UMC standard 6-2 for duct construction that is printed in the code. IMC reproduces text from the ICC Building pertaining to smoke control. Tables 6 -1, 6-2 and 6- 3 deal with duct details. IMC has no similar tables.

Chapter 7

2000 UMC	2000 IMC	Analysis
701.1 Air Supply	701.1 Scope 701.2 Combustion and Dilution Air Required	UMC does not use the term “ dilution “ air. Also for buildings of ordinary tightness, UMC requires 50 cu. ft. per 1000 BTU appliance rating for combustion air allowance. This is handled in the IMC through the definition of unconfined space.
701.2 Existing Buildings	No comparable provision.	
702.0 Combustion Air Openings	702 Inside Air 703 Outdoor Air	
702.2 Dampers Prohibited	709.2 Damper Openings	UMC requires prior approval.
702.3 Louvers Grills and Screens	No comparable provision.	
703.0 Sources of Combustion Air		This subject matter is scattered throughout the IMC chapter.
703.3 Prohibited Sources	701.5 Prohibited Sources	
703.4 Interior Space	702 Inside Air	Similar
704.0 Combustion Air Ducts	708 Combustion Air Ducts	Similar
705.0 Gravity type Warm Air Furnace	No similar language.	
706.0 Special Conditions Created by Mechanical Exhausts or Fireplaces		Similar , though no specific reference to mechanical exhausts
707.0 Area of Combustion Air Openings		The UMC refers to Table 7-1. The IMC has no such table. The size of combustion openings must be gleaned from code text. This is a significant difference in the

Chapter 7 (Continued)

2000 UMC	2000 IMC	Analysis
		manner. The information is presented in the two chapters.
707.2 Designed Installations		There is no specific provision for alternate design for combustion air in the IMC.

Summary:

The subject matter covered in Chapter 7 of each book is fairly similar. The difference arises in how the information is presented. As an example, Table 7-1 provides you with required combustion air requirements broken down into buildings of ordinary tightness and those of unusually tight construction. This information is contained within the IMC chapter but not in tabular form. The UMC tends to be a little more prescriptive in some areas than the IMC.

Chapter 8

2000 UMC	2000 IMC	Analysis
801.0 General	801.1 Scope 801.2 General	IMC refers to ICC Fuel Gas for Venting of gas fired appliances. Though there are some similarities, they are mostly different with the IMC getting into specifics. UMC mentions Category I through IV appliances.
802.0 Types of Venting Systems Required		802.4 UMC and 801.11 IMC are similar. Other than that, no comparable provisions in IMC.
803.0 Install and Const Rqmts	802.1 General 801.8 Abandoned Openings 803.5 Manual Dampers	Similar elements found scattered in the IMC chapter.
804.0 Location and Support of Venting Systems	802.7 Support of Vents	UMC more prescriptive.
805.0 Length Pitch and Clearances	No comparable provision.	
806.0 Vent Termination	804	Different requirements; UMC has Table 8-1. No similar table in IMC. IMC has requirements for horizontal terminations.
807.0 Vents for Wall Furnaces Requiring a Type BW Gas Vent	No similar provision.	
808.0 Size of Gravity System	No similar provision.	
809.0 Multiple Appliance Venting Systems	803.7 Connectors Serving Two or More Appliances	The UMC provides some level of detail on this issue.
810.0 Existing Systems	801.18 Existing Chimneys and Vents	

Chapter 8 (Continued)

2000 UMC	2000 IMC	Analysis
811.0 Draft Hoods	No similar provision.	
812.0 Types of Chimneys	805 Factory Built Chimneys	UMC requires spark arrestor for solid/liquid fuel appl. unless excepted. No such requirement in IMC.
813.0 Masonry Chimneys	No comparable provisions.	
815.0 Connectors 815.2 Chimney Connector 815.3 Vent Connector	803 Connectors	Significant difference; UMC provisions are extremely prescriptive in this area. UMC breaks it down into chimney connectors and vent connectors.
Table 8-2 Chimney Selection Chart	No comparable table.	
Table 8-3 Vent Selection Chart	No comparable table.	
Table 8-4 Vent Selection Chart	No comparable table.	
Table 8-5 Clearances to Combustibles	No comparable table.	

Summary:

There are significant differences in the provisions for chimneys and vents between the UMC and the IMC. The UMC chapter is highly detailed and has three tables at the end of the chapter. By contrast, the IMC chapter refers to the listing or the standard. For fuel gas provisions, IMC refers user to the ICC Fuel Gas Code.

Chapter 9

2000 UMC	2000 IMC	Analysis
901.0 Scope	901.0 Scope	UMC scope is different from IMC. IMC refers to ICC Fuel Gas Code. UMC section specifically refers to warm air heating systems, vented decorative appliances, floor furnaces, unit heaters and room heaters.
Part I-Warm-Air Heating Systems		No comparable provision in IMC.
904.0 Prohibited Installations	303 Equipment and Appliance Location 306 Access and Service Space	Similar - not identical. UMC more prescriptive.
906.0 Return and Outside Air	918 Forced-Air Warm Air Furnace	These are similar with some differences. Section 906.2, which calls for a separation only, appears in the UMC chapter.
907.1 Duct Size		Same as in 918 IMC.
907.2 Surgical Rooms		No comparable provision in IMC.
908.0 Attic Furnaces		No comparable provision.
909.0 Warm Air		No comparable provision.
910 Furnaces in Roofs or Exterior of Buildings		No comparable provision.
Part II Vented Decorative Appliances, Floor Furnaces, Vented Wall Furnaces, Unit Heaters and Room Heaters		Unvented fuel burning heaters are prohibited by the UMC and allowed by the IMC. This is a significant difference.
914.0 Vented Wall Furnace		IMC refers code user to listing.
915.0 Unit Heaters		
916.0 Room Heaters		

Chapter 9 (Continued)

2000 UMC	2000 IMC	Analysis
Part III 917.0 Ranges 918.0 Open top Broiler 919.0 Direct Gas-Fired Make-up Heaters and Industrial Air Heaters		
920.0 Ceramic Kilns	923 Small Ceramic Kilns	UMC details clearances, hood requirements and exterior installations. IMC refers to manufacturer's instructions.
Part IV Incinerators	907 Incinerators and Crematories	IMC refers to the listing while UMC is extremely descriptive providing detailed provisions.

Summary:

Though the titles of the two chapters are the same, the content is hardly the same. In most instances, in the IMC chapter the standard for the equipment is referenced without any further details. The UMC has additional prescriptive provisions. This is true for floor furnaces, vented wall furnaces, unit heaters and room heaters. The UMC prohibits the use of unvented heaters. The IMC allows them.

UMC contains clearances for cooking ranges and requirements for open top broiler units. The IMC relies on this information coming from the listing and the manufacturer's instructions.

Chapter 10

2000 UMC	2000 IMC	Analysis
1001.1 Scope	1002.0 Scope	Similar except UMC specifically excludes water heaters under 120 gallons and less than 200,000 BTU rating from this chapter.
1004.0 Definitions	No comparable provision.	
1006.0 Detailed Requirements	1003 Pressure Vessels	UMC sections deals with boilers and pressure vessels. UMC provides detail on stack dampers.
1007. Expansion Tanks	1009 Hot Water Boiler Expansion Tank	Similar. Provisions for open and closed type systems are different.
1008.0 Relief Valve Discharge	1006.6 Safety and Relief Valve Discharge	UMC section more detailed. IMC refers to ICC Plumbing Code for low-pressure systems.
1009.0 Shutoff Valves	No similar provision.	
1010.0 Gas Pressure Regulator	No similar provision.	
1011 Low Water Cutoff	1007 Boiler Low Water Cutoff	UMC section more detailed and allows for an exception when serving 6 or less dwelling units.
1012.0 Combustion Regulators-safety valves	No comparable section.	
1013 Automatic Boilers	No comparable provision.	No comparable table for Table 10-3 in the IMC.
1014 Clearance for Access	No comparable provision.	
1015 Boiler Rooms and Enclosures		
1015 Boiler Rooms and Enclosures		

Chapter 10 (Continued)

2000 UMC	2000 IMC	Analysis
1017.0 Floors		
1018 Chimney and Vents	No comparable provision.	
1019.0 Drainage		
1020.0 Fuel Piping		
1022.0 Operating Adjustments and Instruction		
1023.0 Inspections and Tests		<p>UMC requires a warning notice before testing is completed. UMC also allows a registered professional engineer to do the testing. IMC simply refers you to the standard.</p>
1024 Operating Permit	No comparable provision.	
1025 Maintenance Inspection	No comparable provision.	
1026.0 Operation and Maintenance of Boilers	No comparable provision.	

Summary:

The two chapters are similar. However the UMC contains a definitions section. UMC has Tables 10-1, 10-2, and 10-3 dealing with expansion tank capabilities and controls for automatic boilers. The IMC has no comparable tables. The UMC has additional provisions dealing with maintenance and operation of boilers.

Chapter 11

2000 UMC	2000 IMC	Analysis
1101.0 Scope	1101 General	UMC has two parts Part I deals with refrigeration systems, etc. Part II is Cooling Towers. The IMC chapter is formatted differently using standard references.
1102.0 Refrigerants	1102.1 General Systems Requirements	
1103 Refrigerant Classification	1103.1 Refrigerant Classification	Both refer to ASHRAE 34; IMC in the code, UMC in Chapter 16.
1104.0 Classification of Refrigeration Systems	1103.2 Occupancy Classification	Significant differences UMC classifies in table 11-2 into high and low probability systems.
1105.0 Requirements for Refrigerant and Refrigerant Use		No comparable provision.
1105.1 System Selection		No comparable provision.
1105.2 Volume of Occupied Space	1102.1/3 IMC	UMC refers to 11-1 IMC to Table 1103.1 (governed by the ICC Fire Code) UMC has 2 exceptions.
1105.3 Refrigerated Process and storage Areas	1104.2.2 Industrial Occ. and Refrig. Rooms	
1105.4 Refrigerant Purity	1102.2.2 Purity	Similar.
1106.2 Supports and Anchorage	No comparable provision.	
1106.3 Access through Condensate Disposal	No comparable provisions.	
1107.0 Refrigeration Machinery Rooms	1105 Machinery Room General Rqmts.	UMC is specific within code text as to when a refrigeration machinery room is required. The requirements are different.

Chapter 11 (Continued)

2000 UMC	2000 IMC	Analysis
1107.2 Dimensions	No comparable provisions.	
1107.4 Refrigeration Vapor Alarms	1105.3 Refrig. Detector (governed by ICC Fire Code)	UMC has the provisions in the code; IMC refers user to ICC Fire Code.
1107.7 Special Requirements	1106.2 Elevated Temp	Similar though UMC has two exceptions.
1108.0 Refrigeration Mach. Rm. Ventilation	1105.6.3 Qty-Normal Ventilation	Some of provisions are similar but UMC provides additional formulae to calculate minimum airflows and max. temp. increases.
1108.3 Distribution of Ventilation 1108.4 Intermittent Control of the Ventilation System 1108.5 Emergency Control of the Ventilation Systems 1108.6 Central Control of Ventilation Systems 1108.7 Vent Discharge 1108.8 Fans 1108.9 Ventl. Intake		No comparable provisions in this chapter of the IMC.
1109. 0 Refrigeration Machinery Room Equipment and Controls		No comparable provisions.
1110.0 Refrigerant Piping Containers Valves		UMC divides into ferrous and non-ferrous materials IMC deals with type of piping material individually. UMC does not mention aluminum.

Chapter 11 (Continued)

2000 UMC	2000 IMC	Analysis
1111.0 Erection of Refrigerant Piping 1112.0 Refrigerant Control Valves 1113.0 Pressure Limiting Devices 1114.0 Pressure Relief Devices 1115 Pressure Relief Device Settings 1116.0 Marking of Pressure Relief Devices 1117.0 Over Pressure Protection 1118.0 Discharge Piping 1119.0 Special Discharge Requirements		There are no provisions that directly compare in IMC.
Table 11-1	Table 1103.1	Tables are different. IMC has an expanded list based on ASHRAE 34.
Table 11-2 Table 11-3	No similar tables.	
Part II-Cooling Towers	No comparable provisions in IMC.	

Summary:

There are several differences in the chapter. In size alone, the UMC chapter is about double the size of the IMC chapter. The reason being that the UMC in keeping with its philosophy has several prescriptive provisions so as to allow the user to have all the information needed in the chapter. The IMC refers to both the ICC Building and Fire Code extensively and defers to standards for requirements such as refrigerant control valves. Table 11-1 and Table 1103.1 are the not same-the IMC refrigerant list being longer. The IMC chapter requires access to several other documents.

Chapter 12

2000 UMC	2000 IMC	Analysis
1201.0 Scope	1201.1 Scope	UMC specifies scope as piping where pressure /temperature in excess of 160 psig and 250°F.
1201.2.1 Materials and Construction	1202 Material	UMC is more prescriptive in this section specifying permissible materials in code text. IMC has materials and standards in tabular form. IMC allows PEX,PEX-AL-PEX. No specific mention in UMC of these materials.
1201.2.2 Fabrication of Joints	1203 Joints and Connections	Similar though UMC provides additional information. Joints for plastic piping in IMC.
1201.2.4 Changes in Direction	No comparable provision.	
1201.2.6 Hangers and Supports	No comparable provision.	
1201.2.7 Installation	No comparable provision.	
1201.2.8 Pressure Testing	1208 Tests	Similar requirements except IMC contains requirements for ground source heat pump loop systems.
Part II- Hydronic Panels	No comparable provision.	There are multiple sections in the UMC dealing with the installation of hydronic piping, including requirements for underground and outside of buildings and trenching.

Chapter 12 (Continued)

Summary:

The material in both chapters is presented differently. The IMC allows for the use of more kinds of plastic for hydronic systems. Hydronic panels are included in the UMC. Overall the UMC chapter is more detailed. The differing philosophies in the formulation of codes are reflected in this chapter.

Chapter 13

Summary:

Chapter 13 of the 2000 UMC refers the user to Appendix B, Chapter 13 of the 2000 UMC where fuel gas provisions (reproduced from the 2000 Uniform Plumbing Code) can be found. The IMC references the ICC Fuel Gas Code, a separate document.

Chapter 14

Summary:

Chapter 14 of the 2000 UMC is process piping. There is no equivalent chapter in the 2000 IMC.

Chapter 15

Summary:

This chapter references Section 1206.0 Heat Sources of the 2000 UMC and the Uniform Solar Energy Code. IMC has a short chapter containing solar provisions.

Chapter 16

Summary:

UMC 2000 has two parts. Part I has standards adopted as part of the code (8 in all). Part II lists other referenced standards that are listed alphabetically by title. IMC 2000 in its chapter lists standards by promulgating agency.

Appendices

Summary:

The UMC 2000 has Appendix A, B, C and D. Appendix A contains 8 standards. Appendix B contains Fuel Gas Piping, Installation and Testing of Gas or Fuel Fired Equipment, Installation and testing of Oil (liquid) Fuel Fired Equipment. Appendix C has sizing tables for venting systems. IMC has 2 appendices - one for combustion air openings and one for chimney connector pass throughs.