0.0137 mg/(s·m)
(7.67E–10 lb/(sec·in.)).

(17) **SW-2.6 Performance Testing**

For all corresponding sizes and pressure classes, finished gaskets (including windings as well as inner and outer rings) shall be capable of meeting a maximum permissible leakage rate of 0.0137 mg/s·m (7.67E–10 lb/sec·in.). The circumferential length [meter (inch)] shall be calculated using the gasket outside diameter as shown in Tables SW-2.1-1 through SW-2.1-3. Testing shall be conducted at ambient temperature using an external calibration gas with a known methane concentration and a test gas flow rate of 1 L/min.

(a) The test fixture shall have a surface finish per ASME B16.5, be capable of shielding the gasket so as to direct any leakage to the monitoring probe, and be capable of applying a uniform load on the test gasket sealing element while internally pressurizing the gasket with methane (minimum 97% purity).

(b) Gasket stress due to the uniformly applied load shall be 35 MPa (5,000 psi) for Class 150, 56 MPa (8,000 psi) for Class 300 and Class 400, and 70 MPa (10,000 psi) for Class 600 and above.

(c) Test pressure shall be 20 bar (290 psi) for Class 150 and 40 bar (580 psi) for Class 300 and above.

(d) Test pressure shall be maintained for a minimum of 4 h, after which time three readings shall be taken at approximately 5-min intervals; the average of these three readings shall be compared to the maximum permissible leakage rate.

SW-3 MATERIALS

Metal windings and filler materials shall be in accordance with Table SW-3-1. The inner-ring material should match the winding material unless the purchaser specifies otherwise. The centering ring may be carbon steel that is painted, metal plated, or otherwise coated to inhibit atmospheric corrosion.

SW-4 MARKING

SW-4.1 General

The centering ring of each spiral-wound gasket shall be permanently marked. The lettering height shall be a minimum of 2.5 mm (0.1 in.). The following information shall be included with the centering-ring markings:

(a) manufacturer's name or trademark.

(b) flange size (NPS).

(c) pressure class.

(d) winding metal abbreviation (see Table SW-3-1), except that the abbreviation may be omitted when Type 304 stainless steel is used.

(e) filler material abbreviation (see Table SW-3-1).

(f) centering- and inner-ring metal abbreviation (see Table SW-3-1), except that the abbreviation may be omitted when carbon steel is used for the outer ring and Type 304 stainless steel is used for the inner ring.

(g) flange identification. Gaskets intended for ASME B16.47 flanges shall be marked B16.47 A or B16.47 B, as applicable. Gaskets intended for ASME B16.5 flanges need not be so marked. Illustrative marking examples are shown in Table SW-4.1-1.

(h) ASME B16.20 designation.

SW-4.2 Pressure Class

Gaskets suitable for more than one pressure class shall be marked with all applicable classes, as shown in Table SW-4.1-1.

SW-4.3 Color Coding

Spiral-wound gaskets shall be marked with a color code that identifies the windings and filler materials. A continuous color around the outer edge of the centering ring shall identify the winding metal. The color identifying the filler material for NPS $1\frac{1}{2}$ and larger shall have four intermittent stripes spaced approximately 90 deg apart on the outer edge of the centering ring. Smaller size gaskets shall have a minimum of two stripes 180 deg apart. The colors shall conform to those listed in Table SW-3-1.