Pretest Surface Heating Units Info Section

1. What is the insulating material in mineral-insulated heating cable? **Magnesium oxide**

2. What jacket types are available for mineral-insulated heating cable? **Alloy, Stainless-steel, and Nylon.**

3. What is the typical w/m rating for snow melting in Atlantic Canada? **376 w/m for intermittent use and 215 w/m for continuous use.**

4. What is the typical w/m² for floor warming applications? **43-75 w/m²**

5. When testing floor warming and snow melting cables, what is the minimum resistance reading between the cable and ground? **20,000,000 Ω**

6. Is it necessary for the hot/cold joint in floor warming cable to be installed in a heat transfer medium? **Yes**

7. Can the cold lead on floor warming and snow melting cables be shortened? **Yes**

8. Is it permissible for floor heating cables to cross or touch? **No**

9. What are two methods of over heating protection for floor warming cables? **Capillary operated thermostat or solid-state control operated by thermistor probe.**

10. How are snow melting cables typically controlled? **Manually.**

11. How is automatic control of snow melting cables achieved? **Automatic snow-sensing device.**

12. What type of thermostat is used for controlling floor warming cables? **Thermostat with hydraulic operator sensitive to radiant heat.**
13. What is the main function of pipe tracing cable? Offset heat loss for an object carrying liquid from point “A” to “B” so the liquid arrives at the same temperature it was when it left.

14. What factors affect the radiant heat loss in a pipe? Temperature of the liquid, length of the pipe, size of the pipe, pipe insulation and ambient temperature.

15. What is parallel heat tracing cable typically used for? Freeze protection

16. What is the typical operating temperature of pipe freeze protection? 200°C

17. How is the parallel heat tracing cable protected from mechanical abuse? Stainless-steel braid.

18. How are pipe tracing cables controlled? Thermostat or thermocouple actuated controller.

19. What are the two types of control? Local or remote.

20. What function must be on all control devices for pipe tracing cable? Surface temperature sensor.

21. Where are the most accurate specifications for heating cables found? Manufacturers information.

22. What is the minimum temperature for installing heat tracing cables? -35°C

23. Where should the sensor bulb be installed on a pipe in relation to the tracing cable? 90°-180° away from the cable.

24. What are the three types of tank-warming cables? Braided copper, stainless-steel sheath, and mineral-insulated.

25. How are tank-warming cables controlled? Capillary type thermostat.
26. What types of insulation should not be installed over tank-warming cables?
   Spray-on or foam.

27. How should deicing cables be installed on a roof to prevent damage? (roof)
   Fastened to a metal plate and the plate placed on the roof.


29. How efficient are immersion heaters? 100%

30. How are standard immersion heaters constructed? Both ends are sealed in the
    mounting device and power connections are made in a metal termination box.

31. What are the three types of mounting for immersion type heaters? Screw-plug
    type, pipe-flange type, and over-the-side type.

32. How are screw-plug type elements installed in tanks with thinner walls? Pipe
    coupling welded in.

33. How are elements typically installed in high-pressure steam applications? Pipe-
    flange.

34. How are flange-type elements controlled when accurate control is required?
    Thermostat well.