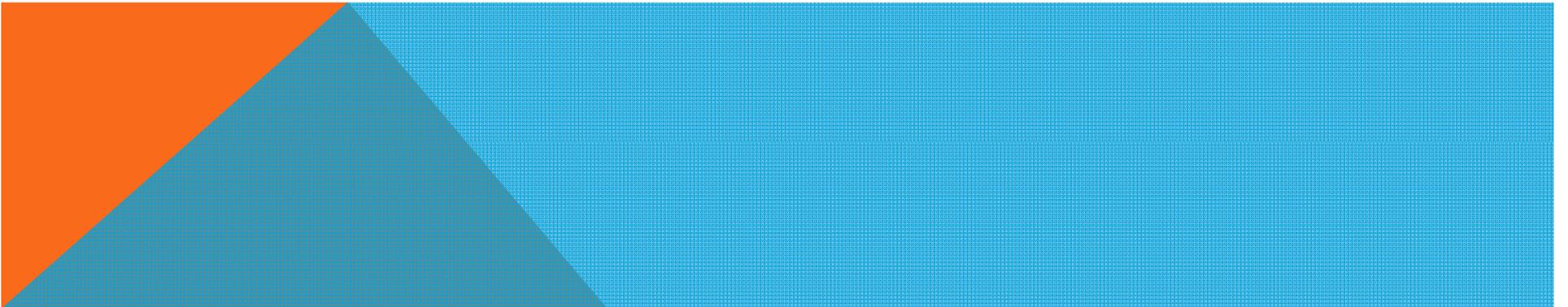


CHAPTER 6
2009 INTERNATIONAL ENERGY
CONSERVATION CODE

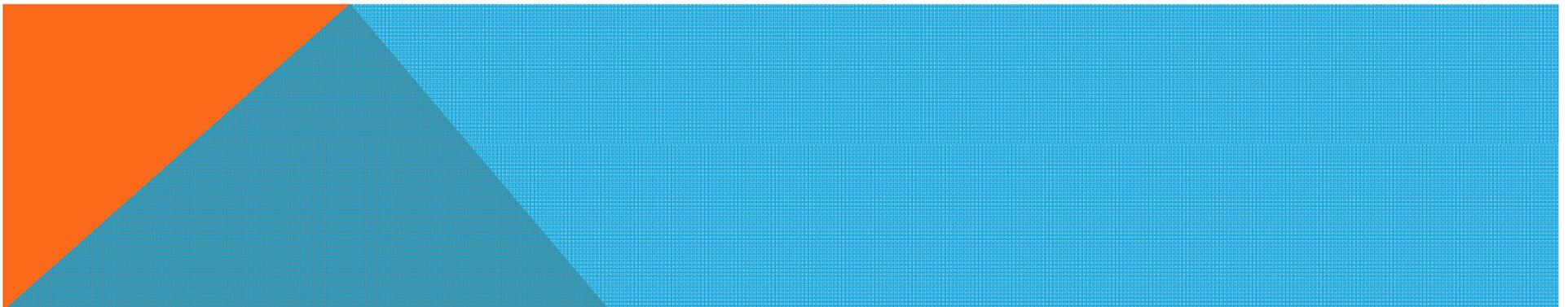
CONSERVATION VIDEO

<http://www.youtube.com/watch?v=KlG0xk93J-E>



2009 INTERNATIONAL ENERGY CONSERVATION CODE

This code took effect on Monday, October 10th 2011. It covers both residential and commercial building. For the purpose of this code residential building are all building classified as R-3 or R-2 and R-4 buildings of three stories or less. Commercial building are defined as all other types. The intent of the code is to establish regulations in the design and construction of buildings for energy conservation. This code does not require any retro fitting of existing buildings but has requirements as to new work.



2009 INTERNATIONAL ENERGY CONSERVATION CODE

The code contains six chapters .

Chapter 1 Administration

Chapter 2 Definitions

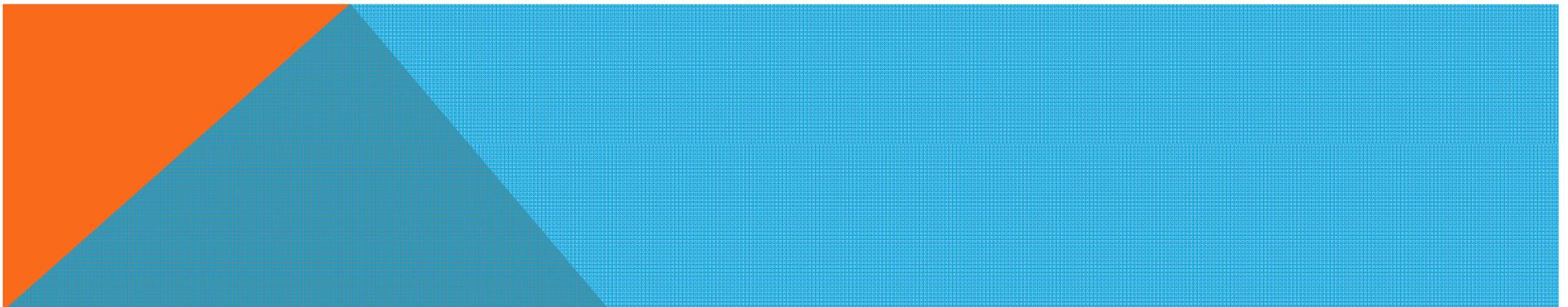
Chapter 3 General Requirements

Chapter 4 Residential Energy Efficiency

Chapter 5 Commercial Energy Efficiency

Chapter 6 Referenced Standards

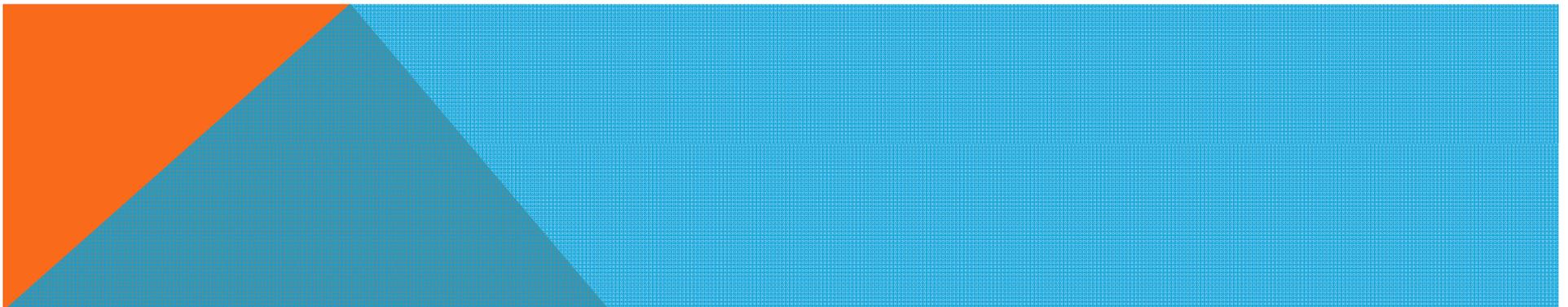
There is also an index section



CHAPTER 1 ADMINISTRATION

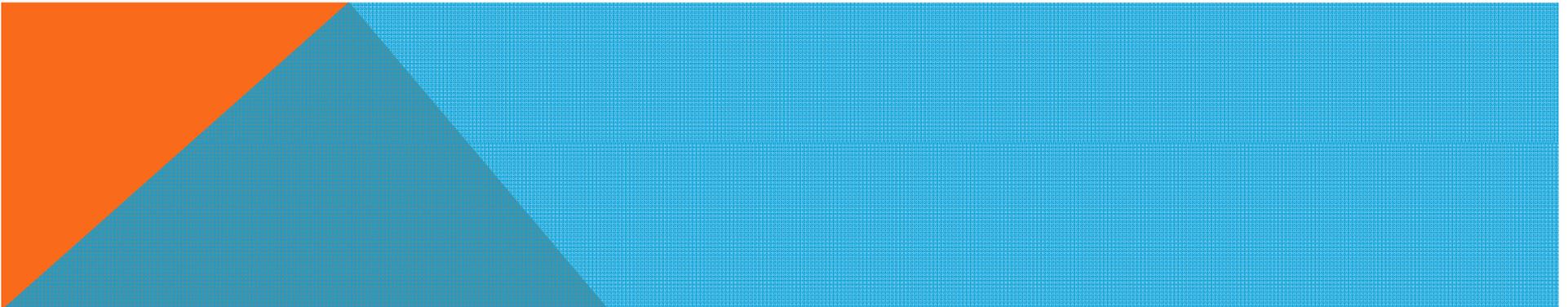
The administration chapter is the basically the same as you would find in the International Plumbing Code. It covers such things as ...

- Scope
- Alternate Materials-Methods of Construction, Design or Insulating Systems
- Construction Documents
- Inspections
- Validity
- Referenced Standards
- Fees
- Stop Work Order
- Board of Appeals



CHAPTER 2 DEFINITIONS

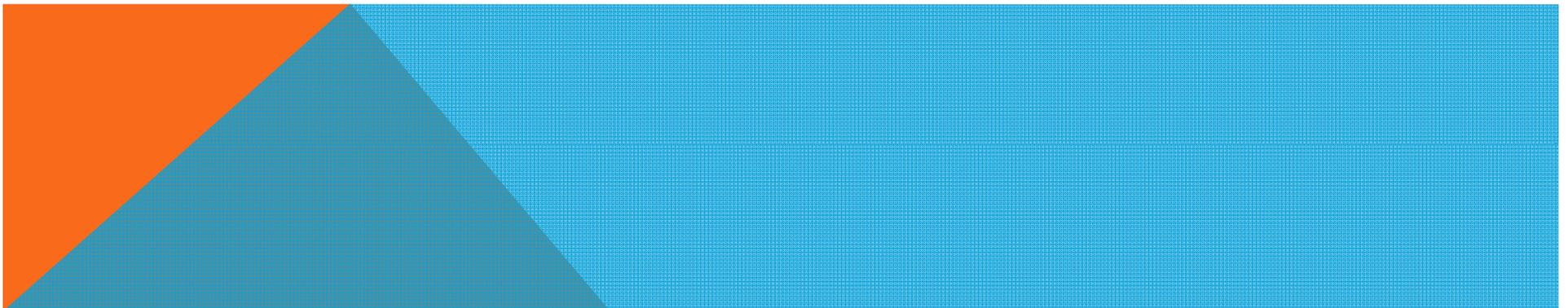
Although some definitions in this section will be the same as in the IPC. The mechanic should take the time to review some of the definitions that he/she may not be familiar with. Some of these definitions deal strictly with energy and/or conservation such “C” factors, “F” factors and “U” factors. All three have separate definitions in this code.



CHAPTER 3 GENERAL REQUIREMENTS

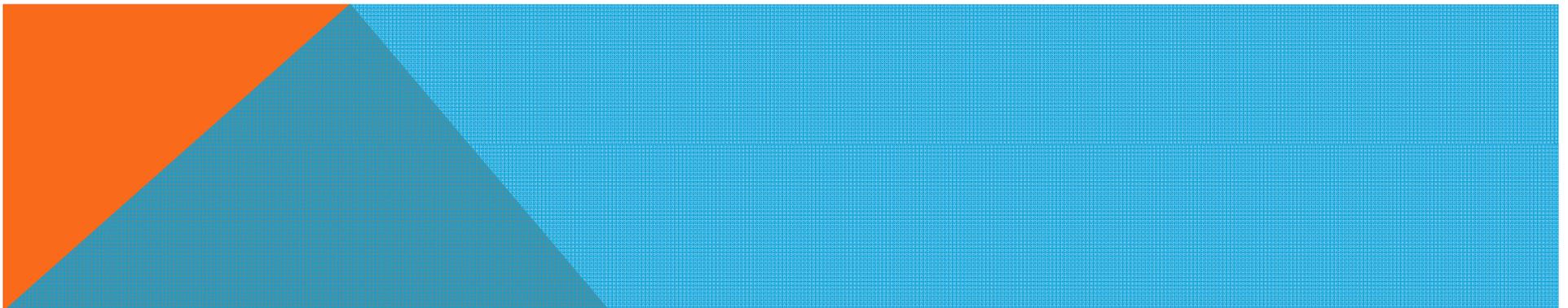
Unlike chapter 3 of the IPC, chapter 3 of the IECC deals with specifics in climate zones. This information gives you the information for exterior design and general interior design conditions. Sections include...

- Climate Zones
- Design Conditions
- Materials, Systems and Equipment



CHAPTER 4 RESIDENTIAL ENERGY EFFICIENCY

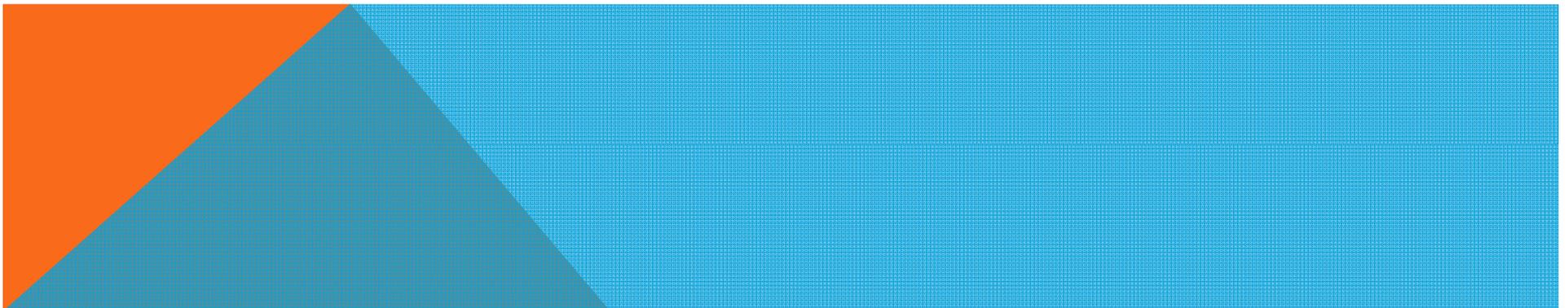
This chapter deals with requirements for energy efficiency related design and construction compliance for residential building. It contains requirements for new residential construction . It also deals with energy equipment such as heating and cooling systems and water heating systems. This chapter sets a minimum compliance level with regard to energy efficiency.



CHAPTER 4 RESIDENTIAL ENERGY EFFICIENCY

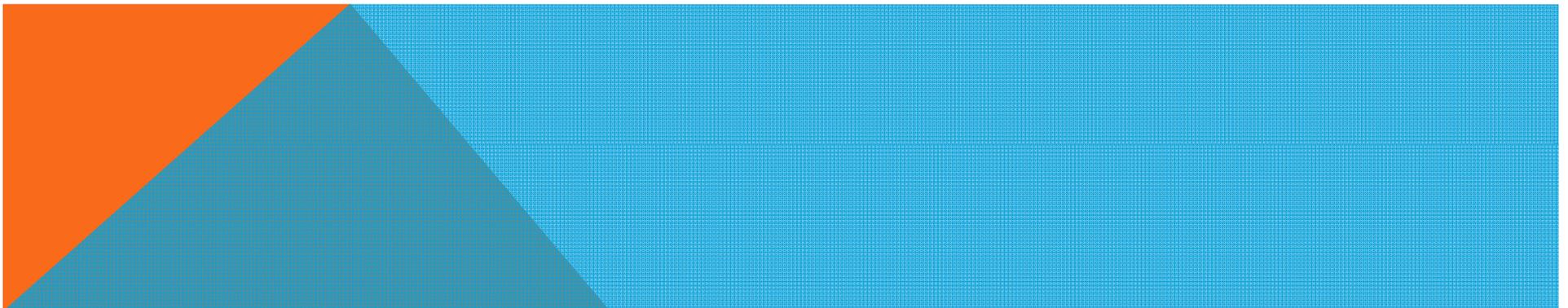
This chapter contains sections on...

- General information such as scope
- Building Thermal Envelope
- Systems such as heating and cooling
- Electrical Power and Lighting Systems
- Simulated Performance Alternative



CHAPTER 5 COMMERCIAL ENERGY EFFICIENCY

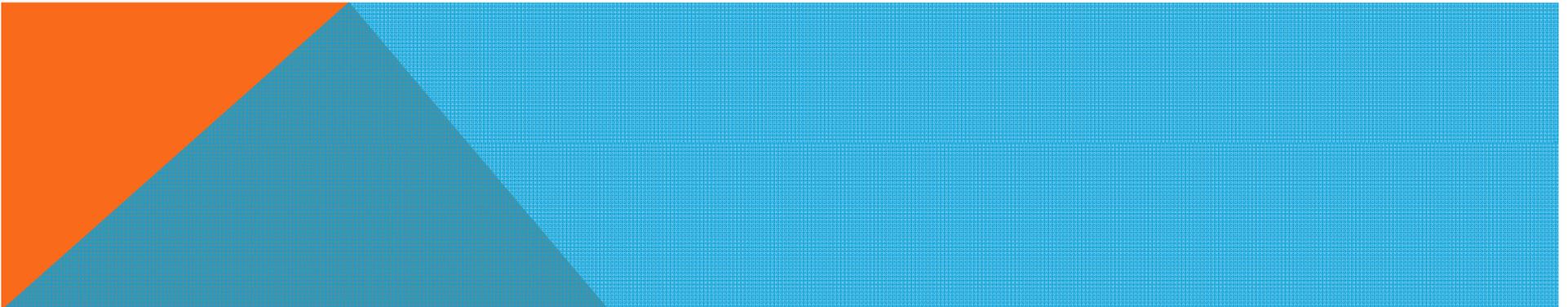
Just as chapter 4 dealt with the design and construction for residential building compliance, chapter 5 deals with compliance for commercial and residential buildings above three stories. ASHRAE/IES 90.1-2004 is another standard for many of the building types found in chapter 5. However, this chapter either meets or exceeds those requirements. Chapter 5 clarifies this section, redundant sections and sections having no affect on overall energy performance have been removed from the chapter.



CHAPTER 5 COMMERCIAL ENERGY EFFICIENCY

This chapter contains sections on...

- General, which as in other chapters contains information on scope.
- Building Envelope Requirements
- Building Mechanical Systems
- Service Water Heating
- Electrical Power and Lighting Systems
- Total Building Performance

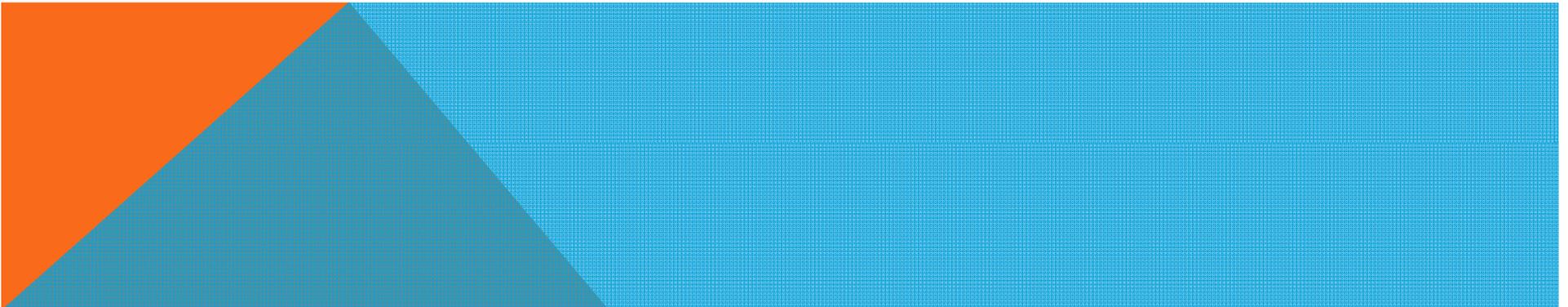


CHAPTER 5 COMMERCIAL ENERGY EFFICIENCY

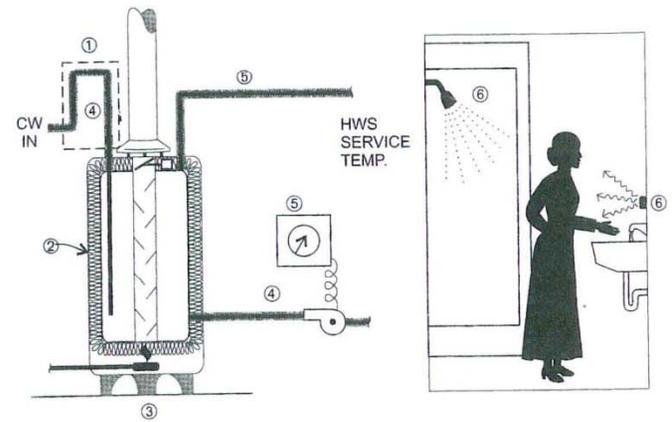
Section 504 Service Water Heating (Mandatory) should be of particular interest to the plumbing mechanic. The section addresses...

- Service water-heating equipment performance efficiency
- Temperature controls
- Heat traps
- Pipe insulation
- Hot water system controls
- Pools

On the next few slides are some illustrations of heat traps.



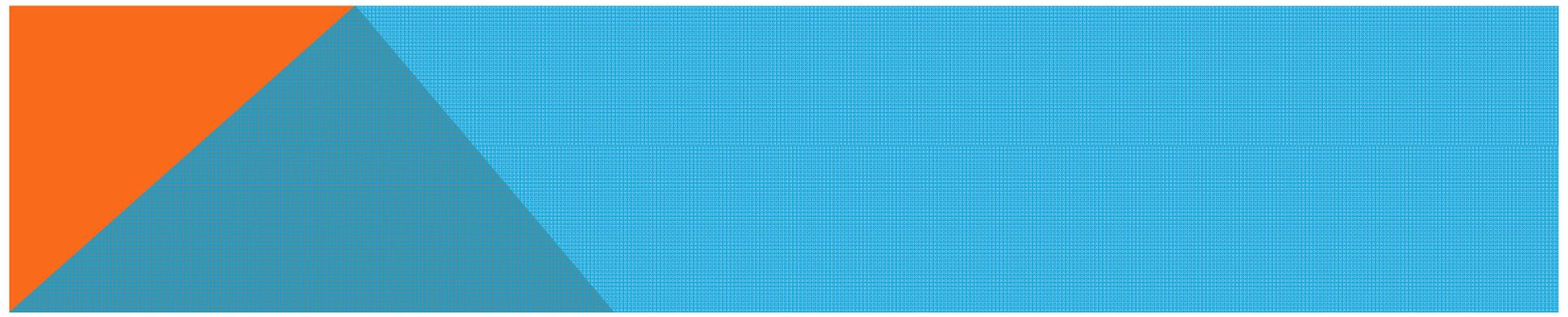
← SOURCE → | ← DISTRIBUTION → | ← TERMINAL DEVICES →

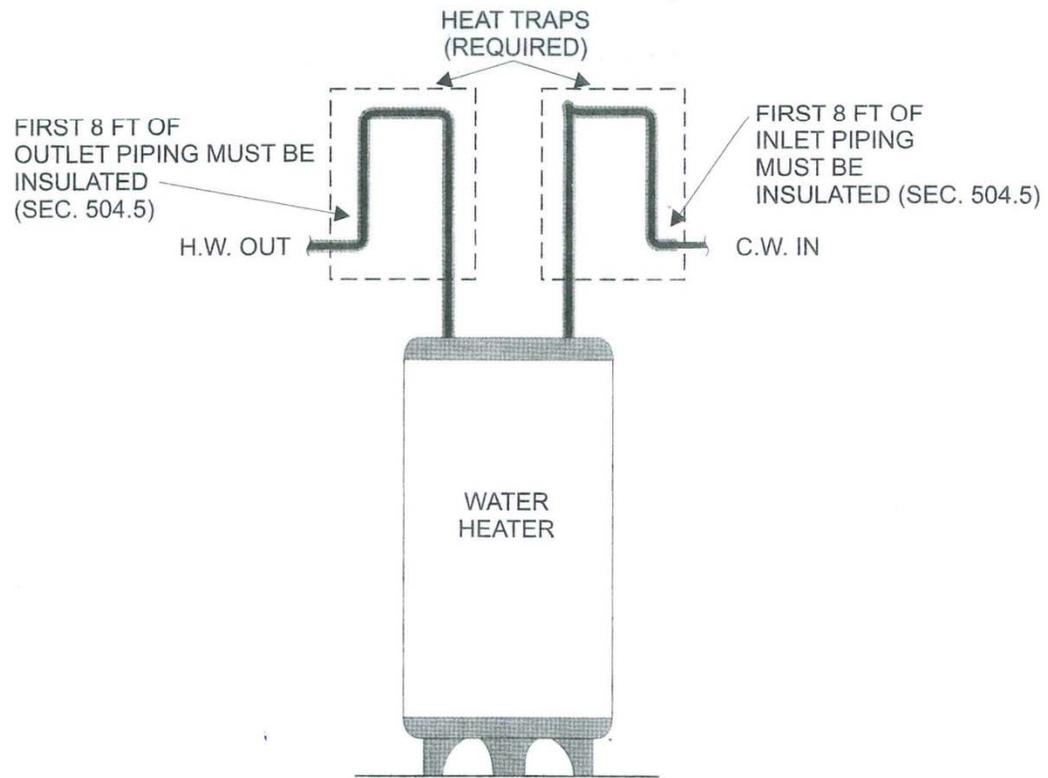


- ① HEAT TRAPS TO REDUCE STANDBY LOSSES
- ② INSULATED TANKS TO REDUCE STANDBY LOSSES
- ③ HIGH EFFICIENCY SOURCES
- ④ PIPE INSULATION TO REDUCE DISTRIBUTION AND STANDBY LOSSES
- ⑤ CIRCULATION LOOP TEMPERATURE CONTROLS TO REDUCE DISTRIBUTION LOSSES
- ⑥ FLOW LIMITING DEVICES SUCH AS LOW FLOW SHOWER HEADS AND OCCUPANT SENSORS TO REDUCE WASTE ARE ENCOURAGED BUT NOT REQUIRED BY THE IECC (FOR FURTHER DISCUSSION OF WATER CONSERVATION MEASURED, SEE COMMENTARY TO SECTION 604.4 OF THE INTERNATIONAL PLUMBING CODE)

Figure 504.1
ELEMENTS COVERED BY SECTION 504

(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)

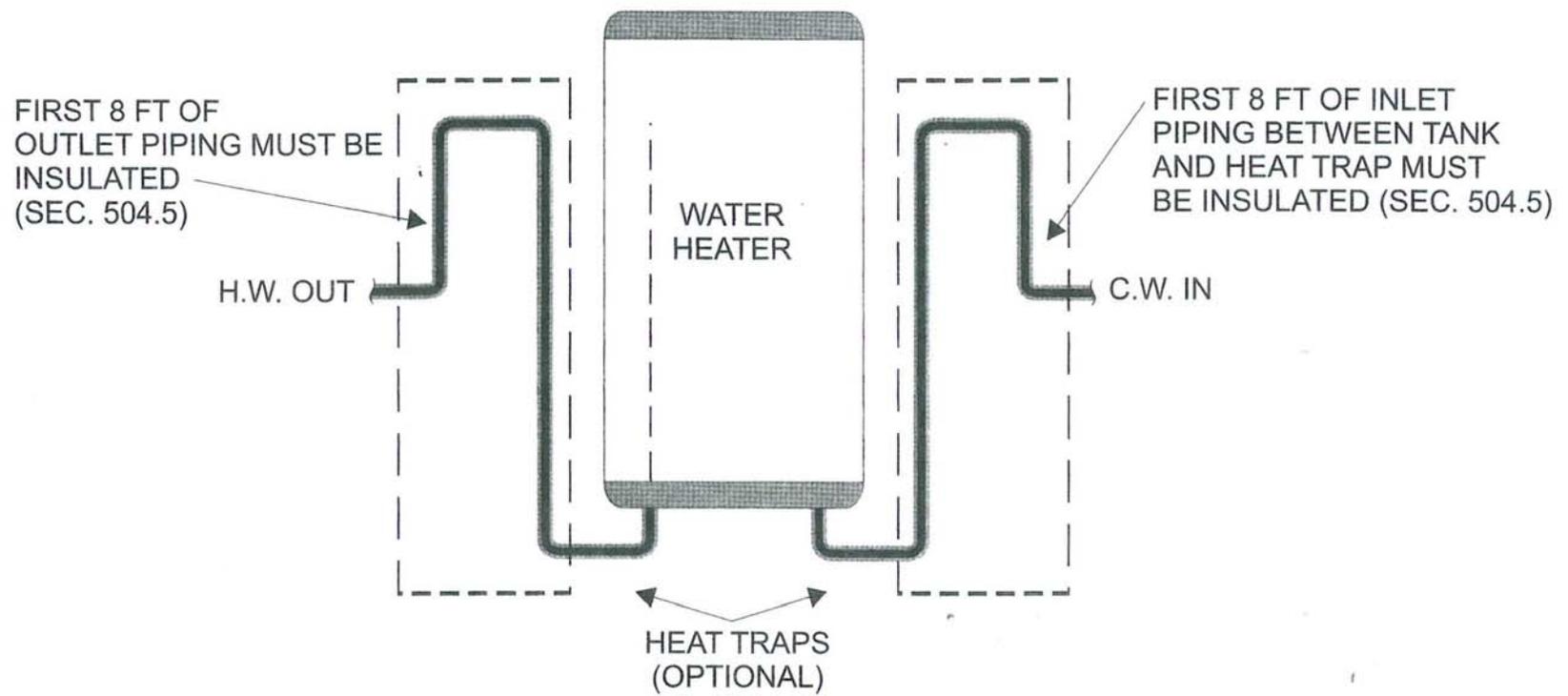




For SI: 1 foot = 304.8 mm.

Figure 504.4(1)
HEAT TRAP AND INSULATION REQUIREMENTS FOR NONCIRCULATING SYSTEMS

(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)



For SI: 1 foot = 304.8 mm.

Figure 504.4(2)
HEAT TRAPS ON A TANK WITH CONNECTIONS ON THE BOTTOM

(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)

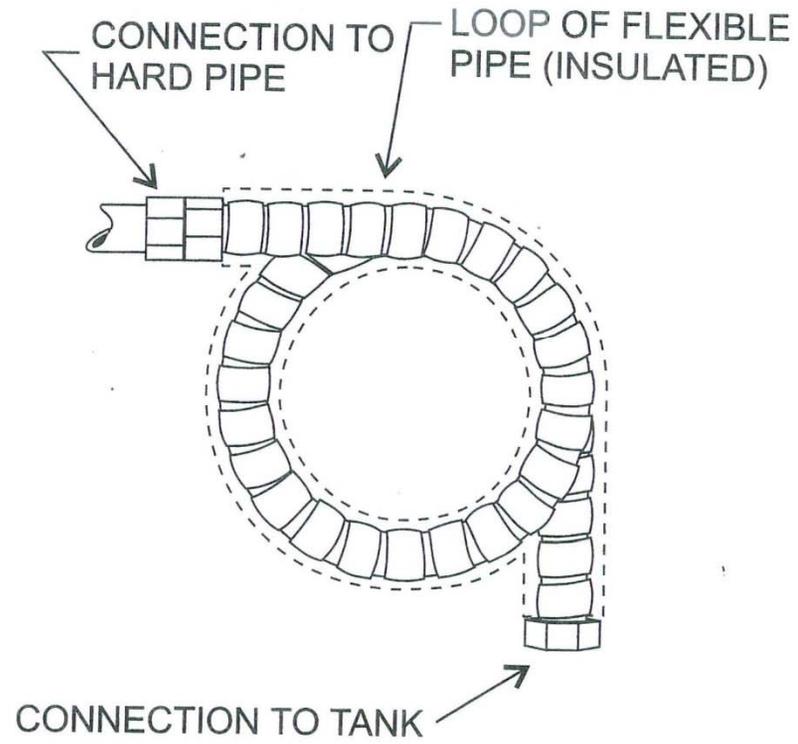
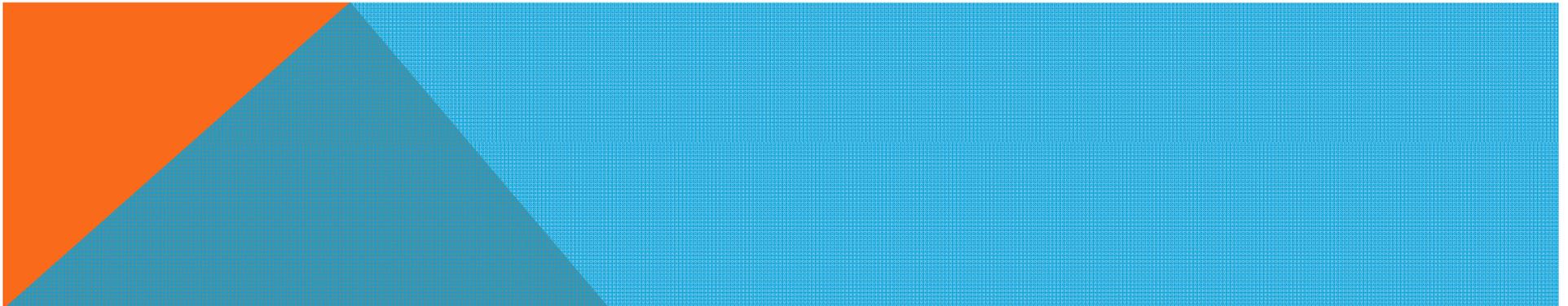
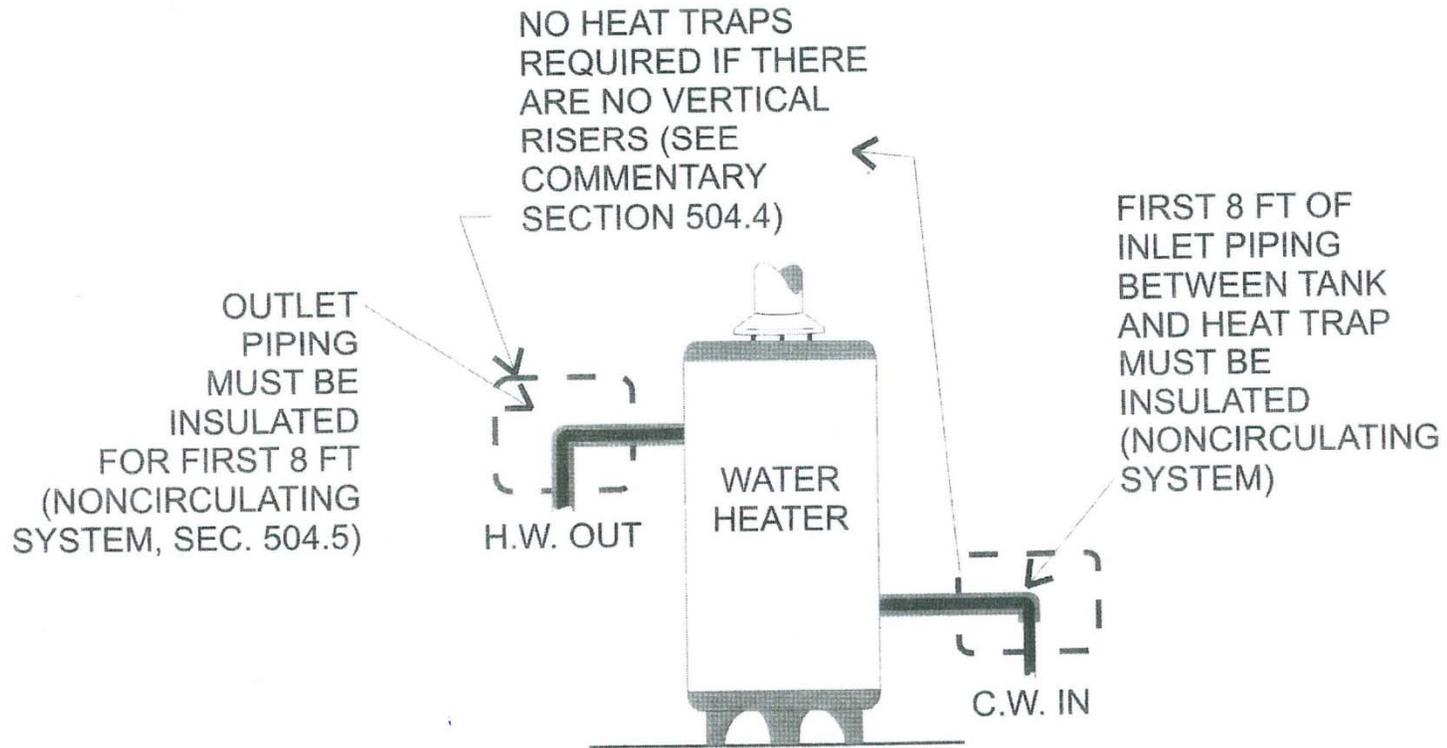


Figure 504.4(3)
HEAT TRAP THROUGH A FLEXIBLE PIPE LOOP

(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)





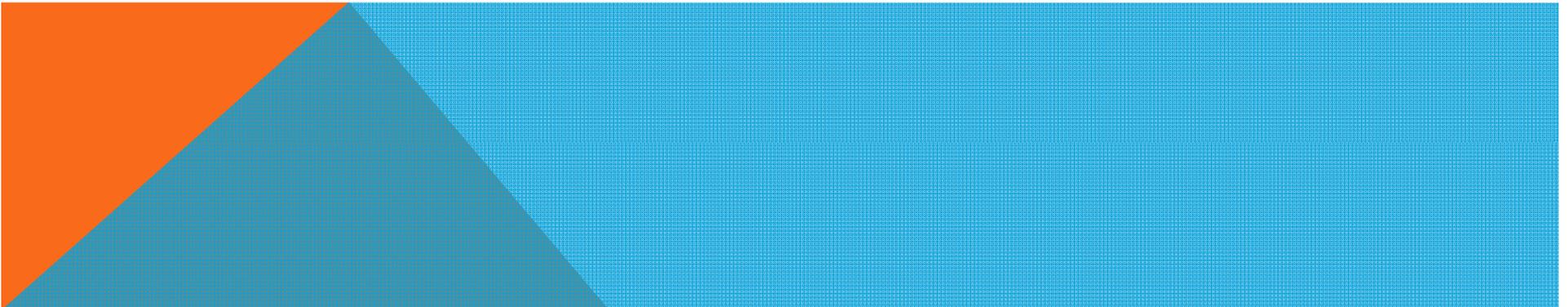
For SI: 1 foot = 304.8 mm.

Figure 504.4(4)
HEAT TRAPS ON A TANK WITH CONNECTIONS ON SIDES

(Courtesy of U.S. Department of Energy, Office of Building Technology State and Community Programs, www.energycodes.gov)

CHAPTER 6 REFERENCED STANDARDS

Although most Referenced Standard are normally listed in an appendix. IECC has assigned a chapter number to other standards referenced in this code. Page one of chapter 6 details the intend of the chapter along with and explanation on how a standard is referenced.



FOR MORE INFORMATION ON ENERGY RELATED INFORMATION, YOU MAY VISIT...

- www.CTEnergyInfo.com
- www.energycodes.gov
- <http://ngm.nationalgeographic.com/2009/03/energy-conservation/mill-text>
- <http://www.energystar.gov>

