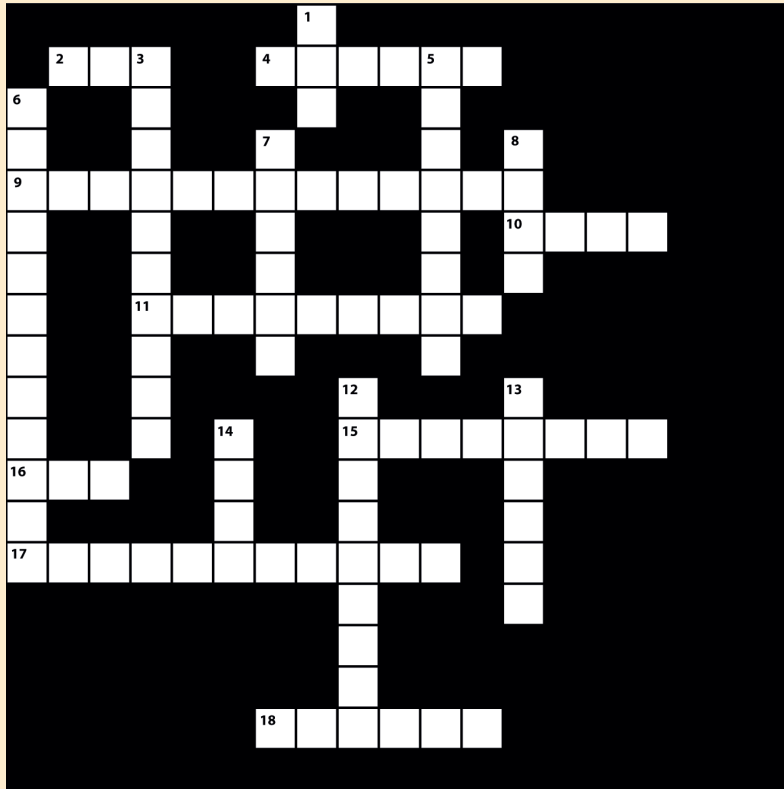


Take the HVAC CHALLENGE™

BY STEVEN G. LIESCHEIDT, P.E., CSI-CCS, CCPR

▶ Air Cooling and Dehumidifying Coils



ACROSS

2. Publishes Standard 700, "Specification for Fluorocarbon Refrigerants."
4. Cooling coils for water, aqueous glycol, brine, or halocarbon refrigerants usually have tubes made of this material.
9. This concept is useful for analyzing a given heat exchanger.
10. For a coil, this _____ is derived according to ASME's Boiler and Pressure Vessel Code, Section VIII, Division I and Section II.
11. These are sometimes used to bond header connections, return bends, and fin-tubed joints.
15. Cooling coils for water, aqueous glycol, brine, or halocarbon refrigerants usually have fins of this material.
16. Thermostatic expansion valve.
17. In general, air cooling and dehumidifying coils are multi-row and circuited for this flow arrangement.
18. A fluid other than water that is used in air cooling and dehumidifying coils.

DOWN

1. This type of direct-expansion coil control eliminates air bypassing during partial-load operation and minimizes condensate re-evaporation.
3. This type of direct-expansion coil control circuit control uses the whole face area and depth of coil when some expansion valves are shut off.
5. This type of surface cooling coil design (finned) is the most popular and practical.
6. This type of expansion valve system is commonly used for all direct-expansion coil applications particularly field-assembled coil sections and those used in central AHUs.
7. In this type of coil construction, the external surface of the tubes is primary and the fin surface is secondary.
8. This society publishes Standard AG-1 "Code on Nuclear Air and Gas Treatment."
12. This tube is applied in factory-assembled, self-contained A/C systems up to approximately 10-ton capacity but is most widely used on smaller capacity models such as window or room units.

13. This type of refrigerant expansion coil is used for halocarbon refrigerants.
14. This type of direct-expansion coil control is the most widely used because of its simplicity, and it equally loads all refrigerant circuits in the coil.

To brush up on the facts behind this month's clues, refer to Chapter 21 ("Air Cooling and Dehumidifying Coils") in the 2004 ASHRAE Handbook – Systems and Equipment.

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