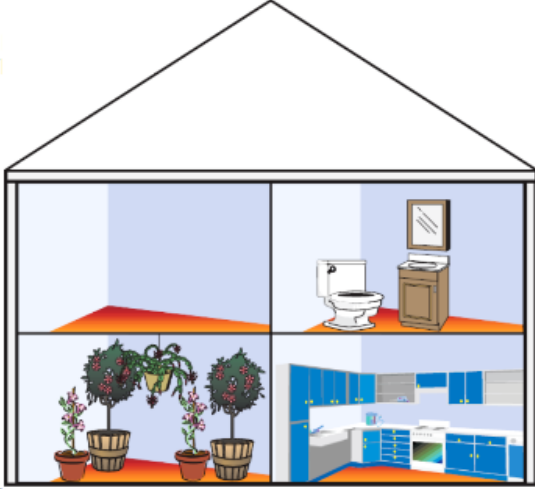


Environmental Applications Training | HVAC System Performance Factors

Residential Heating and Cooling - W11605-XA04AEN-E1

Objective 7: Define Indoor Air Quality and Explain How It Relates to Health and Comfort

Indoor Air Quality



Indoor air quality is a measure of the amount of indoor pollutants, moisture, and inadequate ventilation within an enclosed environment.

With improved building standards, there is increased insulation and reduced ventilation, the combination of which has led to an increase in complaints about indoor air quality, which can affect both health and productivity.

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eLearning Course: M11605

Amatrol's Environmental Applications training curriculum covers thermal principles and theories, and shows how they are utilized within real-world applications such as HVAC systems. Learners will gain a better understanding of how these items, which are a part of everyday life, can be modified to improve human comfort conditions. Learners will practice calculating the efficiency of a thermal system, become familiar with heat loads and how they affect components and changes, study about HVAC system performance training, use insulation to improve efficiency, understand how psychometrics is vital to conditions inside buildings, and learn how systems work together in residential heating and cooling. By mastering this content and skills, learners will be better prepared for a long, rewarding career in an industrial field.

Teach Environmental Applications

What Factors Affect a Thermal System's Efficiency?

Refrigeration systems do not operate at the theoretical maximum coefficient of performance. Five (5) factors cause actual thermal efficiency to be less than the theoretical maximum value: unwanted heat transfers, compressor efficiency, heat exchanger efficiency, refrigerant flow losses, and refrigerant charges.

The evaporator and condenser are the primary areas of heat transfer in the system. The refrigerant lines leading from the compressor to the condenser and on to the expansion valves are generally left uninsulated. This aids the condenser by allowing heat to be transferred away from the refrigerant on its way to the coil. This heat transfer is desirable.

Interactive eLearning

Environmental Applications Training Features Engaging Multimedia

Amatrol's peerless [interactive multimedia curriculum](#) utilizes text with voiceovers, pictures, videos, stunning 3D animations, and interactive quizzes and reviews that engage learners in theoretical knowledge and concepts. This thorough, detailed curriculum begins with the basics and advances to complex concepts. Through partnerships with key industry leaders and leading educators, Amatrol developed the right balance of knowledge to train learners to work in their chosen field. (References [T7083](#))

Additional Info

Requires:

- Computer ([see Computer Requirements](#))

Options:

- Environmental Applications Learning System (T7083)
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Address

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