

26.—DOMES ON CYLINDRICAL PARTS OF BOILERS AND OPENINGS FOR OTHER PURPOSES.

Any opening for domes, manholes, handholes, or for other purposes on shells or cylindrical parts of boilers must have its shorter axis in line with the longitudinal axis of same, and when that is over 2½ inches be reinforced by a plate riveted after careful fitting to the shell, around the opening. The reinforcement must be equal in cross section and strength exclusive of rivet holes to the section of plate cut out of shell or covered by the dome in line with its longitudinal axis. The combined area of rivets securing the reinforcement to shell must be exclusive of those necessary to hold dome to shell, 120 per cent. in excess of the area of section so removed or measured.

27.—MAXIMUM WORKING PRESSURE ALLOWED ON BOILER.

The maximum working pressure to be allowed on the shell of a boiler constructed of steel or wrought iron shells or drums shall be determined from the minimum thickness of the shell plate, the lowest tensile strength stamped on the plate by the plate manufacturer, or as established by authoritative test, the efficiency of the longitudinal joint, the inside diameter of the outside course, and the lowest factor of safety allowed by these rules, the formula being:

$$B = \frac{2T \times S_t \times K}{D_r \times F}$$

B = Maximum allowable working pressure in pounds per square inch.

T = Minimum thickness of shell plate in inches.

S = Tensile strength of plate in pounds.

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